

IN THIS ISSUE

ISSN 1144–0546 CODEN NJCHES 49(47) 20337–20770 (2025)



Cover

See José A. L. da Silva *et al.*, pp. 20351–20355.

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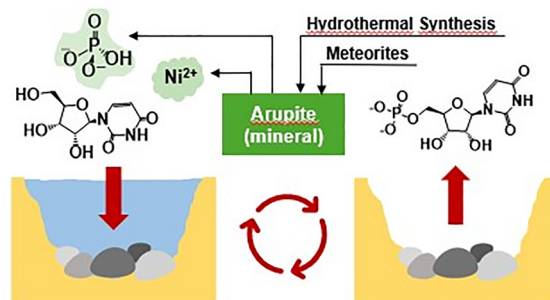
The representation of arupite was obtained by unit cell data using VESTA: K. Momma and F. Izumi, "VESTA 3 for three-dimensional visualization of crystal, volumetric and morphology data," *J. Appl. Crystallogr.*, 44, 1272–1276 (2011).

COMMUNICATIONS

20351

Efficient direct phosphorylation of ribonucleosides by slightly soluble nickel phosphate mineral arupite, using wet/dry cycles

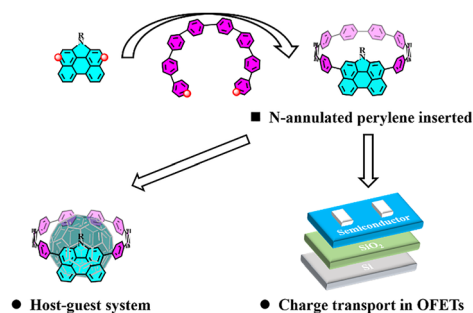
Ana Franco, Xuân-An Nguyen, José R. Ascenso and José A. L. da Silva*



20356

Design, synthesis, and properties of N-annulated perylene-embedded carbon nanorings

Jinling Fu, Pengwei Fang, Nan Yin, Dapeng Lu,* Qiang Huang and Pingwu Du*



Environmental Science: Atmospheres

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Fundamental questions
Elemental answers

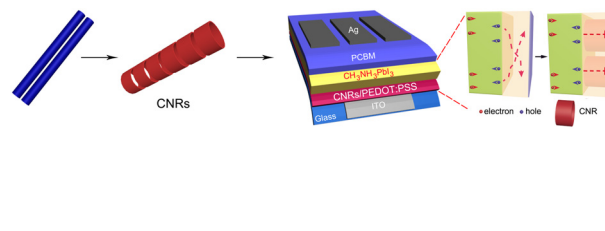


COMMUNICATIONS

20361

Improved hole transport in inverted perovskite solar cells with carbon nanorings

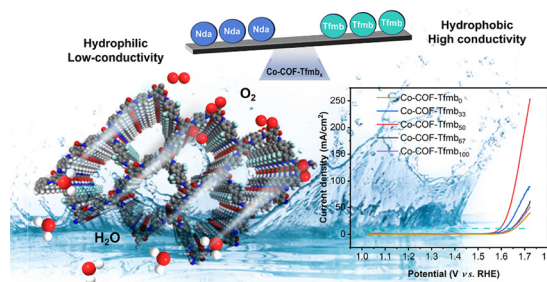
Yongsheng Zhou,* Weibing He, Baoxuan Wang, Erhui Zhang, You Liu,* Xuchun Wang, Zirong Li, Changchun Song,* Yingchun Zhu and Bingshe Xu



20366

Modulating the hydrophilicity and conductivity of covalent organic frameworks for enhanced oxygen evolution reaction

Jierui Yang, Huiting Qiu, Xin Xiao, Long Huang, Rong Hu, Tong Yang, Shuang Meng* and Hongming He*

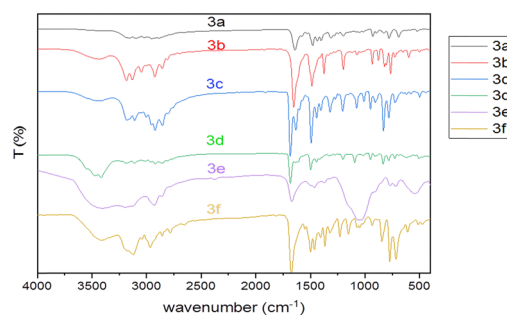


PAPERS

20371

Novel formyl pyrazole derivatives as potential antimicrobial and anticancer agents: synthesis, structural characterization insights, and diverse *in vitro* biological evaluations

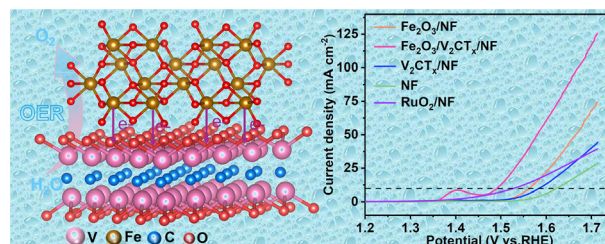
El-Refaie Kenawy,* Mohamed G. Altamami, Ahmed A. Safaan, Afnan H. El-Gowily, Ahmed K. Saleh, Motoki Ueda, Elbadawy A. Kamoun* and Atif A. El-Gharably



20385

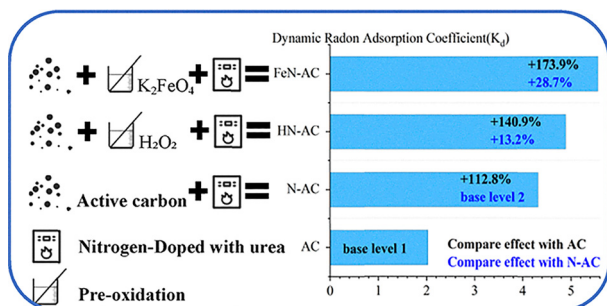
Interface electronic engineering of a nickel foam-supported Fe₂O₃/V₂CT_x heterostructure for efficient oxygen evolution reaction

Min Hu, Shuang Li,* Li Dong, Keke Li, Jinsong Zhou, Ya-Pan Wu, Cheng-Bin Zhong, Xue-Qian Wu and Dong-Sheng Li*



PAPERS

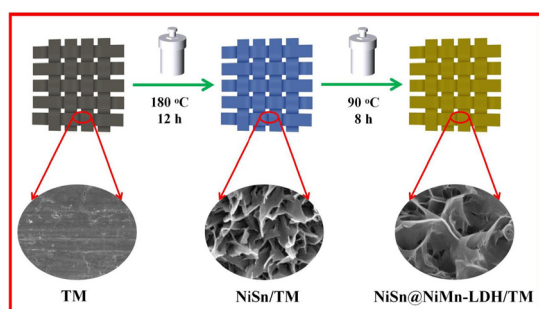
20392



Adsorption characteristics of radon on pre-oxidized nitrogen-doped activated carbon

Siyy Li, Guoqing Liu, Yourui Jiang, Yong Liu,* Yupeng Xie and Shengyang Feng*

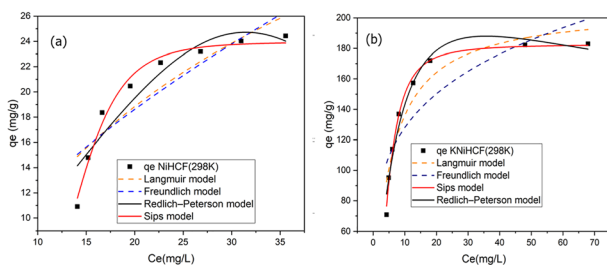
20403



Interface engineering of heterostructured NiSn@NiMn-LDH as a bifunctional electrocatalyst for the oxygen evolution reaction and hydrogen evolution reaction

Wei Gao,* Chao He, Yuzun Li, Yufeng Li,* Weiwei Tang, Zhe Zhang, Houxiang Sun and Jitao Zhao

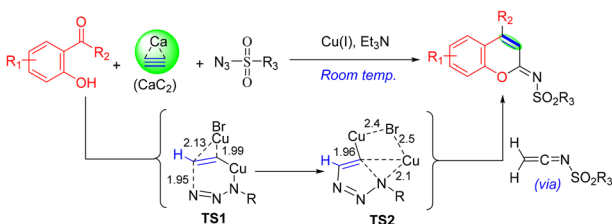
20414



Enhanced cesium removal by $K_2Ni[Fe(CN)_6] \cdot H_2O$: structural optimization, adsorption behavior, and competitive ion selectivity compared to $Ni_2Fe(CN)_6 \cdot 3H_2O$

Nguyen Dinh Trung, Nguyen An Son, Nguyen Minh Tam and Ho Kim Dan*

20431



Multicomponent construction of C3-unsubstituted iminocoumarins using CaC_2 as a stable surrogate for gaseous acetylene: scope and mechanistic investigations

Manpreet Kaur, Divya Bharti, Kamlesh K. Gurjar, Praveen Kumar Verma, Vinod Kumar and Rakesh Kumar*

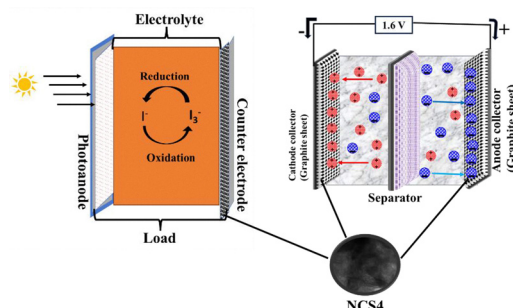


PAPERS

20442

Impact of neodymium doping on nitrogen enriched Co/CoS for high-performance dye-sensitized solar cells and supercapacitors

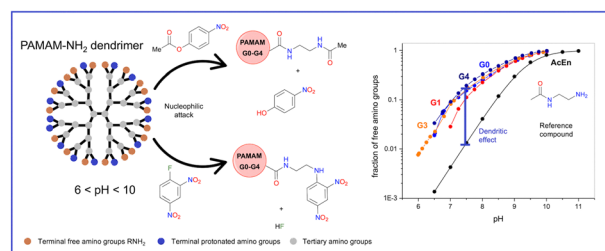
Imani Sospeter, Manik Clinton Franklin, Hemalatha Kuzhandaivel and Karthick Sivalingam Nallathambi*



20462

Nucleophilic reactivity of terminal amino groups of PAMAM dendrimers

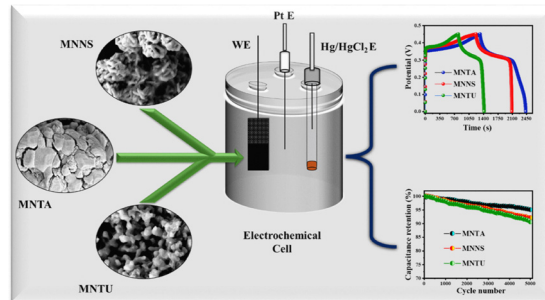
Alejandra P. López-Pacheco, Elizabeth Alpizar-Juárez, Paola Gómez-Tagle* and Anatoly K. Yatsimirsky*



20474

Optimizing MnNi_2S_4 electrode performance via sulfur precursor selection: a comparative study for high-rate supercapacitor applications

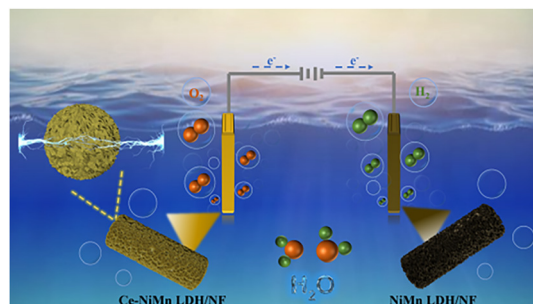
Malashri Boraiah Sannaobaiah, Sharath Kumar Basavaraju, Gireesh Kumar Basavaraj Chavati, Krishna Venkatesh, Muralidhara Handanahalli Basavarajaiah* and Arthoba Nayaka Yanjerappa*



20490

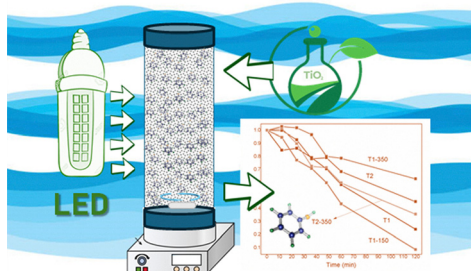
Hierarchical Ce-doped NiMn-LDH nanoflowers: tailoring active sites via electrodeposition towards superior overall water splitting

Li Zhang, Jin Liang,* YaXi Zhang, Tian Lei, Guang Yang and YunFeng Li



PAPERS

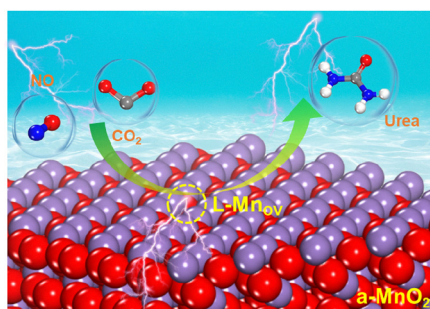
20500



A comparative study of self-doped TiO₂ catalysts obtained from different routes: analysis of efficiencies in the degradation of 2-chlorophenol under LED visible light

Pablo Alejandro Ochoa Rodríguez,*
Tamara Belén Benzaquén, Eliana Gabriela Vaschetto,
Verónica Brunetti, Griselda Alejandra Eimer and
Verónica Rita Elías

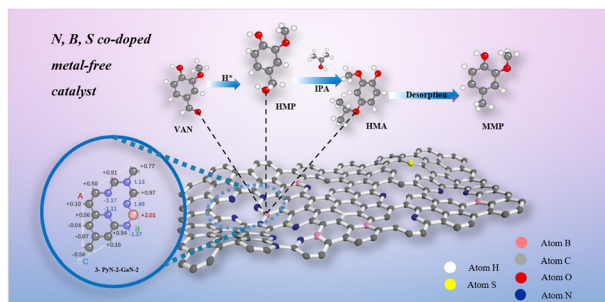
20507



Amorphous MnO₂ with low-coordinated Mn sites for efficient electrochemical urea production from CO₂ and NO

Menghan Zhu,* Ye Tian, Rui Niu, Xiang Li, Fengyu Zhang
and Ke Chu*

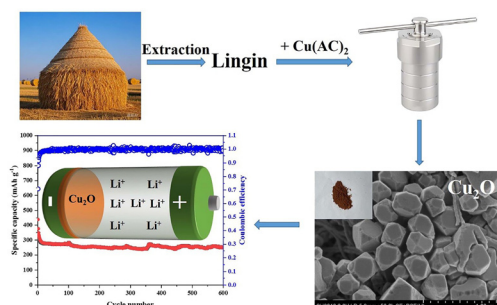
20512



Metal-free nitrogen and boron co-doped carbon catalysts for transfer hydrodeoxygenation of biomass: a model compound study

Yuze Wu, Dengwei Wang, Man Lang, Hai Shan, Xin Liu,
Hao Li* and Wang Yin*

20526



Lignin-assisted one-step hydrothermal synthesis of Cu₂O polyhedrons/C composites with an exposed (111) plane for superior Li-ion battery anodes

Haowen Liu,* Peilin Wu and Fenghua Zhu

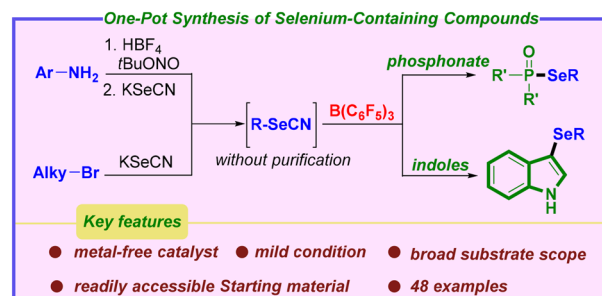


PAPERS

20534

B(C₆F₅)₃-catalyzed one-pot selenation of phosphonates and indoles

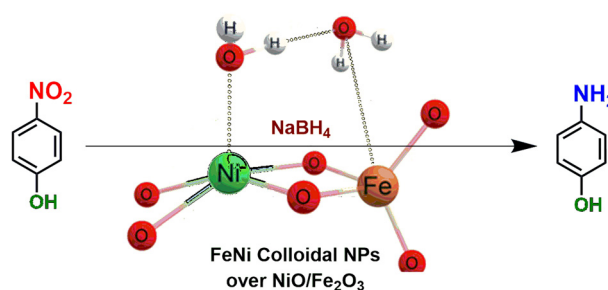
Ying Chen, Xin Li, Dongfang Wu, Ruijie Tao, Yong Ling and Gong-Qing Liu*



20539

Controlled synthesis of FeNi colloidal nanoparticles over NiO/Fe₂O₃ matrix for the catalytic reduction of 4-nitrophenol

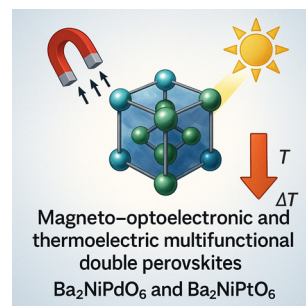
Manash J. Baruah, Eramoni Saikia, Bitupon Borthakur, Akshoy Konwar, Nand Kishor Gour, Shivanee Borpatra Gohain, Pallabi Saikia, Mamon Dey, Rajarshi Bayan, Rahul Kemprai, Dipankoj Gogoi, Young-Bin Park, Satyajit Dey Baruah, Biraj Das* and Mukesh Sharma*



20548

First-principles investigation of electronic, magnetic and optical properties of double perovskite oxides Ba₂NiYO₆ (Y = Pd, Pt)

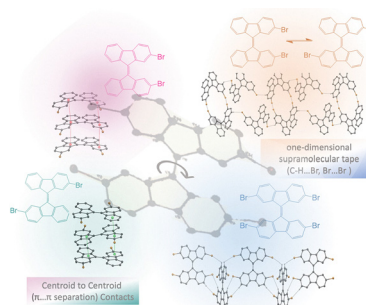
Khedidja Mechehoud, Mohamed Mana,* Fatima Bendahma and Mouffok R. Ghezzar



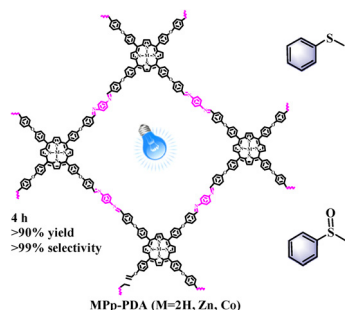
20558

Study of halogen substitution effects on the structural and electronic properties of overcrowded alkene rotors

Sunjida Reza Maliha, Saptarshi Datta, Jahnvi Badiganti, Jagan Rajamoni, Lukasz Szatkowski and Jinjia Xu*



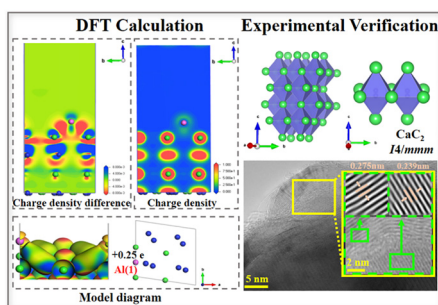
20567



Porphyrin-based covalent organic polymers connected by imine-bonds: efficient and recyclable heterogeneous photocatalysts for the oxidation of thioanisole

Yahong Yao,* Jun Li, Jiaojiao Wei and Jun Li*

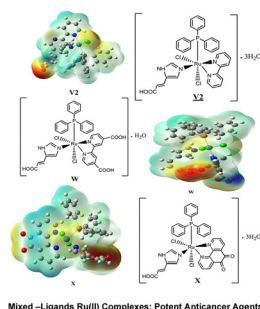
20577



Unveiling the interfacial dynamics of Si/Al adsorption on calcium carbide: mechanistic insights and advanced applications

Maierhaba Abudoureheman,* Jia Lv, Bo Wei,* Tao Yang, Bin Dai, Jianjiang Wang, Hualin Peng, Kesong Tong, Quan Zhu, Jinrong Ma and Yanfeng Cheng

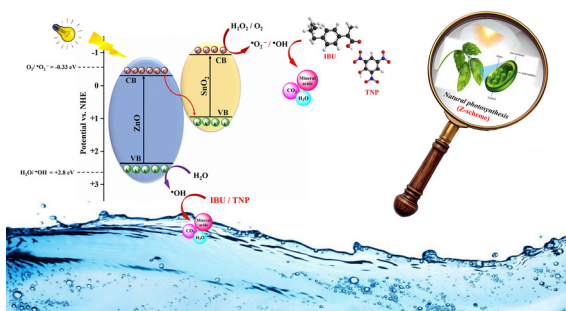
20586



Rational experimental design and computational insights into novel heteroleptic mixed-ligand Ru(II) complexes possessing derivatized bipyridines and phendione for anti-cancer activities

Adewale Olufunsho Adelaye,* Damilare David Babatunde, Kgaugelo Cornelius Tapala and Nomampondo Penelope Magwa

20604



Nature-inspired Z-scheme SnO₂@ZnO n-n heterostructure photocatalyst for reactive oxygen species-mediated degradation of emerging contaminants in wastewater

Biswajyoti Hazarika, Biplop Jyoti Hazarika and Md. Juned K. Ahmed*

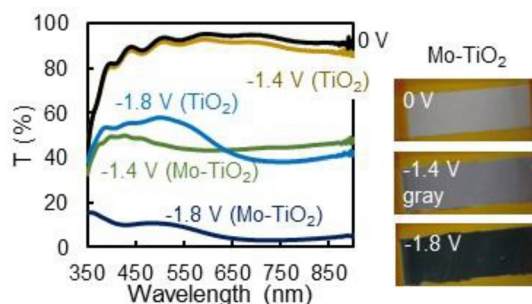


PAPERS

20631

Electrochromic properties of TiO₂ doped with molybdenum ions

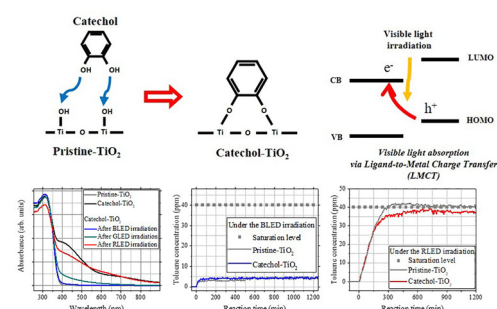
Suzuko Yamazaki,* Kohshiro Okimura, Maki Mochinushi and Ryo Kimura



20641

Photostability challenges of catechol-derived LMCT complexes on TiO₂ for visible-light-driven photocatalytic air purification

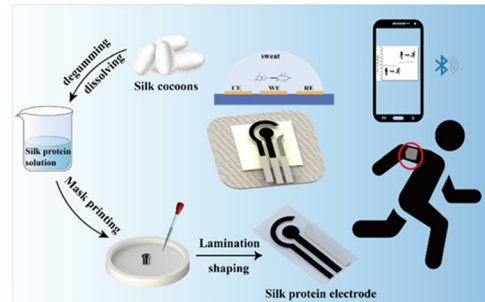
Tae Hyeon Kim, Seung Ho Kang and Hyun Ook Seo*



20652

Integrated wearable electrochemical sensor based on silk protein for the detection of uric acid in sweat

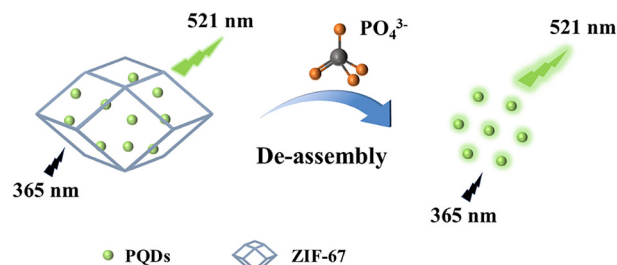
Chaowei Li, Yanan Wang, Jian Li, Lili Lv, Xiyue Cao, Jianfei Xia and Wengui Xu*



20660

Preparation of PQDs@ZIF-67 for detection of TC and PO₄³⁻

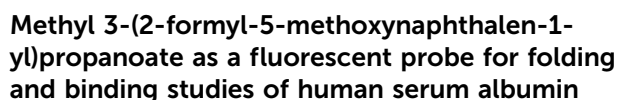
Jiahong Zheng,* Guangqiang Ding, Xiudan Shi, Zhiguo Zhao and Pengzhan Li





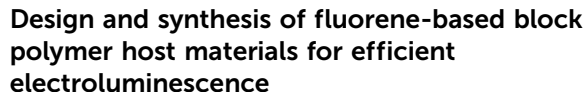
Yurun Wang, Jingli Xu, Xinru Ren, Yongqi Sun,
Huiheng He, Yupei Zhao, Wengian Fu* and Tiandi Tang*

20680



Shreya Roy, Sankar Maity, Sapana Dubey,
Krishna Prasad Bag, Madan Sau, Madhurima Jana,
Subrata Mahanta* and Tapas Das*

20694



Youqiang Qian, Wenhao Zhang, Ming Pei, Na Hu,
Junyi Chen, Shilong Feng, Yanjiao Chang,* Yinghong Liu,
Jingjing Wan* and Xinxin Ban*

20704



Recyclable palladium-catalyzed cyclocarbonylation of *o*-iodoarylcarbodiimides and nucleophiles in bioderived 2-MeTHF towards the formation of 2-heteroquinazolin-4(3*H*)-ones

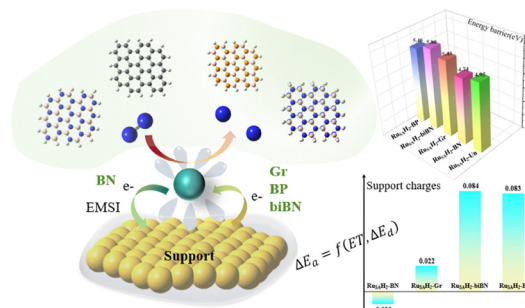
Ling Chen,* Zhiyuan Tu, Jinbiao Wu and Mingzhong Cai*

PAPERS

20718

Electronic modulation of single and dual-atom Ru catalysts for N₂ activation by nanosheet supports

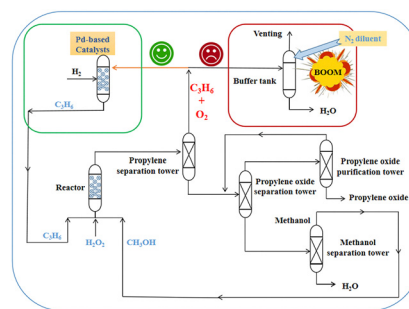
Li Zhao, Xiaofan Liu, Qiuyue Wang, Yanyan Xi and Xufeng Lin*



20731

Efficient catalytic deoxygenation with a Zr-modified Pd-based industrial catalyst

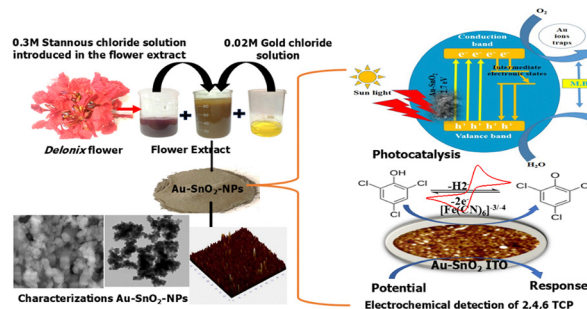
Fangxu Lu, Changsheng Zhang, Song Wen, Jinchong Zhao, Jie Jiang,* Dong Cao, Bing Sun and Wei Xu*



20740

Plasmon-enhanced electrochemical sensing of 2,4,6-trichlorophenol and photocatalytic degradation of methylene blue by green-synthesized Au-doped SnO₂ nanostructures using *Delonix regia* flower extract

Khrsheed Ahmed, Arvind Kumar, Anshu Kumar Singh, Sheo K. Mishra* and Jay Singh*



20754

Novel bimetallic Ln^{III}/V^{IV} (Ln = Gd, Tb, Dy, Er, Yb, Lu) compounds with cyclopropane-1,1-dicarboxylate anions and bulky tetrabutylammonium cations: synthesis, structure, magnetic properties, and thermal decomposition

Evgeniya S. Bazhina,* Maxim A. Shmelev, Natalia V. Gogoleva, Anna K. Matiukhina, Pavel N. Vasilev, Nikolay N. Efimov, Mikhail A. Kiskin and Igor L. Eremenko



CORRECTION

20768

Correction: The preparation of a 9,9'-spirobi[9*H*-9-silafluorene]-based porous organic polymer for fluorescence sensing of iodide ions and 2,4-dinitrophenol

Qi Peng

