

IN THIS ISSUE

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Cover

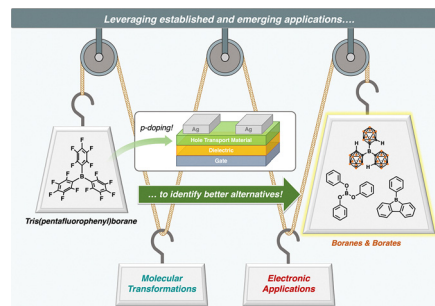
See Kathryn M. Wolfe, Michael J. Grant, Irene E. Park and Gregory C. Welch pp. 12032-12060. Image reproduced by permission of Kathryn M. Wolfe and Irene E. Park from *New J. Chem.*, 2025, 49, 12032.

PERSPECTIVE

12032

Tris(pentafluorophenyl)borane: leveraging historical and emerging work to identify alternatives for organic electronic applications

Kathryn M. Wolfe, Michael J. Grant, Irene E. Park and Gregory C. Welch*

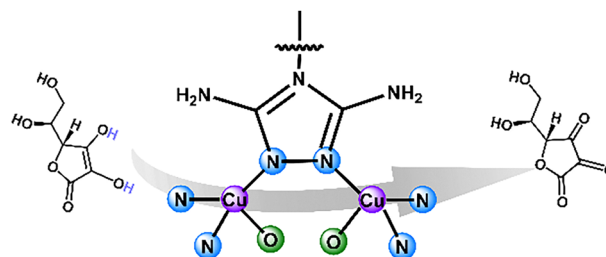


COMMUNICATION

12061

Mimicking ascorbic acid oxidase-like catalysis over adjacent dicopper centers

Ziheng Huang, Jinzhe Song, Nannan Xia, Yanqin Lv,* Xun Hu* and Fei He*



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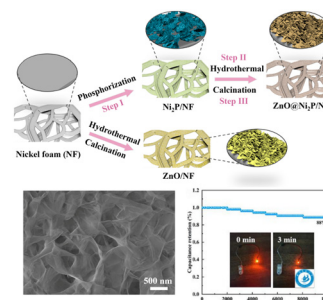
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12066

Decoration of three-dimensional ZnO@Ni₂P heterostructure nanoflake arrays: a novel electrode material for hybrid supercapacitors

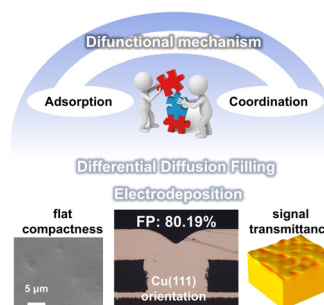
Lihua Cui,* Kefeng Yang, Minhui Mao, Qingru Wang, Haoxu Yin and Wenbo Bao



12079

Insights into the role of Basic Blue 7 as a leveler in copper superfilling within microvias

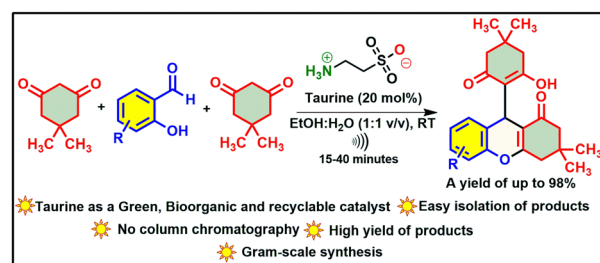
Yaqiang Li, Xuesong Peng, Ruopeng Li,* Jie Jiang, Fan Meng, Youzheng Wu, Changsheng Cao, Guangzhao Wang, Penghui Ren,* Hao Xu* and Maozhong An



12090

Ultrasonication-assisted, multicomponent, green and sustainable synthesis of benzopyrans employing taurine as a bioorganic catalyst

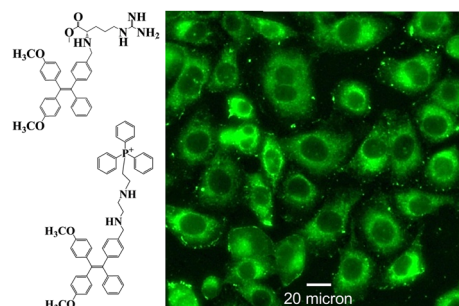
Swadhin Swaraj Acharya, Liza Mama Barad, Padma Ranjan Rout, Akash Bisoyi and Bibhuti Bhusan Parida*



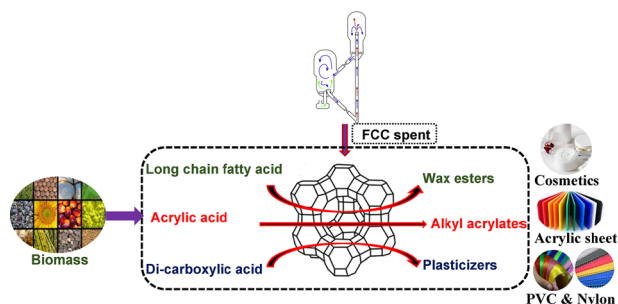
12102

Mitochondrial delivery of aggregation-induced emission active molecules *via* a micellar nanocarrier

Kuheli Mandal, Santanu Shaw and Nikhil R. Jana*



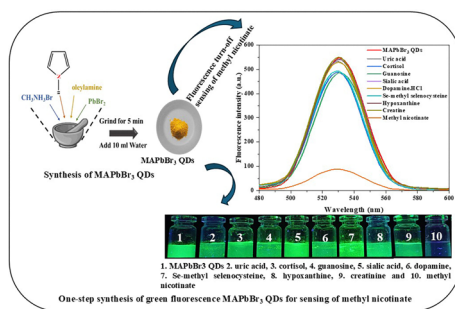
12109



FCC spent catalyst: a reusable catalyst for efficient esterification to synthesize wax esters, acrylates and plasticizers

Durgaiha Chevella, Mridula Choudhary, Divya Dhakar, Supriyo Majumder,* Saurabh Kumar Singh* and Chiranjeevi Thota

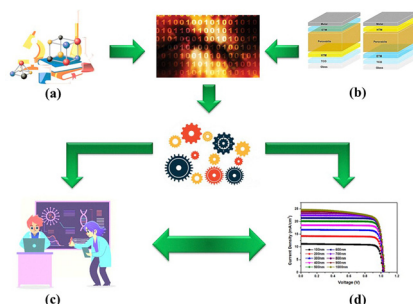
12118



One-step synthesis of water stable MAPbBr₃ quantum dots for the fluorescence detection of methyl nicotinate as a tuberculosis biomarker

Nirav Vajubhai Ghinaiya, Pinalben Angarbhai Garasiya, Tae Jung Park and Suresh Kumar Kailasa*

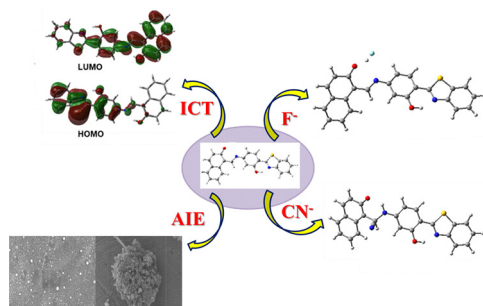
12129



A group improvised PSO-random forest-based intelligent hybrid approach for advancing perovskite solar cell efficiency

Pratik De Sarkar,* Subhajit Kar, Debashis De and K. K. Ghosh

12140



Multistate luminescent probe: ICT-driven dual ESIPT-AIE for selective fluoride and cyanide ion recognition

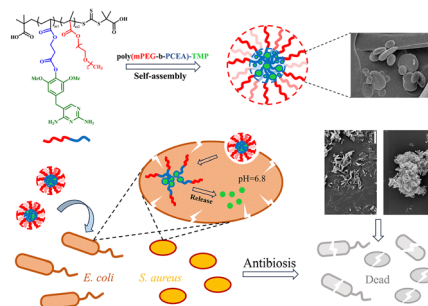
Aastha Palta, Gulshan Kumar, Kamaldeep Paul and Vijay Luxami*



12154

Antibacterial efficacy and pharmacokinetics of a poly(mPEG-*b*-PCEA)-trimethoprim conjugate

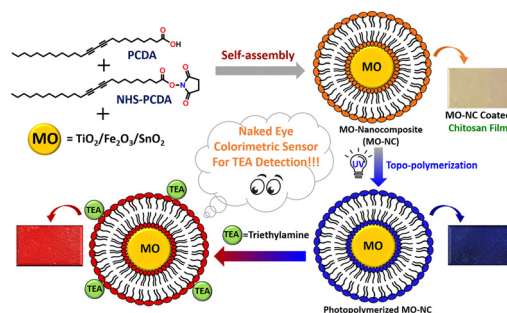
Ming Niu, Zhenghua Zhang, Rourou Wang, Yaxin Zhou, Jing Zhou, Lumei Pu and Weibing Xu*



12165

π -conjugated polymer/metal oxide colorimetric sensor film for rapid, real-time, and ppb-level detection of triethylamine

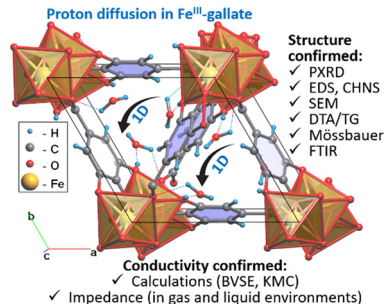
Karnan Sugantharam, Chezhiyan Sumithaa, Balasubramani Saveetha, Paramasivam Jaividhya, Rangasamy Aswapathi and Mani Ganeshpandian*



12174

The study of the structure and conductive properties of an iron gallate MOF: $[\text{Fe}^{\text{III}}(\text{C}_7\text{H}_4\text{O}_5)]_n \cdot 2n\text{H}_2\text{O}$

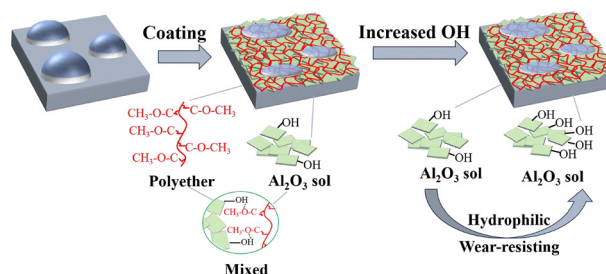
Andrey V. Sokolov, Yelizaveta A. Morkhova,* Maxim N. Kachalkin and Alexander A. Shindrov



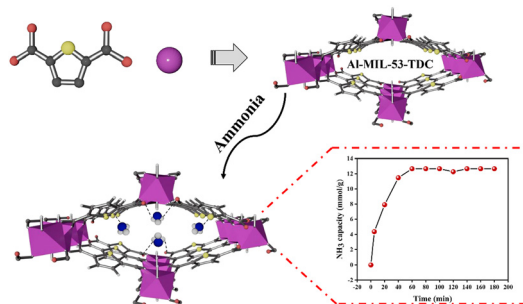
12182

Different-crystallinity pseudoboehmites for enhancing polyethylene film's anti-fogging performance

Dandan Jiao, Peng Tian,* Hongye Qian, Dexin Kong, Chenxi Mu, Hongchang Pang and Junwei Ye



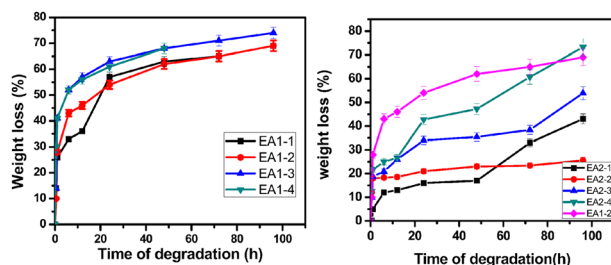
12189



Ammonia adsorption by Al-MIL-53-TDC: performance evaluation and mechanistic study

Xiaona Wang, Hong Wen, Shenghan Wu, Guowang Xiao, Li Wei* and Jingai Hao*

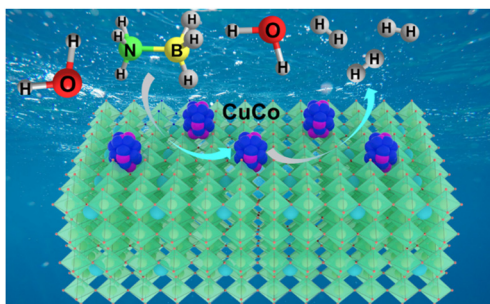
12194



Performance assessment of coumarin–quinoline hybrid-loaded PVA/sodium alginate composite hydrogel membranes with dual anticancer and antimicrobial drug delivery potential

Elbadawy A. Kamoun,* Eman Abdelaziz, Shahira H. EL-Moslami, Nihal Almurakhi, Ezat A. Mersal, Amal F. Dawood, Tamer M. Shawky, Abrar Alanazi, Nashwa Almatrudi, Amr Negm and Ibrahim E. T. El Sayed*

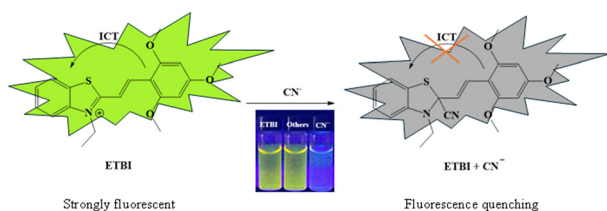
12211



Construction of CuCo bimetallic nanoparticles on perovskite oxide LaFeO₃ for efficient hydrogen production from ammonia borane hydrolysis

Hai Wang, Yuxin Shao, Xiaoyi Wu, Siyuan Tang, Linlin Xu,* Yufang Xie, Haotian Qin, Tong Liu* and Yin Yin*

12218



A "turn-off" ICT-based optical probe for the selective detection of cyanide ions in real samples

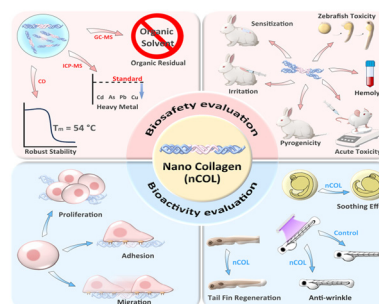
Sisay Uota, Daniella Gross, Bor-Jang Hwang, Raymond Butcher, Yousef Hijji, James Wachira, Solomon Tadesse, Jesse Edwards, Kyle Edwards and Fasil Abebe*



12231

Design and evaluation of the biosafety and bioactivity of highly stable nano collagen

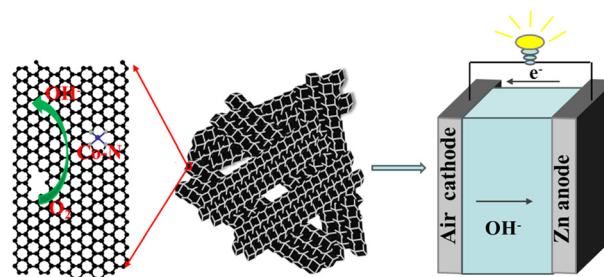
Jingting Zhang, Biyang Ling, Yi Yang, Linyan Yao* and Jianxi Xiao*



12243

Self-template synthesized ZIF-derived polyhedron-connected porous Co–N–C as an oxygen reduction catalyst for Zn–air batteries

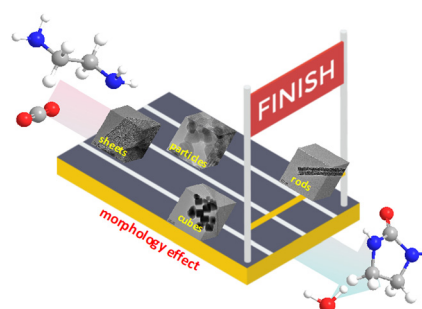
Jiaming Cui, Xiaoting Cao, Xi Wang, Jie Liu, Ningyi Yuan* and Jianning Ding



12252

Morphology-driven oxygen vacancy engineering in Co₃O₄ nanostructures for enhanced catalytic conversion of CO₂ to 2-imidazolidinone

Fei Wang, Yonggang Xu, Qiqi Miao, Xuejiao Wei,* Yihu Ke, Yinwen Gu, Jie Xu and Bing Xue*

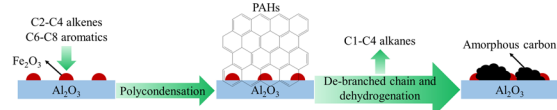


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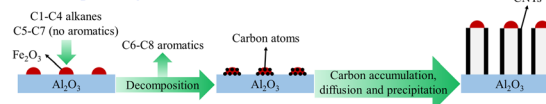
Insights into CNT synthesis process and mechanism in terms of the composition and transformation of hydrocarbon cracked gas

Siqi Liu, Dongzhe Cui, Xu Hou,* Changchang Tian, Ao Dong, Li Yin and Jing Huang

Reaction pathway for amorphous carbon formation



Reaction pathway for CNTs formation



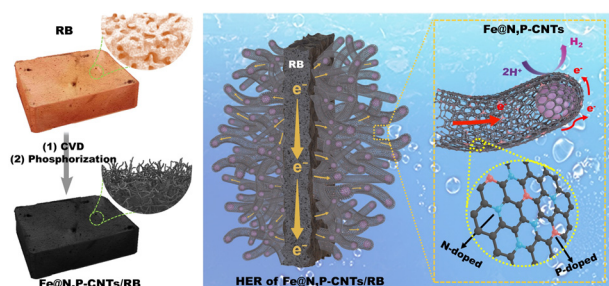
12271



Engineering crystalline–amorphous interfaces in nickel oxide/porous carbon hybrids for enhanced electrocatalytic water splitting

Zimeng Kong, Junqing Li* and Dongxuan Guo*

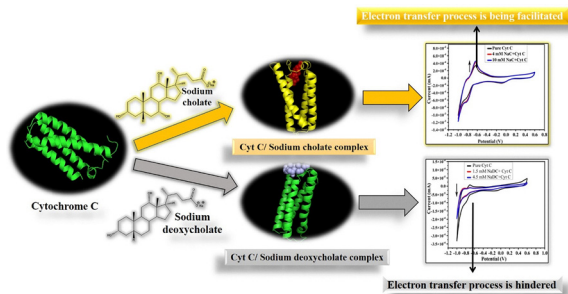
12279



Upcycling red brick into a superior monolithic hydrogen evolution electrocatalyst

Zhengguo Zhang,* Yiming Li, Jiao Zhang, Yaoyao Zhao, Mengjuan Xu, Fang Wang and Shixiong Min*

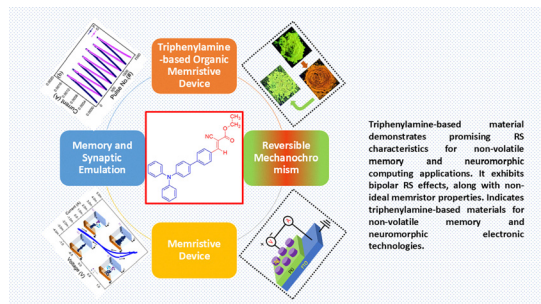
12289



Hydrophobicity-directed structural alteration in cytochrome C induced by bile salts: physicochemical, spectroscopic, and atomic force microscopic studies with molecular docking analysis

Raju Sardar, Rajesh Banik, Susmita Chowdhury and Soumen Ghosh*

12306



A triphenylamine-based organic memristive device: a promising candidate for memory and synaptic emulation applications

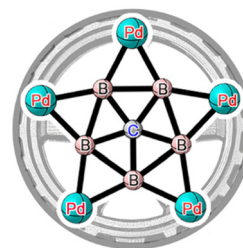
Kishor S. Jagadhane, Neha B. Tadavalekar, Amitkumar R. Patil, Govind B. Kolekar, Rajanish K. Kamat, Tukaram D. Dongale* and Prashant V. Anbhule*



12315

CB₅Pd₅⁺: a boron-based global minimum with a planar pentacoordinate carbon

Rui Sun,* Xiao-Ling Guan, Bo Jin, Xin Wu, Caixia Yuan* and Yan-Bo Wu*

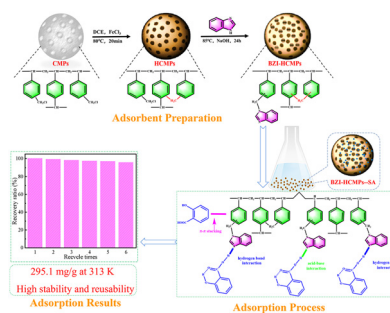


Boron-based planar pentacoordinate carbon in global minimum CB₅Pd₅⁺

12322

Synthesis, structural characteristics, and adsorption properties of benzimidazole-functionalized hyper-cross-linked resin

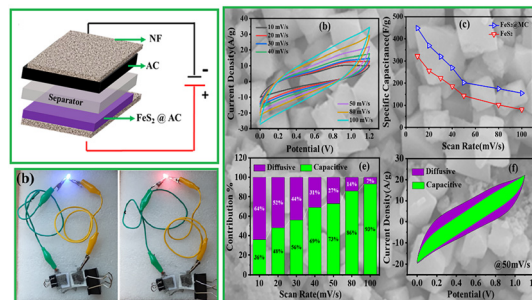
Jixia Li, Yang Tan, Wenkai Chen, Gui Chen,* Lizhi Chen, Jiahui He, Sitong Wang, Haizhou Zhang and Ye Yuan*



12331

Core-shell mesoporous carbon@FeS₂ nanocubes for advanced quasi-solid-state symmetric and asymmetric configurations

Muzahir Iqbal, Abhijeet Singh, Manawwer Alam, Anil Arya* and Santosh K. Mahapatra*



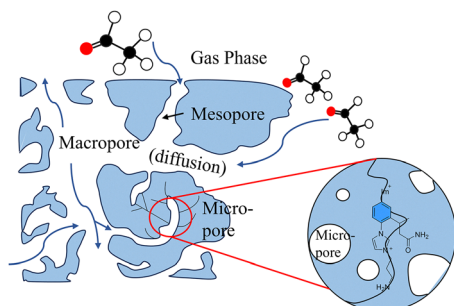
12339

Hollow P, N dual-doped mesoporous carbon supported Pd nanoparticles for efficient catalytic H₂ generation from formic acid

Firouzeh Nemati* and Marzie Sadat Mirhosseyni*



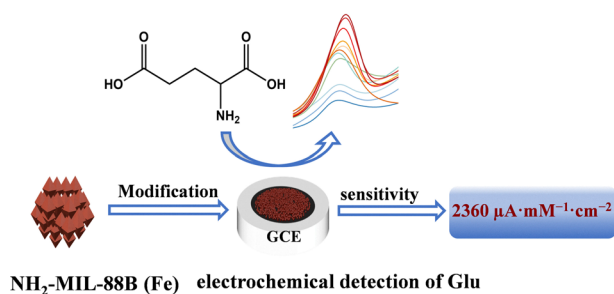
12348



Novel amino-functionalized poly(ionic liquid)s for enhanced acetaldehyde adsorption: synthesis and performance evaluation

Zhen Yang, Xian Dong, Longchao Liang and Zhuo Chen*

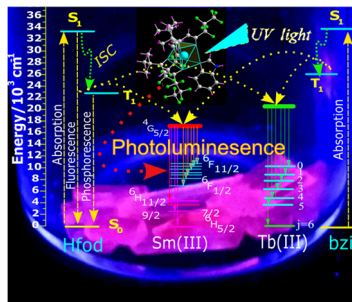
12359



An electrochemical sensor based on an amino-functionalized metal–organic framework for the highly sensitive detection of glutamate

Jianbo Tong,* Qi Hou and Yakun Zhang

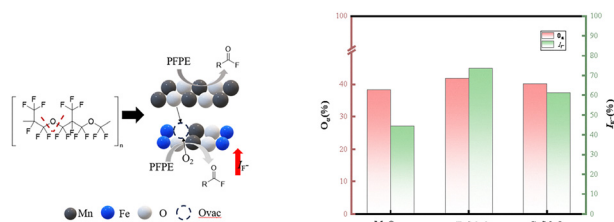
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Photophysical studies of low-symmetry Sm(III) and Tb(III) complexes reveal remarkable quantum yields

Asgar Ali,* Zubair Ahmed,* Khalid Iftikhar and Rahis Uddin*

12382



Synergistic effect of a manganese-based catalyst and its performance in catalytic cracking of PFPE

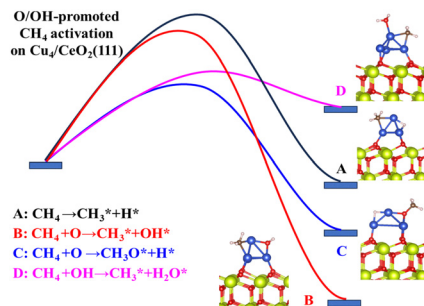
Yang Tang, Jing Zhan, Weifu Xiong, Yanli Liang* and Xiaoyan Ma*



12393

A theoretical study on the promotion of methane activation by adsorption of O species on Cu/CeO₂(111)

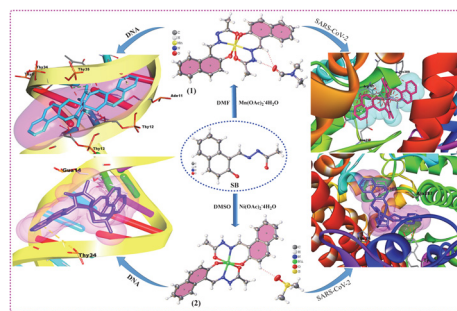
Meng Miao, Yang Xiang, Xin Wei, Qiaoling Xu, Maolin Sha and Qiangqiang Meng*



12401

Synthesis and design of manganese and nickel complexes with potential anticancer and antibacterial activities and antiviral properties for therapeutic applications

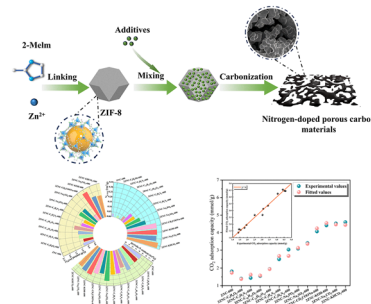
Reyaz Ahmad and Mukesh Choudhary*



12423

Structural optimization of ZIF-8-derived porous N-doped carbon materials for effective CO₂ capture

Hao Wang, Jiadi Gao, Xianyi Liu, Zhiguo Zhang, Zhigeng Fan and Yange Suo*



12439

Mechanoluminescence and nonlinear optical properties of a self-assembled piperazine-based supramolecular system: structural insights and computational analysis

Krishna Murthy Potla,* Suneetha Vankayalapati, Francisco A. P. Osório, Clodoaldo Valverde, Raja Murugesan, Zainab M. Almarhoon, Mahboob Alam and Mohammad Shahidul Islam*

