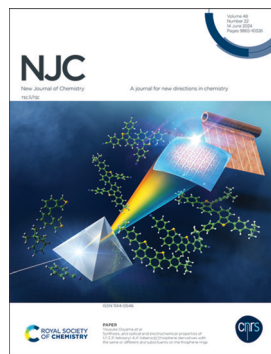


## IN THIS ISSUE

ISSN 1144-0546 CODEN NJCHES 48(22) 9865-10326 (2024)



## Cover

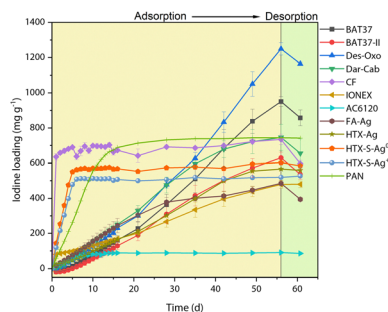
See Yousuke Ooyama  
et al., pp. 9890–9898.  
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from *New J. Chem.*,  
2024, 48, 9890.

## COMMUNICATIONS

9880

### Static iodine loading comparisons between activated carbon, zeolite, alumina, aerogel, and xerogel sorbents

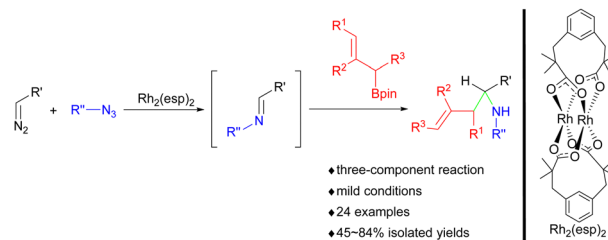
Saehwa Chong,\* Brian J. Riley, Karthikeyan Baskaran, Sean Sullivan, Luke El Khoury, Krista Carlson, R. Matthew Asmussen and Matthew S. Fountain



9885

### Rh<sub>2</sub>(esp)<sub>2</sub>-catalyzed three-component reaction of a diazo compound, alkyl azide and allylboronate for the synthesis of homoallylic amine derivatives

Ze-Yu Yi, Na Sun, Peiming Gu, Yang Ji and Rui Li\*



# RSC Sustainability

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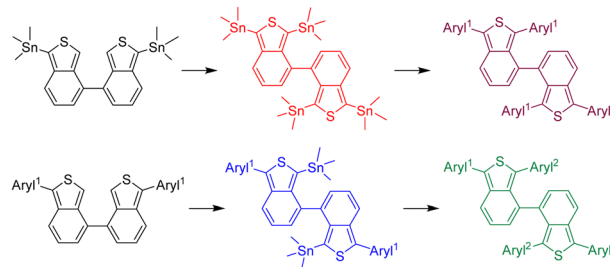
[rsc.li/RSCSus](https://rsc.li/RSCSus)

Fundamental questions  
Elemental answers

9890

### Synthesis, and optical and electrochemical properties of 1,1',3,3'-tetraaryl-4,4'-bibenzo[c]thiophene derivatives with the same or different aryl substituents on the thiophene rings

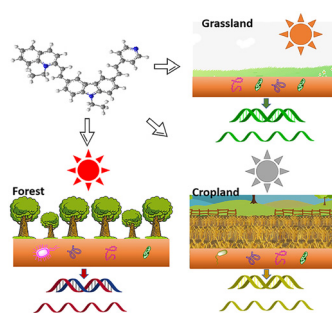
Yasuto Hara, Kumpei Kozuka, Keiichi Imato, Seiji Akiyama, Mio Ishida and Yousuke Ooyama\*



9899

### A novel fluorescent probe for discriminating microbial DNA in ecosystems and model organisms

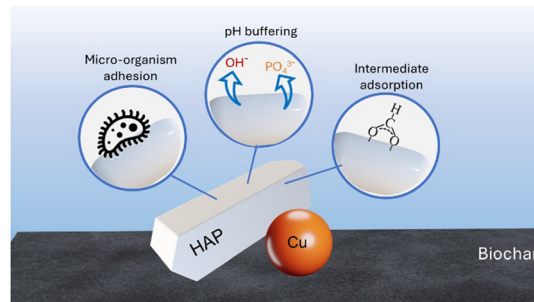
Zhaomin Wang, Zhe Chen,\* Hao Sun, Min Liu and Yong Liu\*



9909

### Interface properties of hydroxyapatite in ternary composites cathodes for electromethanogenesis

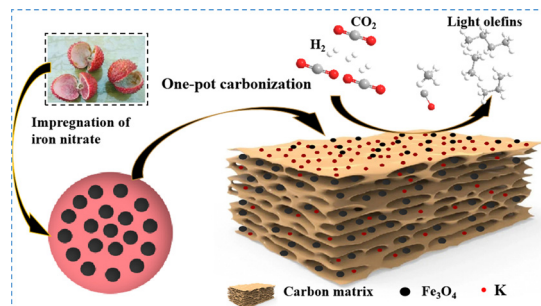
Michele Bigica, Giorgia Ghiara, Pierangela Cristiani,\* Sebastiano Campisi\* and Antonella Gervasini



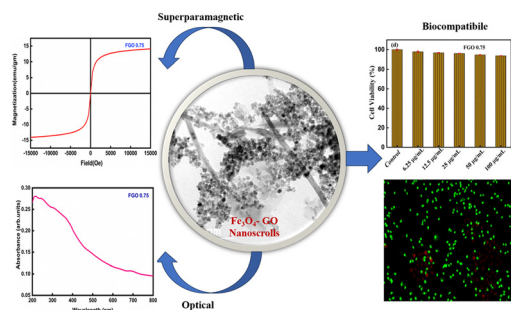
9920

### Preparation of Fe-based catalysts from waste biomass as a carbon carrier and its catalytic performance in CO<sub>2</sub> hydrogenation

Rui Zhu, Kangzhou Wang,\* Yaqin Xing, Caihu Li, Xinhua Gao,\* Qingxiang Ma, Tian-sheng Zhao and Jianli Zhang\*



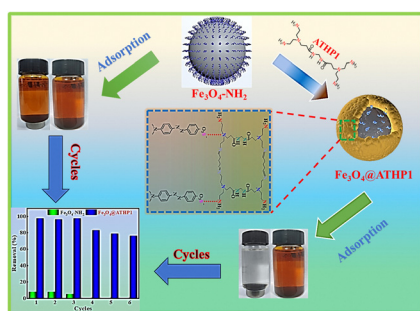
9931



### Nanoengineered Fe<sub>3</sub>O<sub>4</sub>-GO nanoscrolls: exploring the biofunctional applications through magnetic, optical, structural, and morphological analyses

Mubeena Rafi, Anshida Mayeen, Honey John\* and Pramod Gopinath\*

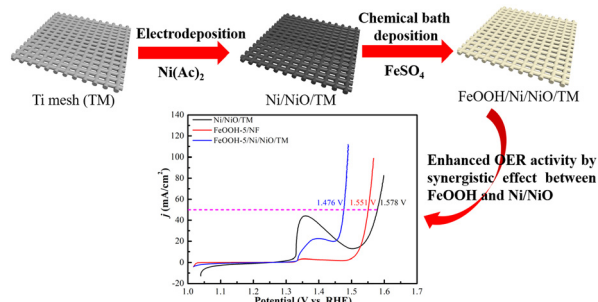
9945



### Facile synthesis of hyperbranched magnetic nanospheres for highly efficient removal of methyl orange

Jinting Song, Sufang Chen,\* Renliang Lyu, Daohong Zhang and Jingping Hong\*

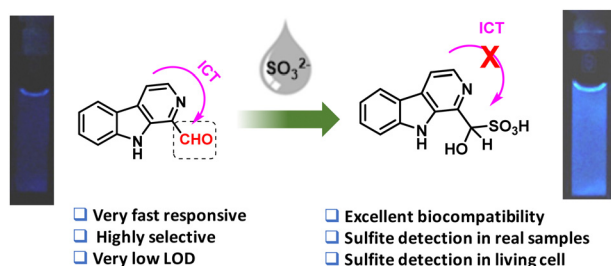
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### Boosting the electrocatalytic activity and stability of Ni/NiO toward the oxygen evolution reaction by coupling FeOOH nanosheets

Yajing Wang, Quanxi Zhu, Peng Zhang, Songli Liu and Jiankang Wang\*

9961



### A Kumujian-C based highly selective fluorescence turn-on probe enables the detection of sulfite in real samples and living cells

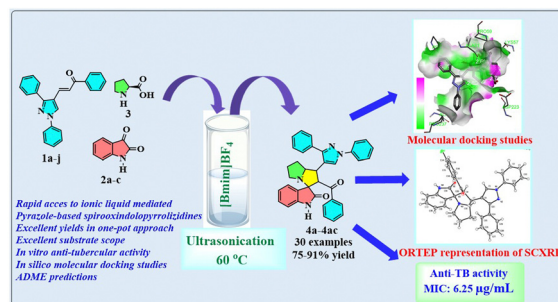
Kartik Dutta, Saparya Chattaraj, Riddhi Pal, Padma Nilaya Jonnalagadda, Birija S. Patro, Soumyaditya Mula\* and Goutam Chakraborty\*



9970

### Ultrasound-assisted ionic liquid-mediated green method for synthesis of 1,3-diphenylpyrazole-based spirooxindolopyrrolizidines, their anti-tubercular activity, molecular docking study and ADME predictions

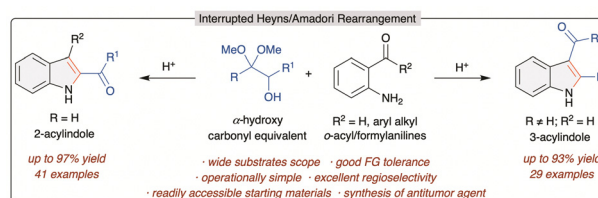
Sravanthi Baddepuri, Rama Krishna Gamidi, Jyothi Kumari, Dharmarajan Sriram and Srinivas Basavoju\*



9981

### $\alpha$ -Hydroxydimethylacetal/ketal as an $\alpha$ -hydroxycarbonyl equivalent in interrupted Heyns/Amadori rearrangement: regioselective synthesis of substituted C2- and C3-acylindoles

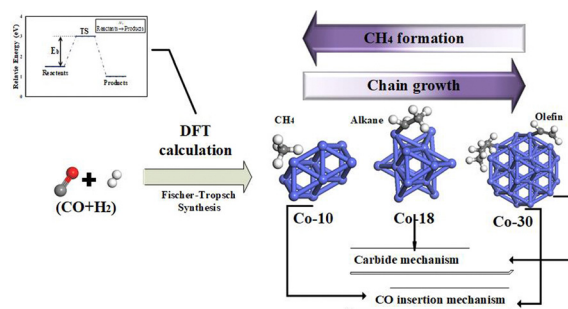
Minakshi Altia and Pazhamalai Anbarasan\*



9990

### Determining the hydrocarbon chain growth pathway in Fischer–Tropsch synthesis through DFT calculations: impact of cobalt cluster size

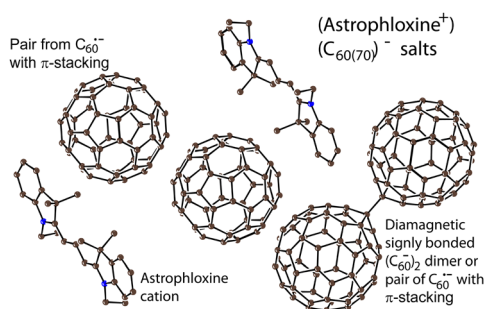
Somayyeh Veiskarami, Ali Nakheai Pour,\* Ehsan Saljoughi and Ali Mohammadi



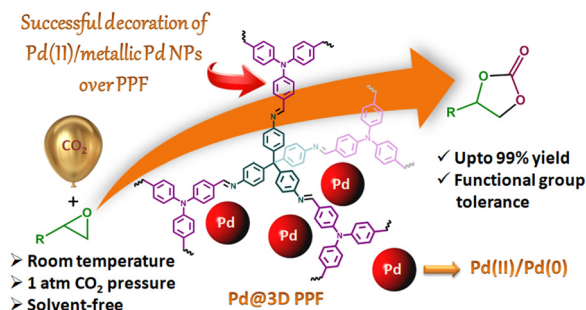
10002

### Monomers and dimers of fullerenes in the radical anion salts with dyes, (astrophloxine<sup>+</sup>)<sub>2</sub>(C<sub>60</sub><sup>•-</sup>)<sub>2</sub> and (astrophloxine<sup>+</sup>)<sub>2</sub>(C<sub>70</sub><sup>-</sup>)<sub>2</sub>: suppression of the C<sub>60</sub><sup>•-</sup> dimerization by $\pi$ -stacking

Pavel A. Sobov, Maxim A. Faraonov, Salavat S. Khasanov, Akihiro Otsuka, Hideki Yamochi, Hiroshi Kitagawa and Dmitri V. Konarev\*



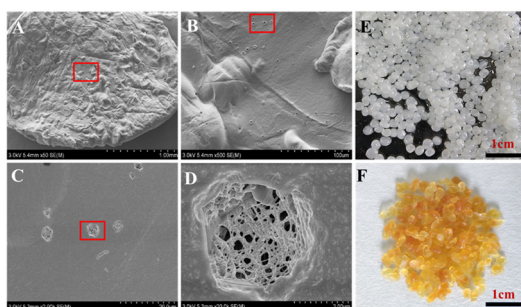
10010



### A highly efficient and reusable amorphous Pd(II)/crystal Pd(0)-grafted porous polymer framework for catalytic CO<sub>2</sub> cycloaddition

Somnath Sarkar, Swarbhanu Ghosh, Titu Mondal, Aslam Khan and Sk. Manirul Islam\*

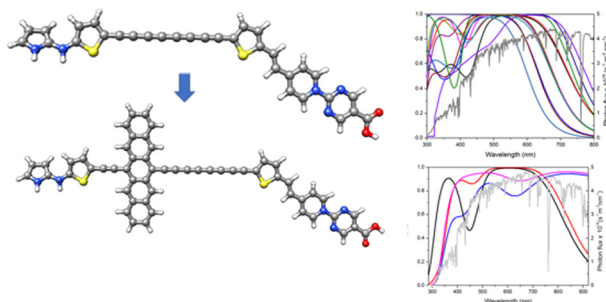
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### Adsorption of Congo Red by chitosan porous beads reinforced with epoxy resin

Yaoge Huang\* and Wuga Shama

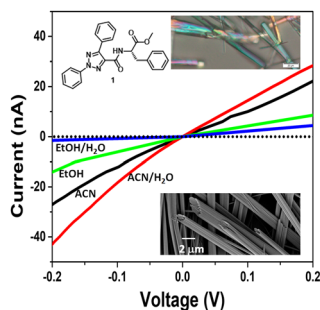
10026



### Computational exploration of panchromatic dye-sensitized solar cells with broad visible to near-infrared absorption: a density functional theory study

Giuseppe Consiglio,\* Adam Gorczyński, Guido Spoto, Salvatore Petralia and Giuseppe Forte\*

10038



### Processable soft conducting fibers of self-assembled (2,5-diphenyl-2H-1,2,3-triazole-4-carbonyl)-L-phenylalaninate

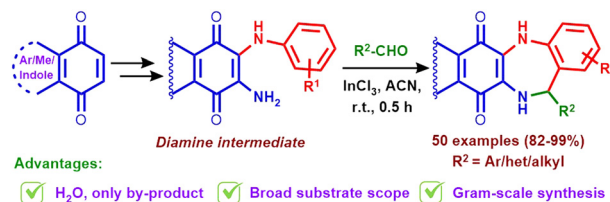
Sahabaj Mondal, Olamilekan Joseph Ibukun, Milan Gumtya and Debasish Haldar\*



10045

### High-yielding regioselective synthesis of *p*-quinone fused 5-substituted-1,4-benzodiazepine scaffolds via Pictet–Spengler type cycloannulation

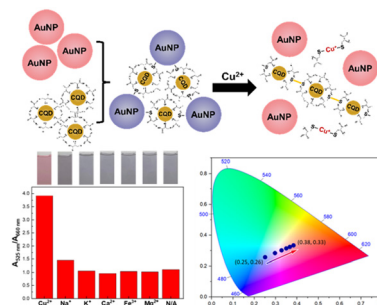
Ashokkumar Krishnan and Sriraghavan Kamaraj\*



10053

### Sensitivity improvement of Au-nanoparticle-based colorimetric probes via surface decoration of carbon quantum dots

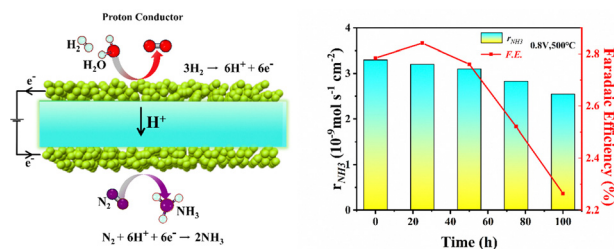
Yi-Ting Li, Chien Feng Lo, Kuan-Han Lin, Pin-Chao Liao, Joon Ching Juan, Po-Hsuan Hsiao and Chia-Yun Chen\*



10060

### *In situ* exsolved CoFe alloys over perovskite toward enhanced ammonia synthesis

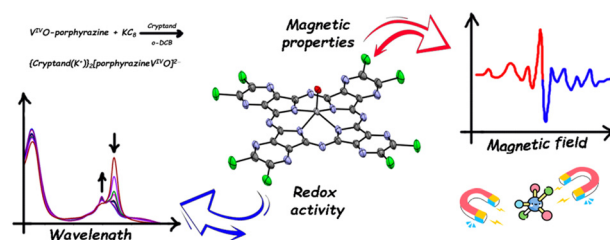
Yufeng Du, Xiang Su, Xin Wang,\* Lingting Ye\* and Kui Xie\*



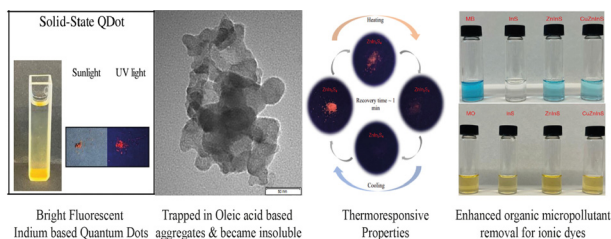
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### Perchlorinated vanadyl tetrapyrazinoporphyrazine: spectral, redox and magnetic properties

Daniil N. Finogenov, Maxim A. Faraonov,\* Alina S. Kopylova, Timur E. Ivanov, Nikita R. Romanenko, Ilya A. Yakushev, Dmitri V. Konarev\* and Pavel A. Stuzhin\*



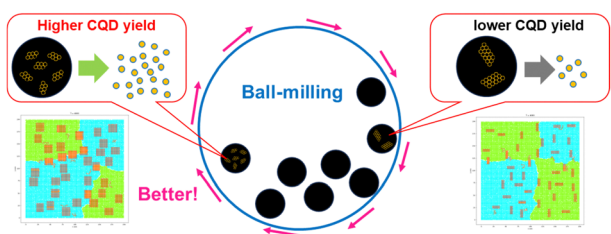
10074



### Indium-based quantum dots trapped in solid-state matrices: a one-pot synthesis, thermoresponsive properties, and enhanced micropollutant removal

Nida Ük, Sümeyye Aykut, Hadi Jahangiri, Ilgin Nar and Caner Ünlü\*

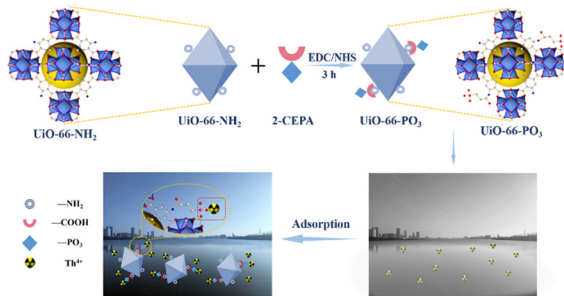
10087



### Controlled formation of ball-milled carbon quantum dots via optimized graphite structures by numerical simulation

Sonia Lu Tai, Kelly Qi Wang, Ryan Taoran Wang,\* W. M. Lau, Gu Xu and Alex Fan Xu\*

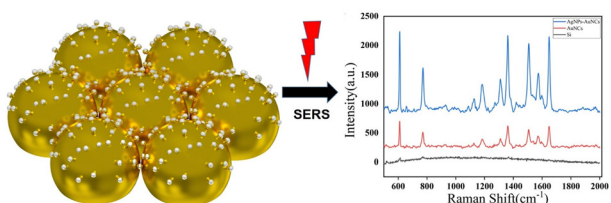
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### Highly efficient adsorption of thorium(IV) from aqueous solutions by functionalized UiO-66 with abundant phosphonic acid active sites

Chunpei Yan, Qihang Peng, Linshan Peng, Zhirong Liu, Yong Qian and Tianxiang Jin\*

10104



### Templated gold nanocaps for surface-enhanced Raman scattering (SERS) sensors based on monolayer polystyrene colloidal arrays

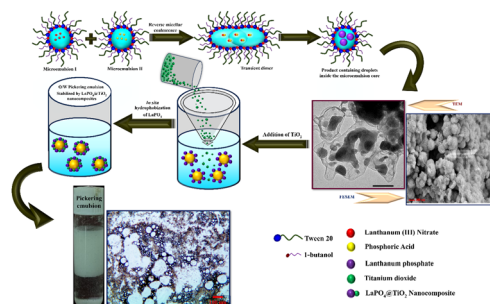
Yunjie Xia, Mengnan Sun, Rongjian Huang, Shuyan Qi, Li Zhang, Yaru Jia, Zihou Li, Huilin Xu, Mingkun Wang, Wei Huang, Jiantao Zhang,\* Aiguo Wu\* and Bo Chen\*



10112

## Comprehensive evaluation of non-conventional lanthanum phosphate nanospheres inside water-in-oil microemulsion scaffolds and their utilization in the assessment of surfactant-free TiO<sub>2</sub>-based Pickering emulsion formulations

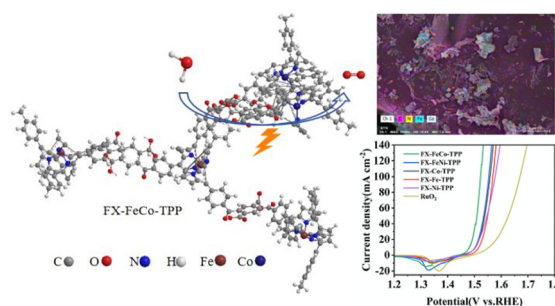
Trishna Mandal, Sk Mehebab Rahaman,\* Bipasha Saha, Nargis Khatun, Arnab Patra, Arnab Mukherjee, Mahasweta Nandi, Debasis Dhak, Sanjay Roy and Bidyut Saha\*



10126

## Non-noble metal coordinated hypercrosslinked polymers based on porphyrin for efficient electrocatalytic OER

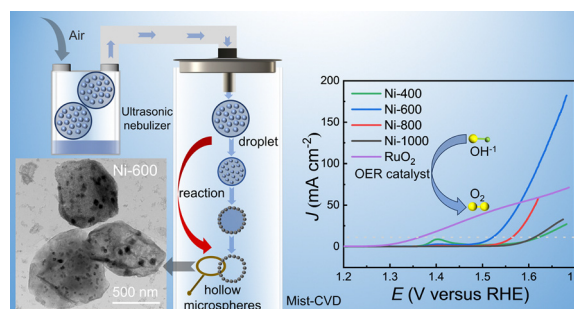
Xinming Hu, Penglei Cui,\* Hong Zhang and Zitong He



10133

## Ni/NiO/C hollow microspheres fabricated by a mist-CVD process using ethanolamine: an efficient OER catalyst

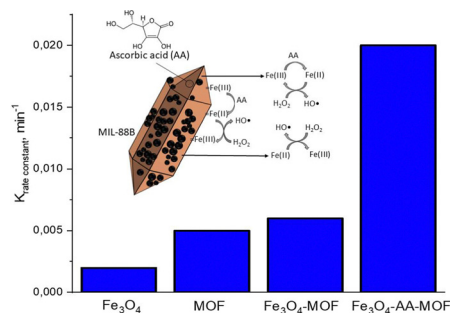
Rong Tu, Jiangwei Liu, Yingqiu Zheng,\* Chao Song, Chitengfei Zhang, Yuzhe Han, Rongchen Xu, Guoqiang Luo, Song Zhang and Takashi Goto



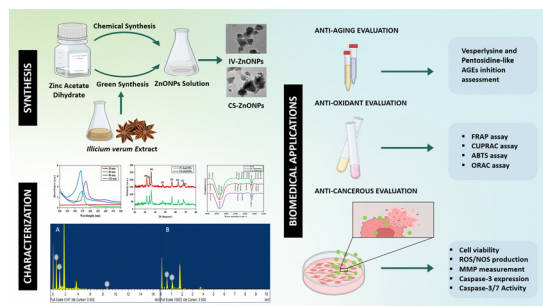
10142

## Fenton reaction-driven pro-oxidant synergy of ascorbic acid and iron oxide nanoparticles in MIL-88B(Fe)

Lyubov Bondarenko,\* Rose Baimuratova, Artur Dzeranov, Denis Pankratov, Arina Kicheeva, Ekaterina Sushko, Nadezhda Kudryasheva, Rishat Valeev, Natalya Tropskaya, Gulzhian Dzhardimalieva and Kamila Kydralieva



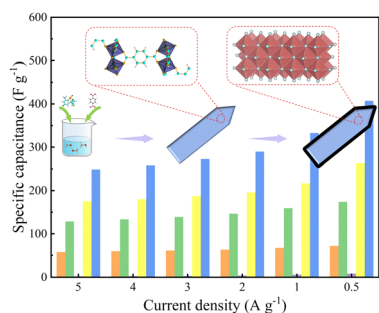
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## Differential impact of biogenic and chemically synthesized zinc oxide nanoparticles on anti-aging, anti-oxidant and anti-cancerous activities: a mechanism based study

Mubashra Inam, Zahra Haider, Sumaira Anjum,\*  
Mohamed Mohamed Soliman, Bushra Ahmad,  
Muhammad Iftikhar Hussain and Christophe Hano

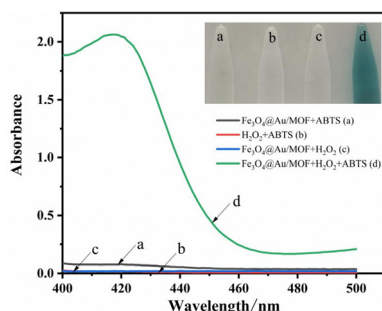
10177



## High-capacity vanadium nitride anode materials synthesized by melamine-assisted pyrolysis

Hao Dang, Lu Wang, Yuanyou Peng, Lei Zhao, Yuan Li,  
Xiaoya Kang and Fen Ran\*

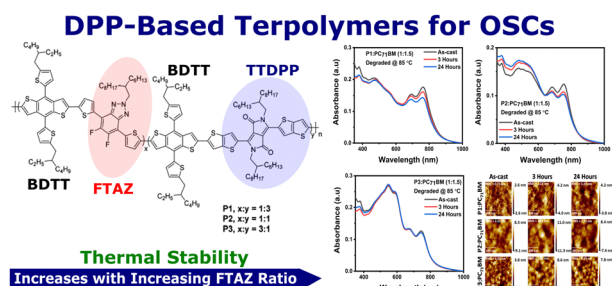
10189



## Trimetallic Fe<sub>3</sub>O<sub>4</sub>@Au/MOF nanopolyhedrons with peroxidase-like catalytic activity for the electrochemical detection of *tert*-butyl hydroquinone as a pollutant in edible oil

Huanan Guan,\* Shiqin Du, Yue Zhang and Sheng Tang\*

10201



## Unveiling the thermal stability of diketopyrrolopyrrole-based terpolymers: a key element for enhanced efficiency and stability of organic solar cells

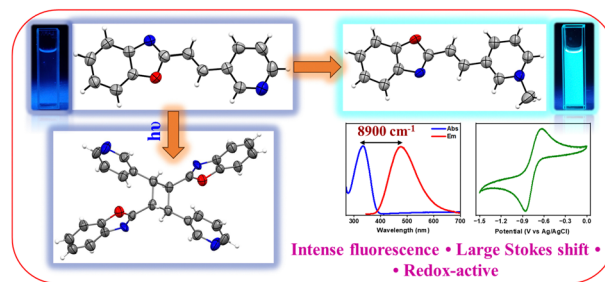
Leonato Tambua Nchinda, Zewdneh Genene,  
Wendimamegn Mammo, Newayemedhin A. Tegegne and  
Tjaart P. J. Krüger\*



10213

### 3-Pyridylvinyl benzoxazole-derived multifunctional organic materials—from solid-state photoreactivity to photophysical and electrochemical properties

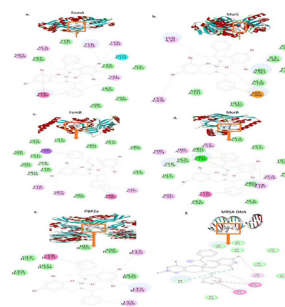
Shyamvarnan Baskar and Goutam Kumar Kole\*



10226

### Synthesis, crystal structure, lipophilicity, antioxidant activity, binding interactions, and antibacterial activity against methicillin-resistant *Staphylococcus aureus* of a Ni(II) Schiff base complex: combined theoretical and experimental approaches

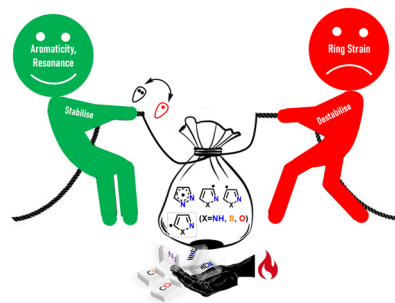
Arpita Das, Ribhu Maity, Tuhin Sarkar, Priyanka Das, Paula Brandao, Tithi Maity, Keka Sarkar\* and Bidhan Chandra Samanta\*



10239

### Unravelling the factors affecting the stability and reactivity of dehydro-pyrazole, isothiazole and isoxazole radical isomers: a computational study

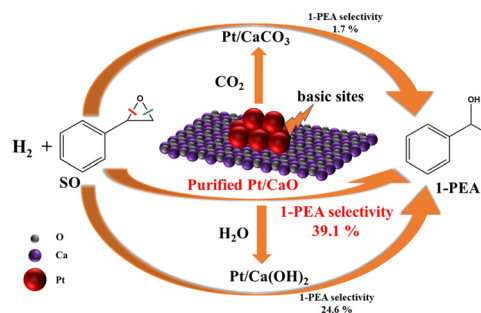
Anjali Mahadevan, Piyush Kumar, Shabana Butt, Archana Velloth and Sugumar Venkataramani\*



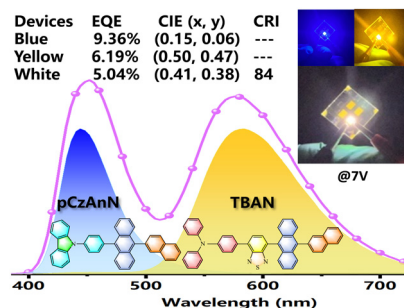
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### Purified CaO supported Pt nanoparticles for the selective hydrogenation of styrene oxide with enhanced selectivity of 1-phenylethanol

Chenqi Zhao, Rixin You, Meihua Jin, Xing Jin, Pingfan Wu,\* Meng He\* and Minghui Liang\*



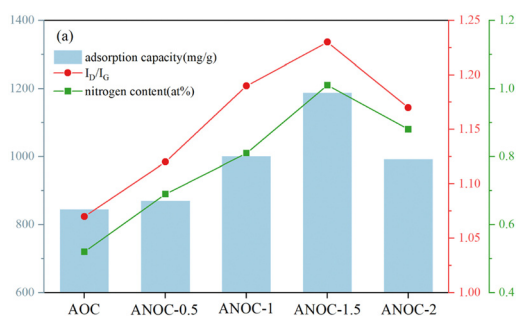
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### Simple and efficient non-doped deep-blue and white organic light-emitting diode based on hybridized local and charge transfer (HLCT) materials

Xiyu Wang, Xiaoxia Li, Ruihao Yang, Huixia Xu,\*  
Baoyou Liu, Gang Yue, Hua Wang and Yanqin Miao\*

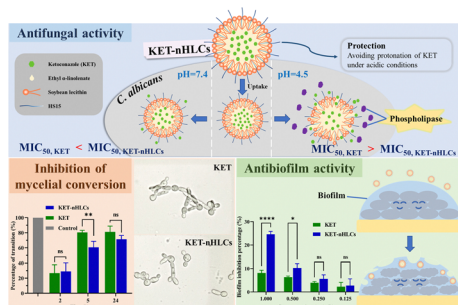
10273



### Defect-rich N doped porous carbon derived from *Camellia* shells for chlorobenzene adsorption

Jing Liao, Ke Yin, Xiaodong Chen and Bichun Huang\*

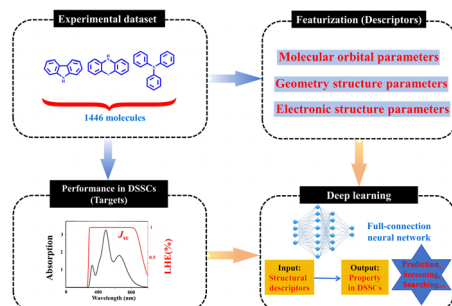
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### The inhibitory effect of ketoconazole-loaded nanostructure hybrid lipid capsules on the growth and biofilm activity of *C. albicans*

Yuli Li, Yunjing Jia, Mingzhu Wang, Qingmin Liu,  
Fuyou Wang, Runliang Feng\* and Zhimei Song\*

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### Deep-learning-assisted photovoltaic performance prediction of sensitizers in dye-sensitized solar cells

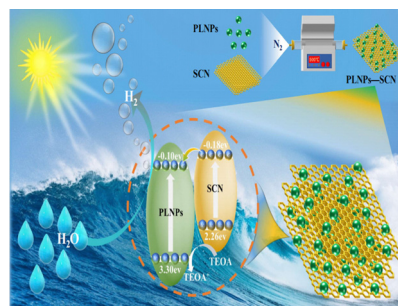
Yujin Zhang, Haoqing Fu, Meina Zhang, Qingbo Yang\*  
and Wei Hu\*



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## PLNPs/SCN heterojunction composites with a green afterglow for photocatalytic hydrogen production

Abuduaini Abulimiti, Peng Yan, Mengfan Niu and Abdukader Abdukayum\*



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## Metformin and silymarin loaded onto poly(caprolactone)/chitosan polymeric nanofiber based pads for diabetic wound healing

Asma Sepahdar, Reyhaneh Rahnamafar, Saeed Bahadorikhalili, Kamran Azadbakht, Omid Eslami, Mohammad Amin Rezvanfar, Ghassem Rezaei\* and Hamid Akbari Javar\*

