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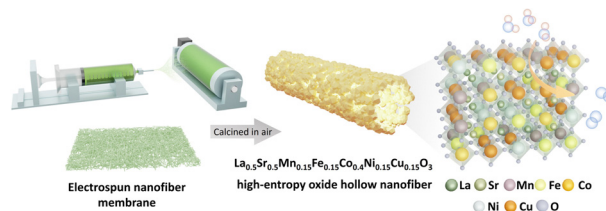
Fundamental questions
Elemental answers

COMMUNICATIONS

511

Cocktail effect in high-entropy perovskite oxide for boosting alkaline oxygen evolution

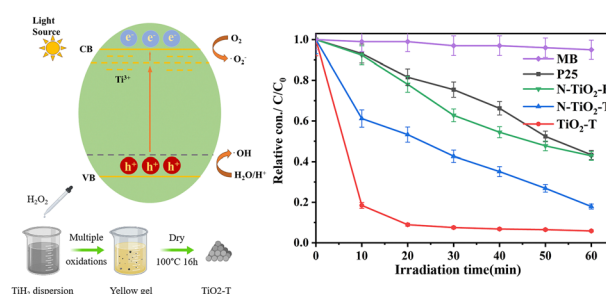
Jiace Hao, Fengjun Ma, Yu Chen, Shuanglong Lu, Fang Duan, Mingliang Du,* Chenglong Wang,* Wenchao Zhang and Han Zhu*



515

Green and efficient preparation and application of weakly crystalline TiO₂ with high catalytic activity

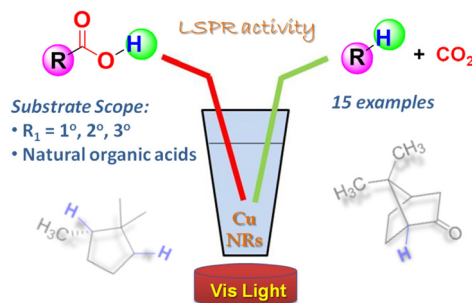
Ying Feng, YongChao Zhu, Tian Chen, Pengcheng Li, Bingjie Liu, Jianfeng Cai,* Wenjie Liang* and Hai Xu*



520

Localized surface plasmon resonance assisted photoredox catalysis using newly fabricated copper-nanorods: a decarboxylative approach towards carbon–hydrogen bond formation under visible light

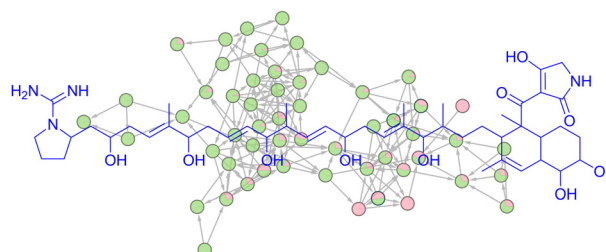
Saikat Khamarui* and Sirshendu Ghosh*



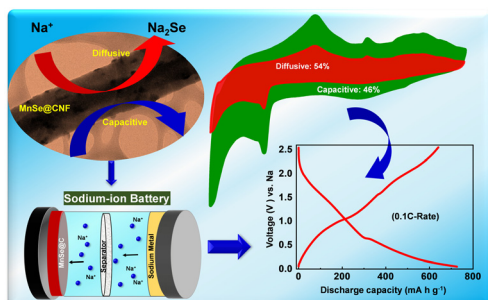
525

Unlocking the biosynthetic regulation role of polyketide alkaloid lydicamycins

Xuanlin Zhan, Xiaojie Li, Yunyan Zeng, Siyan Jiang, Chao Pan, Shiyu Pan, Jiaquan Huang,* Heqian Zhang* and Zhiwei Qin*



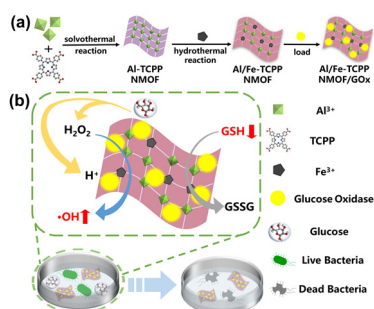
529



1D MnSe@carbon nanofiber as a high-rate anode for sodium-ion batteries: electrochemical and *ex situ* mechanistic investigation of Na⁺ charge storage

Elayaperumal Sujithkrishnan, Sivasubramaniam Ragul, Shamima Hussain, Villa Krishna Harika and Perumal Elumalai*

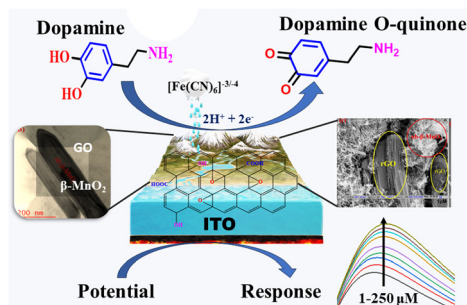
544



Effective antibacterial action of a 2D bimetallic Al/Fe-TCPP NMOF loaded with glucose oxidase by a cascade catalytic reaction and depleting glutathione simultaneously

Shenghua Liao, Yifan Yao, Jingyi Duan, Qikun Zhang, Juan Du, Shengmei Wu, Fei Wang and Caolong Li*

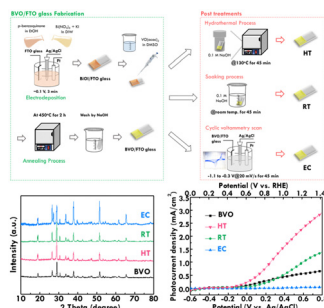
554



Nanoengineered β-MnO₂/rGO nanobead-based bioconjugate interfaces for the electrochemical detection of dopamine for the potential to manage neurological diseases and depression

Rahul Verma, Kshitij RB Singh, Ranjana Verma, Ravindra Pratap Singh and Jay Singh*

569



Modifying BiVO₄ as a photocatalyst for water oxidation using constant-duration alkaline-etched post treatments

Chuan-Chih Hsu, Kai-Jie Chuang, Hsiao-Wen Huang, Bo-Jin Pan, Hung-Ming Chen, Sadang Husain, Sibidou Yougbaré, Yu-Cheng Hsiao,* Yung-Fu Wu* and Lu-Yin Lin*

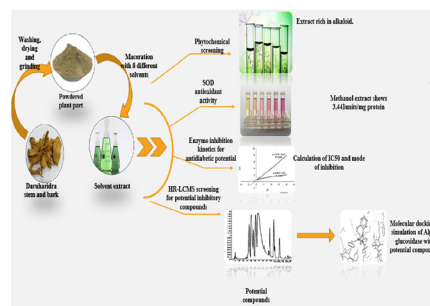


PAPERS

578

HRLCMS based metabolite profiling of antioxidant and hypoglycaemic properties of Daruharidra (*Berberis aristata*): an *in vitro* and molecular modelling approach

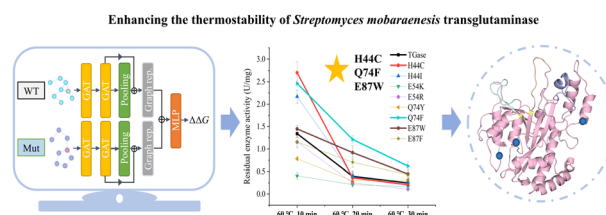
Aditi Bhatnagar, Ravi Saini, Sonali Kumari and Abha Mishra*



591

Enhanced thermostability of *Streptomyces mobaraensis* transglutaminase via computation-aided site-directed mutations and structural analysis

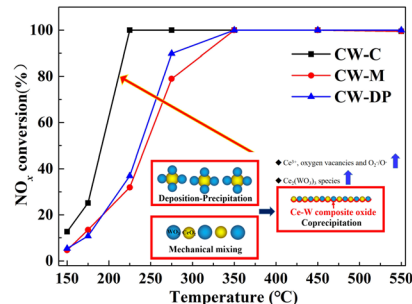
Yongzhen Li, Banghao Wu, Yumeng Zhang, Lanxuan Liu, Linqun Bai and Ting Shi*



603

Comprehensive investigation of the mutual effect of Ce and W species in the NH_3 -SCR catalyst

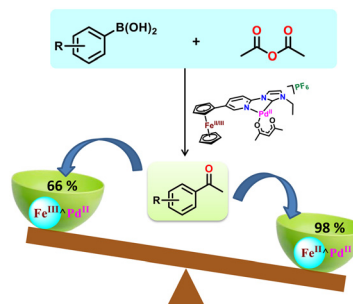
Jiaying Li, Hongfeng Chen, Kaihao Fan, Minger Luo, Yan Luo, Zhiming Sui, Yanghui Wang and Xuesong Liu*



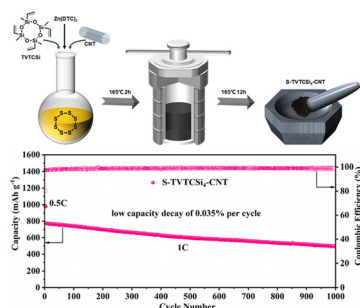
615

A redox switchable ferrocene decorated n-heterocyclic carbene (NHC) palladium catalyst for cross coupling of arylboronic acid and acetic anhydride in phosphine, base and additive free conditions

Debashree Bora, Abdul Aziz Ali and Biswajit Saha*



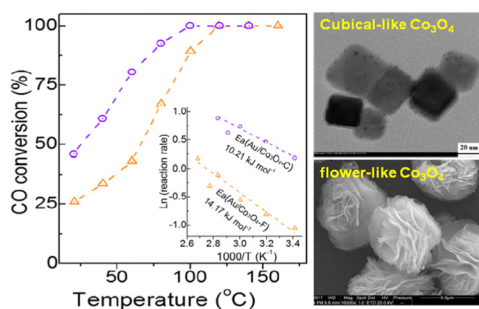
621



Sulfur-containing polymer/carbon nanotube composite cathode materials for high-energy lithium-sulfur batteries

Shuimiao Wang, Yurui Wu, Ming Yang, Li Sun, Yong Tao* and Chang-An Yang*

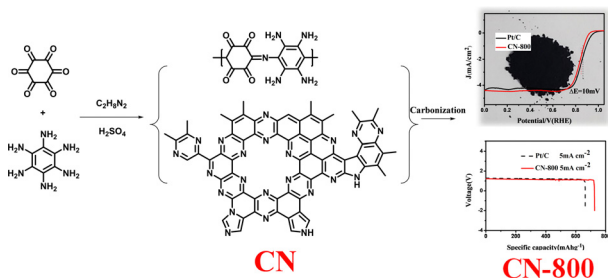
631



Investigation of catalytic activity of Au/Co₃O₄(001) and Au/Co₃O₄(111) in the CO oxidation reaction

Sami Barkaoui, Zhiwen Li, Changhai Cao,* Xinrui Gu, Qiong Zeng, Brock Lumbers* and Gao Li*

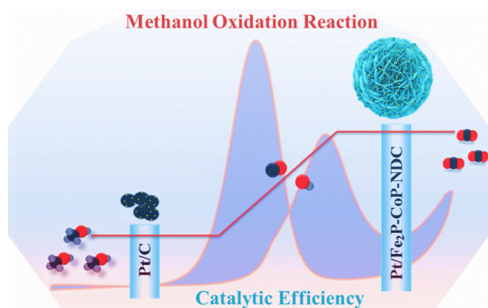
640



Carbon material with high pyridine/graphite nitrogen content: an efficient electrocatalyst for the oxygen reduction reaction

Jia Nan,* Shi Shufeng, Yang Juxiang, Jia Yuan, Weng Qiang and Chen Pei*

646



Self-assembled 3D hydrangea-like Fe₂P-CoP-NDC as an efficient carrier material of Pt nanoparticles for the methanol oxidation reaction

Fei Xie,* Qingchun Wang, Mengyu Gan* and Li Ma

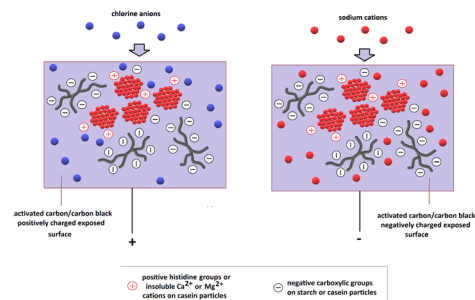


PAPERS

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Casein/starch composites: novel binders for green carbonaceous electrodes applied in the capacitive deionization of water

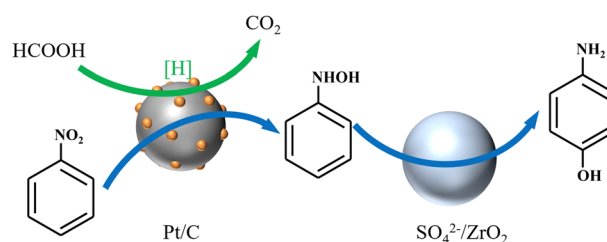
Sama Arjmandi, Afsaneh Kheiri, Mehdi Kazemzadeh and Cavus Falamaki*



664

Synthesis of *p*-aminophenol by transfer hydrogenation of nitrobenzene with formic acid as a hydrogen source

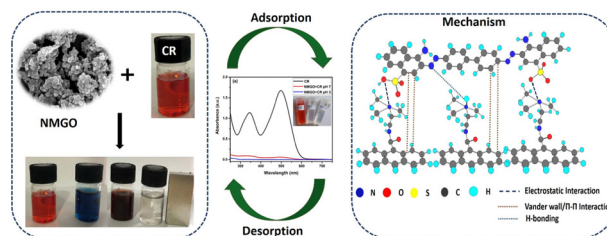
Yisheng Zhang, Wensong Li, Jing Li,* Fang Li,* Wei Xue, Xinqiang Zhao and Yanji Wang



674

Reusable magnetic graphene oxide based anion exchanger for the separation and removal of anionic dyes

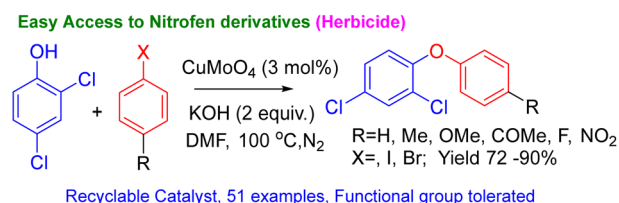
Poonam Kumari, Disha, Raj Rani, Manoj K. Patel, Sunita Mishra, Sandeep Singhai and Manoj K. Nayak*



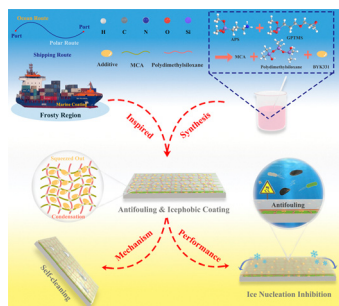
687

A CuMoO₄ nanocatalyst for C_{sp²}–O cross-couplings; easy access to nitrofen derivatives

Pradyota Kumar Behera, Papita Behera, Amlan Swain, Santosh Kumar Sahu, Ajeena Sahoo and Laxmidhar Rout*



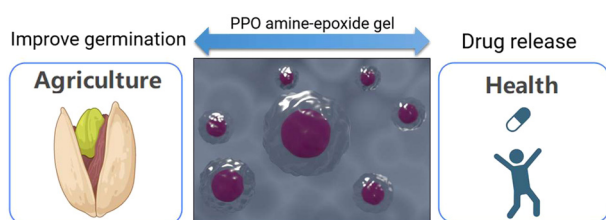
693



A crosslinked silicone coating adjusted by an additive with promising antifouling and ice nucleation inhibition performance

Yuxin Du, Jiawei Tang, Rumin Li,* Jingyuan Liu, Rongrong Chen, Jing Yu, Peili Liu* and Jun Wang

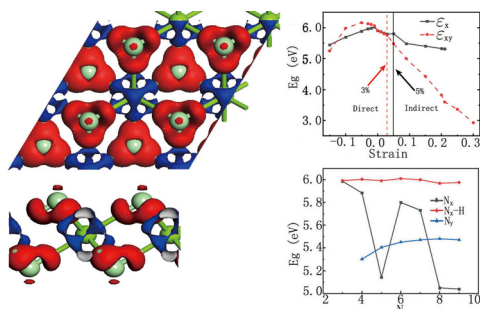
703



Multifunctional polyetheramine–epoxide gels and their prospective applications in health and agriculture

Heber E. Andrada, Bruno A. Fico, Felipe B. Alves, Julia M. Paulino, Natalia N. Silveira, Raquel A. Dos Santos, Gabriel S. Montanha, Laura G. Nuevo, Hudson W. P. de Carvalho and Eduardo F. Molina*

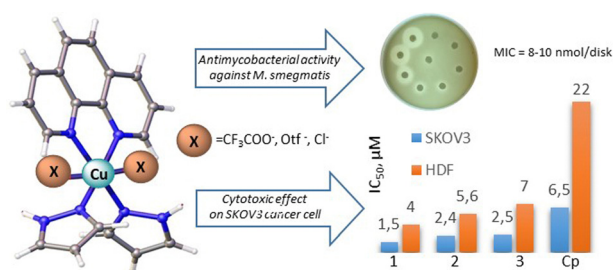
712



Fundamental properties of the MgCl_2 monolayer from first-principles calculations

Cairui Men, Li Shao,* Xuan Li, Yuantao He, Haibo Huo, Yan Li, Mingyu Li, Chuanxun Su, Honggang Ye and Yinxiao Du*

717



Research of the influence of anions in complexes $[\text{CuPhen}(\text{Hpz})_2\text{X}_2]$ ($\text{X} = \text{CF}_3\text{COO}^-$, Otf^- , Cl^-) on the structure and bioactivity

Marina A. Uvarova,* Irina A. Lutsenko, Maxim A. Shmelev, Sergey E. Nefedov, Olga B. Bekker, Arseniy I. Lashkin, Victoria O. Shender and Igor L. Eremenko

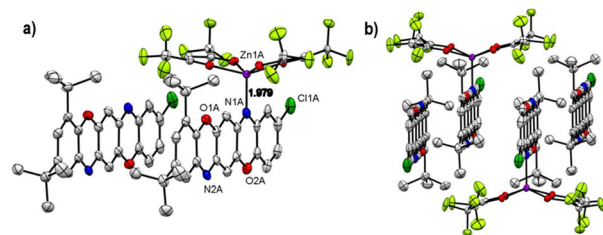


PAPERS

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Synthesis, structure and evaluation of spectral, luminescent and optoelectronic properties of Zn(II) hexafluoroacetylacetonate complexes of triphenodioxazines

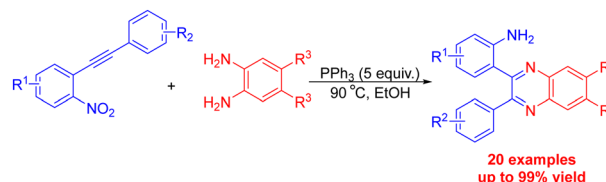
Eugeny P. Ivakhnenko,* Nadezhda I. Makarova, Sergey E. Kislitsin, Pavel A. Knyazev, Andrey G. Starikov, Oleg P. Demidov, Gennady S. Borodkin and Vladimir I. Minkin



733

PPh₃-Mediated cascade reaction of 2-alkynynitrobenzenes and 1,2-diaminoarenes for the construction of 2-aryl-3-(2-aminoaryl)-quinoxalines

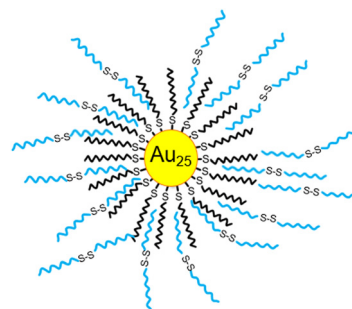
Xiaoming Liao, Yao Xu, Hui Fan, Xuechun Zhao, Wenjun Wang, Zhuoran Yang and Xiaoxiang Zhang*



738

The synthesis and enhanced thermal-optical properties of nanocomposites fabricated from gold nanoclusters ([Au₂₅(SC₁₂H₂₅)₁₈]TOA) and non-linear S-shaped liquid crystalline materials

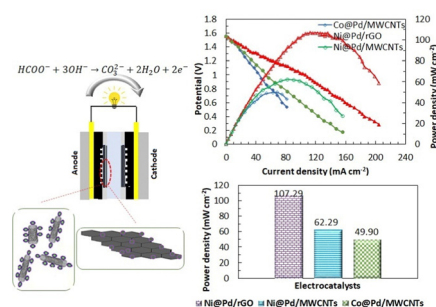
Pui-Wing Yap, Guan-Yeow Yeap,* Yuki Saito, Xiao-Yu Hu, Yukatsu Shichibu and Katsuaki Konishi



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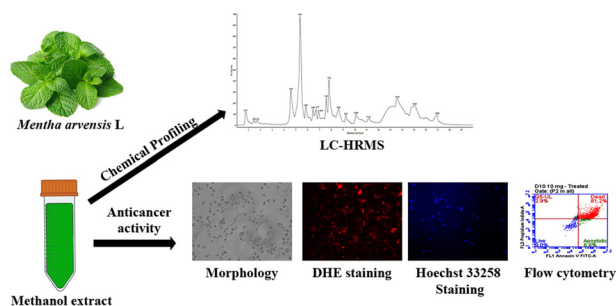
The effects of the core material (M = Co, Ni) and catalyst support (N = MWCNTs and rGO) on the performance of M@Pd/N core-shell electrocatalysts for formate oxidation and direct formate-hydrogen peroxide fuel cells

Raana Mahmoodi, Mir Ghasem Hosseini,* Saeid Abrari and Richard J. Nichols



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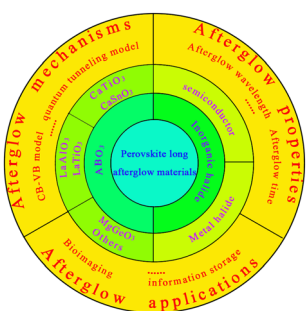
760



LC-HRMS analysis of corn mint *Mentha arvensis* L. for anticancer activity against triple-negative breast cancer targeting inflammatory and apoptosis signaling pathways

Beesetti Bhavya Pratyusha, Rajan Marystella Sparjan Samuvel, Selvaraju Nivetha, Vuyyala Bhuvaneshwari, Kathirvel Muralidharan, Debasish Swain* and Vaikundamoorthy Ramalingam*

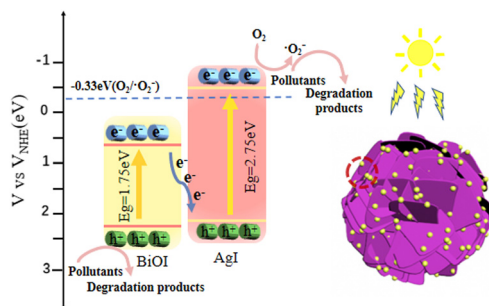
770



Research progress of perovskite long afterglow materials

Xiaojie Zhong, Sai Huang,* Jinkai Li* and Zongming Liu*

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Synthesis of novel AgI/BiOI nanocomposites and their high-efficiency visible-light-driven photocatalytic degradation performance for norfloxacin

Xiaomeng Liu, Yitian Zhong, Haosheng Feng, Yanxi Zhao, Qin Li and Tao Huang*

811



Nitrate anions embedded in rigid and cationic 3D energetic MOFs constructed by the chelating ligand towards insensitive energetic materials

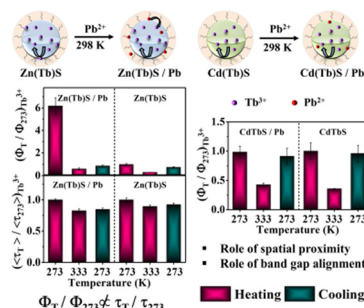
Qin Wang, Yun-Fan Yan, Jiao-Lin Weng, Ying Huang, Fu Yang, Hao-Hui Xie, Fei Tan,* Fa-Kun Zheng and Jian-Gang Xu*



819

The thermal response of lead sensitized terbium emission in group II sulfide nanoparticles: importance of spatial proximity and band gap engineering

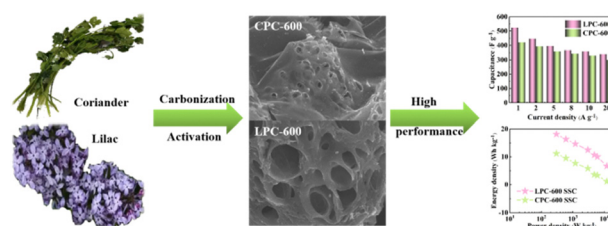
Madhumita Bhar, Nayan Bhunia and Prasun Mukherjee*



832

Two biomass material-derived self-doped (N/O) porous carbons from waste coriander and lilac with high specific surface areas and high capacitance for supercapacitors

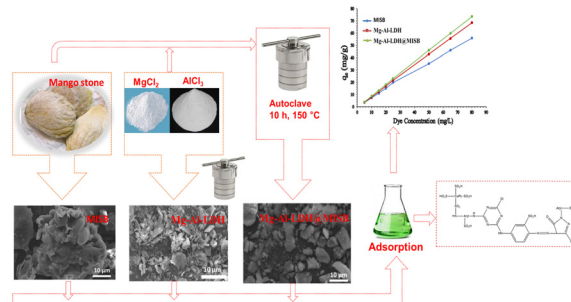
Zihan Ma, Lishuang Wang, Tingting Chen* and Guangning Wang*



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Mangifera indica stone-assisted layered double hydroxide biocomposites: efficient contenders for reactive dye adsorption from aqueous sources

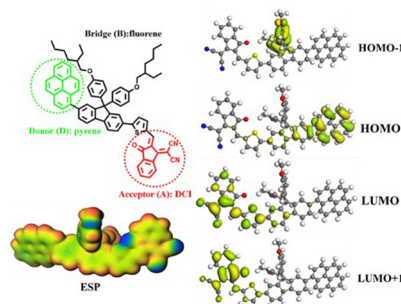
Marrium Saeed, Urooj Kamran,* Amina Khan, Md Irfanul Haque Siddiqui, Hasan Jamal and Haq Nawaz Bhatti*



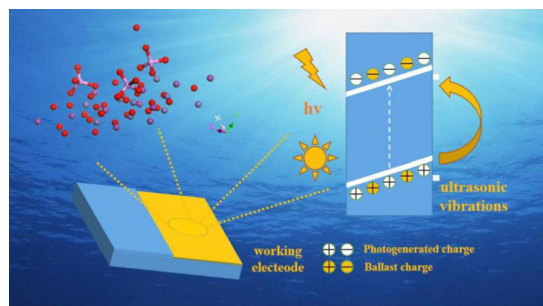
859

A metastable small organic molecule for secure memory devices

Hong-Liang Wang,* Yu-Ting Du, Xiao-Juan Zhang, Hai-Xian Ren, Lu Qin, Xiao-Bo Luo, Pei-Yang Gu, Lingyun Xu* and Shi-Yuan Zhou*



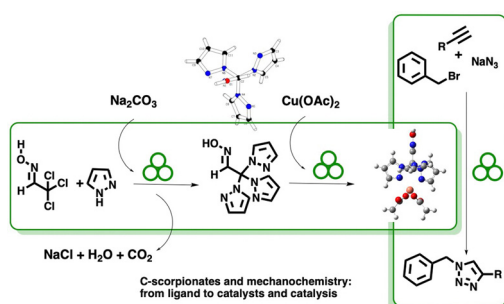
866



Phosphate ions improve the performance of BiFeO₃ piezoelectric photoelectrochemical water splitting

Zhihua Liu, Jinzhe Li and Jianguo Zhou*

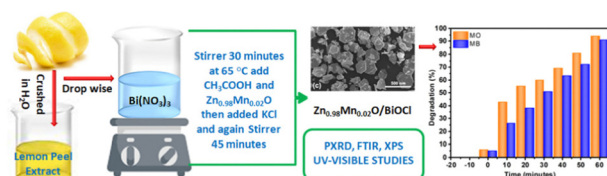
874



On the mechanochemical synthesis of C-scorpionates with an oxime moiety and their application in the copper-catalyzed azide–alkyne cycloaddition (CuAAC) reaction

Carla Gomes, Mariana Costa, Susana M. M. Lopes, Bernardo Albuquerque Nogueira, Rui Fausto, José A. Paixão, Teresa M. V. D. Pinho e Melo, Luísa M. D. R. S. Martins and Marta Pineiro*

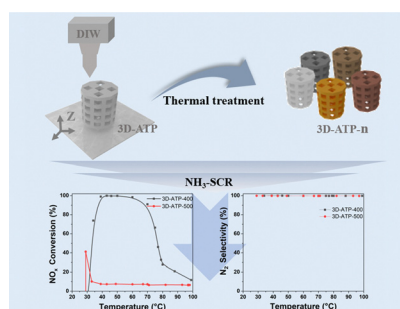
887



Simultaneous photocatalytic degradation of methylene blue and methyl orange using a green synthesized Zn_{0.98}Mn_{0.02}O/BiOCl nanocomposite

Muhammad Asim Farid, Ahmad Raza Ashraf, Rida Sarfaraz, Sadaf ul Hassan, Nimra Naeem and Hamza Naeem*

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3D-printing of attapulgite monoliths with superior low-temperature selective catalytic reduction activity: the influence of thermal treatment

Jie Zhu, Jiangtao Yu, Linhua Zhu, Xiaoxiao Yu, Jixing Liu,* Yanhong Chao, Jingzhou Yin, Peiwen Wu,* Jian Liu and Wenshuai Zhu*

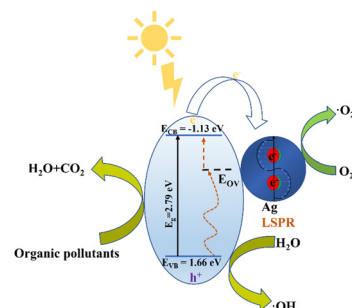


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Enhanced visible-light photocatalysis in three-dimensional rose-like ZnO with oxygen vacancies and Ag nanoparticles

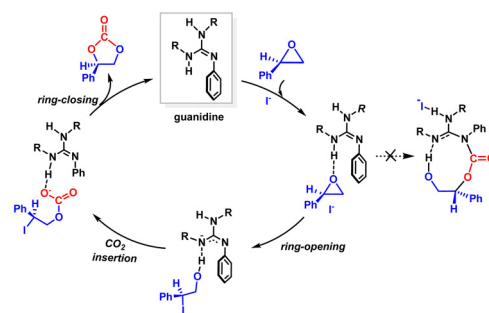
Shuoyu Chen, Tengfei Bi, Zhenxi Du, Shenghao Luo, Yuechun Fu,* Huan He and Xiaoming Shen



920

A mechanistic study on coupling of CO₂ and epoxide mediated by guanidine/TBAI catalysts

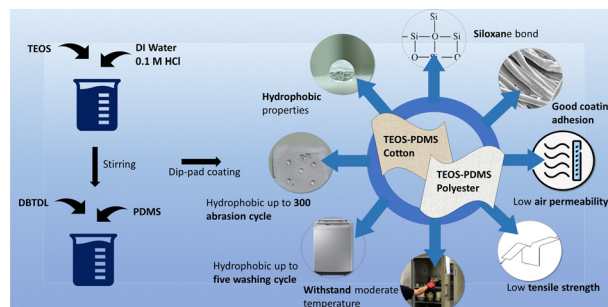
Yihua Fu, Yan Zhang, Changwei Hu and Zhishan Su*



933

Synthesis of a water-based TEOS–PDMS sol–gel coating for hydrophobic cotton and polyester fabrics

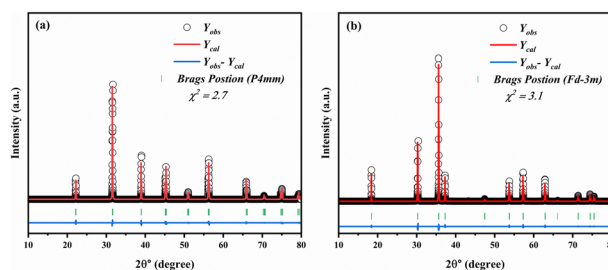
Nurul Hidayah Abu Bakar, Wan Norfazilah Wan Ismail,* Hartina Mohd Yusop and Noreen Farzuhana Mohd Zulkifli



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Exploring the magnetic, electric and magnetodielectric properties of (1 – x)Ba_{0.9}Ni_{0.1}Ti_{0.9}Mn_{0.1}O₃–xCo_{0.9}Mn_{0.1}Fe_{1.9}V_{0.1}O₄ multiferroic composites

Showket Ahmad Bhat* and Mohd Ikram



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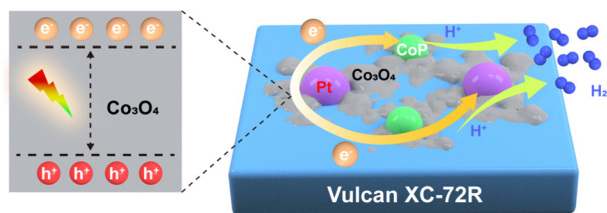
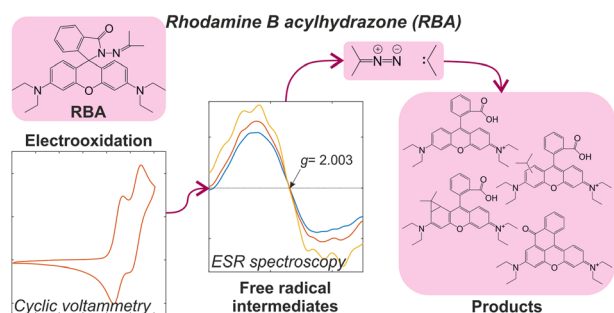


Photo-electro concerted catalysis of a highly active Pt/CoP/C nanocomposite for the hydrogen evolution reaction

Yanzhu Ye, Yixiang Ye, Jiannan Cai, Zhongshui Li* and Shen Lin*

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Non-aqueous electrochemistry of rhodamine B acylhydrazone

Nikita Belko,* Hanna Maltanova, Anatol Lugovski, Polina Shabunya, Sviatlana Fatykhava, Evgeny Bondarenko, Pavel Chulkin, Sergey Poznyak and Michael Samtsov

CORRECTION

988

Correction: Distortion-controlled 1,2-dicarbene reactivity of 3-triflyloxybenzynes: a theoretical approach

Fatemeh Pirouzi, Hossein Eshghi* and Hossein Sabet-Sarvestani

