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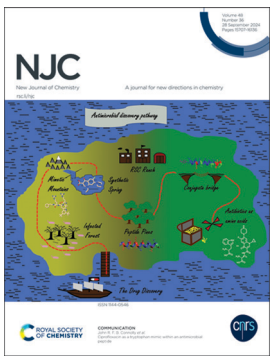
## IN THIS ISSUE

ISSN 1144–0546 CODEN NJCHES 48(36) 15707–16136 (2024)



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**Inside cover**
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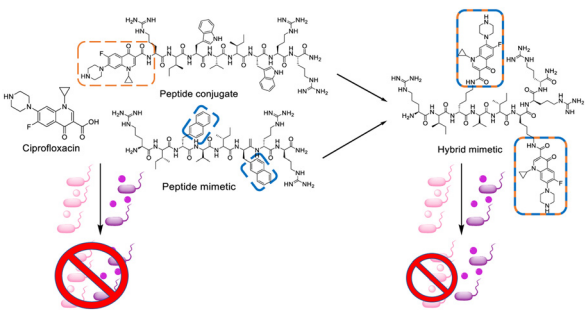
## COMMUNICATIONS

15722

**Ciprofloxacin as a tryptophan mimic within an antimicrobial peptide**

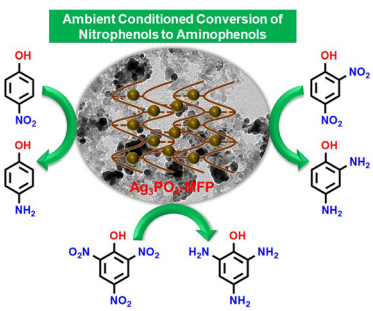
John R. F. B. Connolly,* Deirdre Fitzgerald-Hughes, Marc Maresca, Jimmy Muldoon and Marc Devocelle




15726

**Silver phosphate-based melamine–formaldehyde polymer for reduction of mono, di, and tri-nitrophenols under ambient conditions**

Anjali Kumari Garg, Vaishali Singh, Nicky Kumar Lamba, Chumki Dalal* and Sumit Kumar Sonkar*



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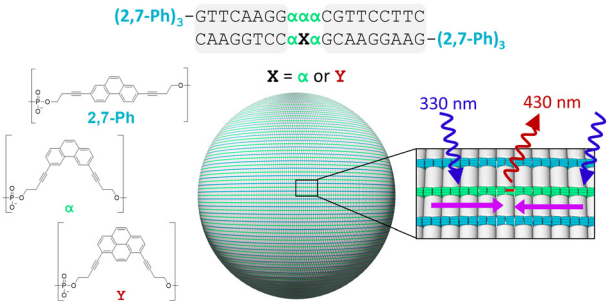
## COMMUNICATIONS

15731

**Supramolecular assembly of phenanthrene–DNA conjugates into light-harvesting nanospheres**

Jan Thiede, Thomas Schneeberger, Ioan Iacovache, Simon M. Langenegger, Benoît Zuber and Robert Häner*

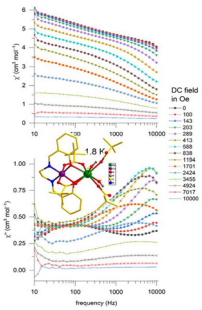



## PAPERS

15735

**Synthesis, structure, and magnetic properties of diamagnetic Co(III) ion-based heterometallic $Co^{III}$–$Ln^{III}$ (Ln = Dy, Tb, Ho, Er) complexes**

Nandini Barman, Purbashree Halder, Subrata Mukhopadhyay, Björn Schwarz,* Enrique Colacio,* Rajanikanta Rana, Gopalan Rajaraman* and Joydeb Goura*



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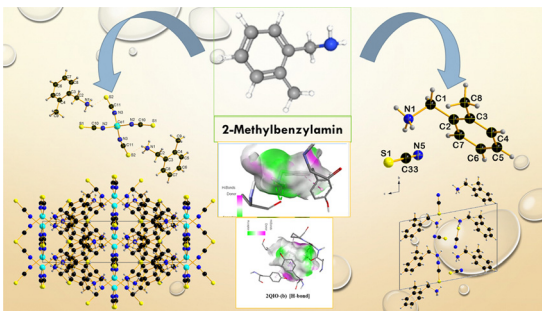
**Synthesis, crystal structure, thermal analysis, spectroscopic, optical polarizability, and DFT studies, and molecular docking approaches of novel 2-methyl-benzylammonium derivatives for potential anti-inflammatory control**

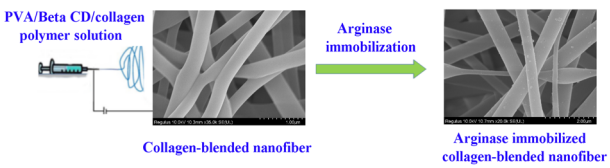
Amal Ferchichi, Jawher Makhlouf,* Kelechi Chukwuemeka, Arto Valkonen, Hatem A. Abuelizz, Rashad Al-Salahi, Youness El Bakri* and Wajda Smirani




15760

**Production and characterization of a collagen-blended electrospun nanofiber matrix for arginase immobilization**

Ceyhun Işık* and Mustafa Teke



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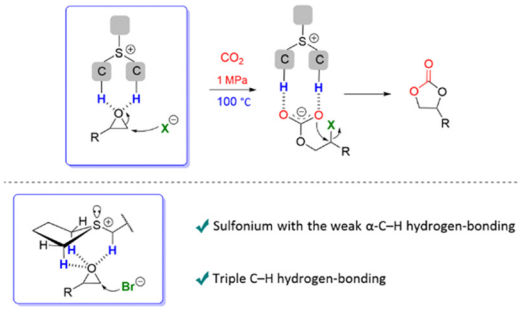
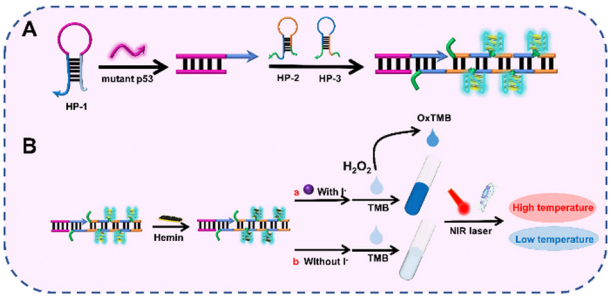



**Unconventional sulfonium C–H H-bond donor catalyst in fixation of carbon dioxide**

Na Shi, Ming Chen, Zhenjiang Li,* Yongwei Ni, Hui Yu, Daiqing Zhou, Ning Li, Min Zhang, Xin Zou and Kai Guo*

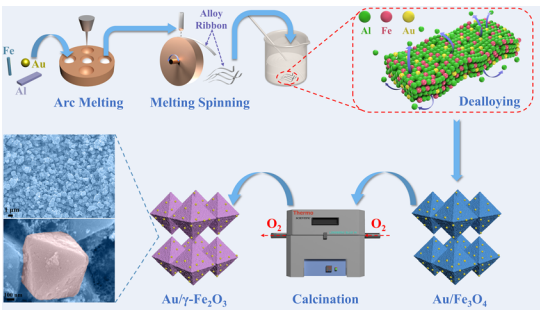
15782




**Colorimetric and photothermal dual-modal analysis of a cancer-related gene based on G-quadruplex-hemin cascade signal amplification**

Hongling Tao, Yanyue Chen, Jiawen Liu, Jiali Liu, Yunhui Yang and Rong Hu*

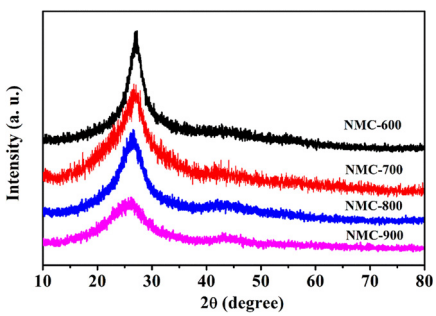
15790




**Highly efficient nano-octahedral Au/γ-$Fe_2O_3$ catalyst synthesized by dealloying combined with calcination for low-temperature CO oxidation**

Dong Duan, Chunxi Hao,* Jiangang Jiang and Ying Li

15802




**A green method for the preparation of nitrogen-doped mesoporous carbon and its application in adsorptive desulfurization**

Huapeng Cui* and Naijin Xing

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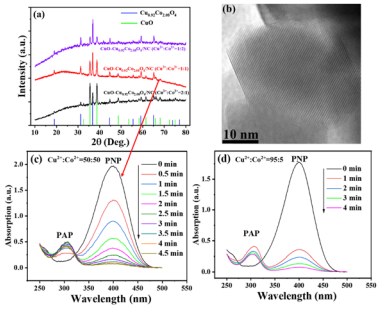
15810

**Exploring the high catalytic performances of Cu–Co–O/N-doped carbon materials toward the hydrogenation reduction and advanced oxidation reactions of 4-nitrophenol (PNP)**

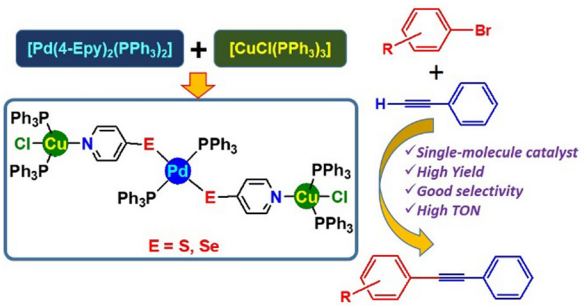
Pingyun Li,* Shiyu Huang, Yanchao Shen, Yadan Wang and Xiaode Guo*




15823

**Bimetallic Pd/Cu complexes of pyridylchalcogenolates and their catalytic activity in the Sonogashira reaction**

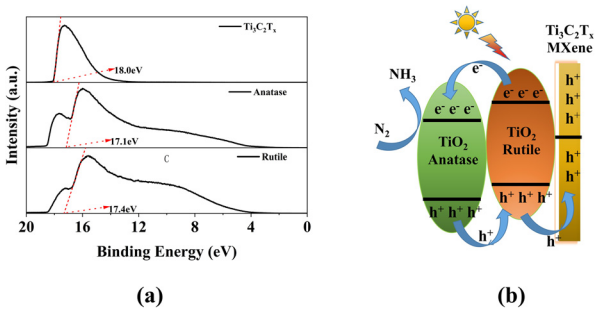
M. K. Pal, A. P. Wadawale and S. Dey*




15830

**Regulation of a rutile/anatase $TiO_2$ heterophase junction *in situ* grown on $Ti_3C_2T_x$ MXenes with remarkable photocatalytic properties**

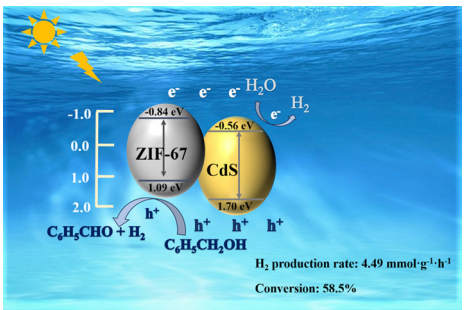
Jiale Zheng, Junhao Cai, Songyuan Li, Ruoping Li* and Mingju Huang*




15839

**Functionalized ZIF-67@CdS for photocatalytic oxidation of benzyl alcohol coupled with hydrogen production**

Tao Wang, Mengyao Shi, Changyan Guo* and Jide Wang*



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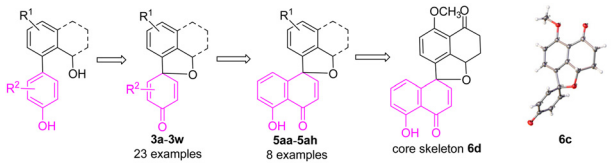
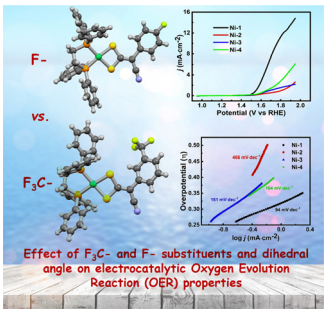



**Synthesis of 3′*H*-spiro[cyclohexane-1,1′-isobenzofuran]-2,5-dien-4-one and Skeleton construction of a type D spirobisnaphthalene structure *via* dearomatization by a high-valence iodine reagent and Diels–Alder reaction**

Haoyun Ma, Xinkun An, Tingting Zhang, Xie He, Yiyi Li and Mingan Wang*

15856




**Supramolecular and electrocatalytic OER properties of new heteroleptic fluoro- and trifluoromethyl-substituted Ni(II)-dithiolates: effects of substituents and dihedral angle on the electrocatalytic performance**

Aparna Kushwaha, Devyani Srivastava, Gabriele Kociok-Köhn, Suresh W. Gosavi, Ratna Chauhan, Sarfaraz Ahmed and Abhinav Kumar*

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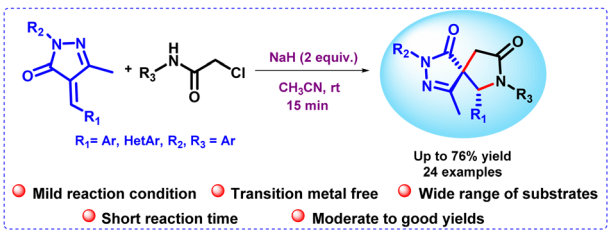


**Convenient synthesis of spiro-pyrazolone–pyrrolidinones *via ipso*-cyclization of arylidene pyrazolones with 2-chloro-*N*-phenylacetamides**

Kavyashree Kuppayya Gond and Mahagundappa Rachappa Maddani*

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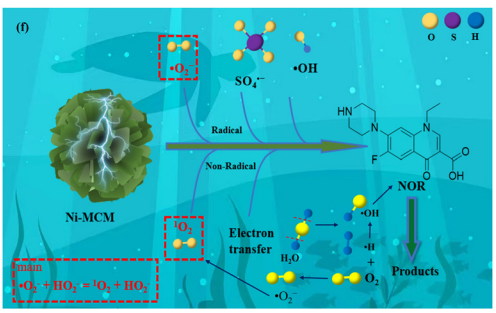


**The composite metal cluster catalyst Ni–MCM enhances the non-radical pathway for efficient catalytic degradation of norfloxacin**

Chuhan Xing, Yaoyao Chen,* Zhi Song,* Boxia Liu, Xiayan Zhang, Jialu Liu, Yeqiong Huang and Dongxu Han

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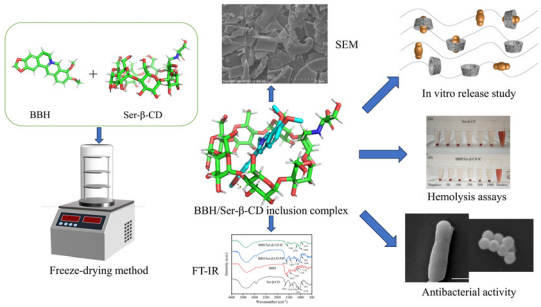
**Inclusion complex of berberine hydrochloride with serine-β-cyclodextrin: construction, characterization, inclusion mechanisms, and bioactivity**

Dong Ju Zhou, Wei Ming Liu, Su Ping Dai, Shuai Qiang Jiang, Yin Wang, Jia Jia Yang, Ya Wei Chen, Jun Liang Chen, Hyun Jin Park and Hui Yun Zhou*

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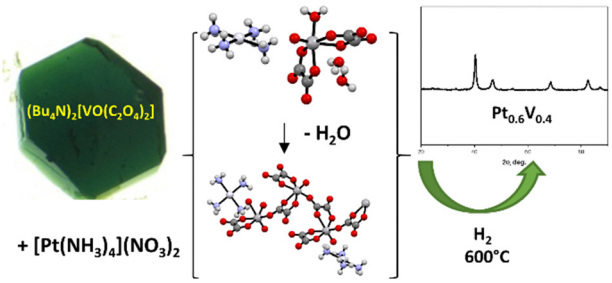
**Double complex salts based on tetraamminplatinum(II) and vanadyl(IV) bisoxalate for the preparation of bimetallic Pt–V alloys**

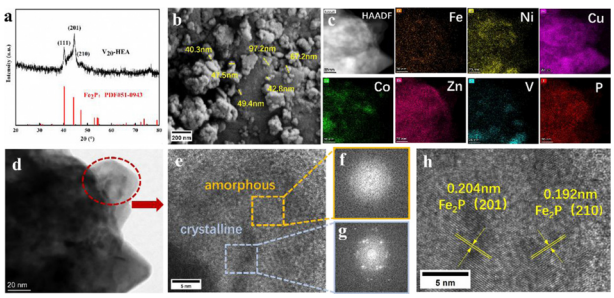
Sofia N. Vorobyeva,* Zakhar V. Rudzis, Taisiya S. Sukhikh, Evgeny Yu. Filatov, Pavel E. Plusnin, Vladimir A. Nadolinny, Artem S. Bogomyakov and Sergey V. Korenev




15904

**Noble metal free high entropy alloys with amorphous based heterostructures for the oxygen evolution reaction**

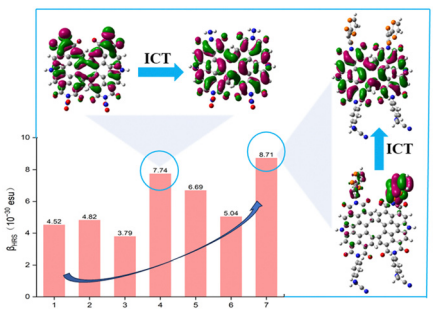
Jia Yao, Yin'an Zhu, Ting Dai, Tao Lu* and Ye Pan*




15913

**Theoretical study on photophysical properties of double helicenes entwined with two perylene diimides**

Yanling Si and Guochun Yang*



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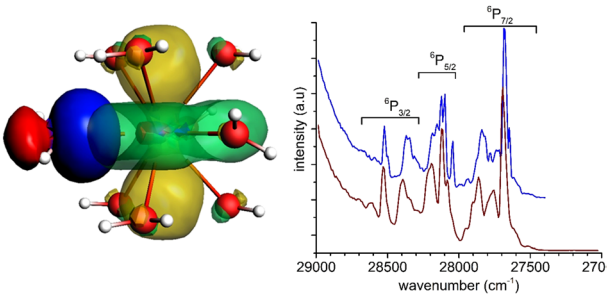
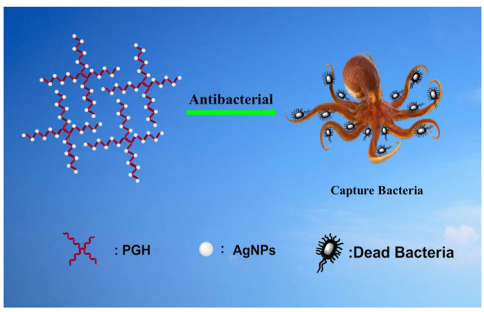



**Hydrated halogenides of Eu(II): structure, spectroscopy and charge density analysis**

Przemysław Starynowicz

15935




**Combating multidrug-resistant bacteria with nanostructured guanidine-based polymers**

Jian-Bin Zhen,* Jia-Jia Yi,* Xin-Yi Bu, Yi-Long Yao and En-Peng Meng

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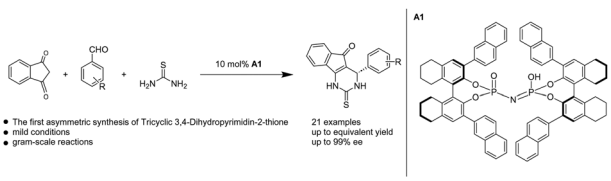


**Asymmetric synthesis of chiral tricyclic 3,4-dihydropyrimidin-2-thione derivatives catalyzed by chiral imidodiphosphoric acid**

Lingkai Kong, Peng Wang, Chunzhi Ju, Guangliang Zhang* and Suoqin Zhang*

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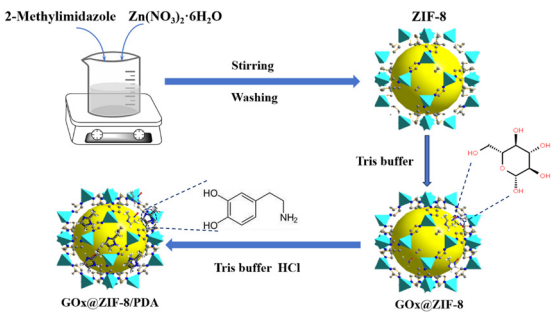


**Glucose oxidase intercalation into polydopamine and ZIF-8 as a highly efficient and stable bio-catalyst for $H_2O_2$ production**

Yalin Zhang, Xiaoyue Yang, Xinlong Liu, Zhijie Zhang and Xiaoyuan Liao*

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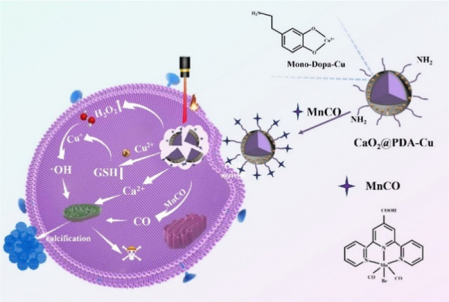
15956

**A multifunctional nanoplatform combining self-supplied $H_2O_2$ production with CO delivery for multimodal anti-tumor therapy**

Meng-Jie Chen, Cheng-Bin Wang, Hai-Lin Zhang, Shi-Ping Yang and Jin-Gang Liu*

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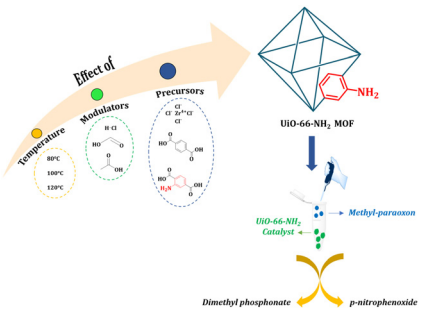
**Synergistic ramifications of synthesis criteria and amine functionalization of UiO-66-$NH_2$ MOFs for the catalytic degradation of a nerve agent simulant, methyl-paraoxon**

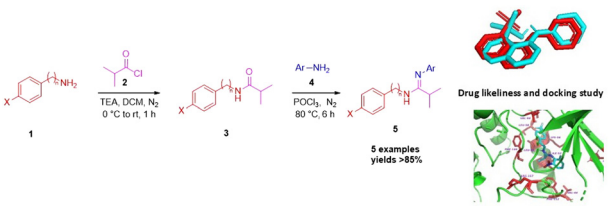
Selva Balasubramanian, Arockia Jayalatha Kulandaisamy and John Bosco Balaguru Rayappan*




15978

**Biological evaluation of some novel 1,3-bis substituted-2-isopropylamidines by *in silico* molecular dynamics and simulation studies**

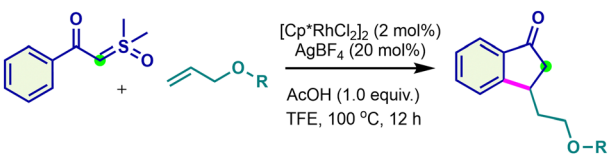
Pradeep Kumar P. S., Jeevan Chakravarthy A. S.,* Shriraksha A and Sunil K*




15989

**Rh(III)-catalyzed [4+1] annulation of a sulfoxonium ylide with allyl alkyl ethers: a detailed theoretical study of the anti-inflammatory and antidiabetic activities with DFT**

Pakkirisamy Sivakumar, Pothapragada S. K. Prabhakar Ganesh, Perumal Muthuraja, Sarangapani Bharanidharan, Balasubramaniyan Anandhan, Rajaram Rajamohan* and Subramaniyan Kamatchi*



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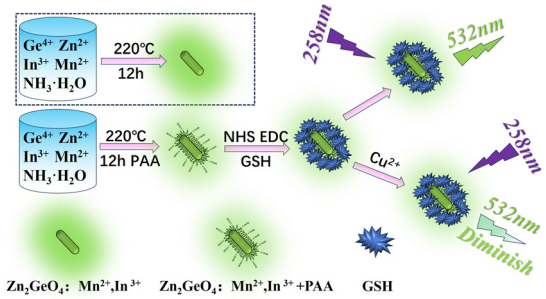
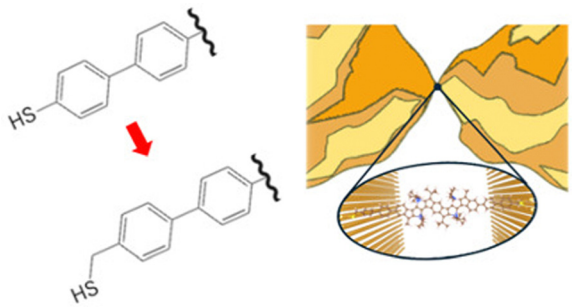



**Preparation of $Zn_2GeO_4$:Mn,In persistent luminescence nanoparticle composites for the detection of copper ions**

Yao-Xing Han, Renagul Abdurahman,* Yue Zhang, Shi-Ji Liu, Xiu-Zhen Yang, Xuan-He Guo, Rui Zhang, Xing-Hong Pan and Xue-Bo Yin*

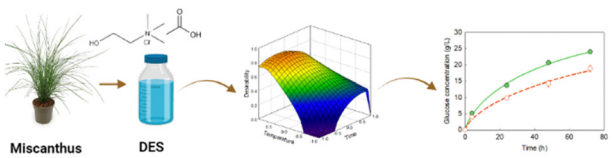
16008




**Insertion of methylene groups into functional molecules for high thermal stability and superior functionality of single-molecule transistors: a first-principles study**

Miku Furushima,* Mitsuharu Uemoto, Dongbao Yin, Seiichiro Izawa, Ryo Shintani, Yutaka Majima and Tomoya Ono

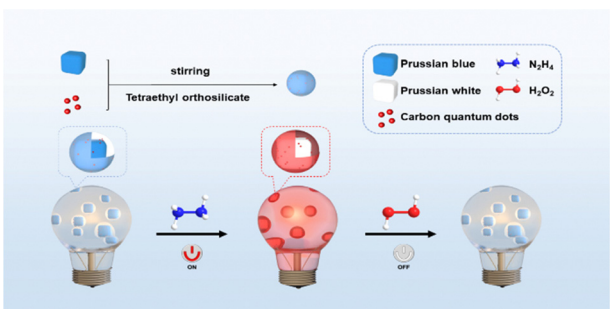
16015




**Optimizing deep eutectic solvent pretreatment for enhanced glucan recovery from miscanthus**

Patrícia J. Piedade, Michał M. Nowotarski, Gabriela Dudek and Rafal M. Lukasik*

16026




**A reversible redox-fluorescence switch based on Prussian blue and carbon quantum dots for dual-spectral detection of $N_2H_4$ and $H_2O_2$**

Jiayu Gao, Yuan Zhang, Ying Sun, Siyue Wang, Zhelin Liu,* Bo Zhao,* Xiangting Dong and Shouhua Feng

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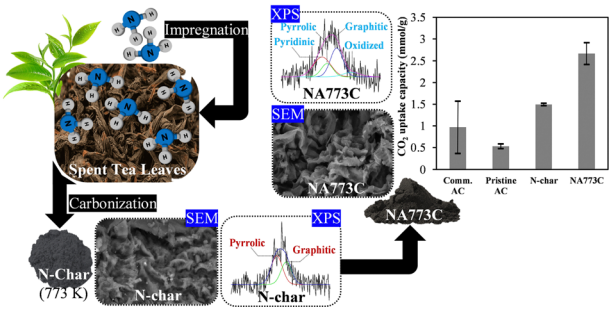
16034

**Nitrogen configuration enriched N-doped activated carbon from spent tea leaves through an ammonia impregnation approach for $CO_2$ adsorption**

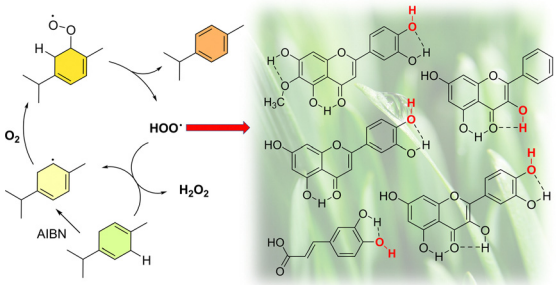
Amirul Hafiiz Ruhaimi and Muhammad Arif Ab Aziz*




16047

**Rate constants for H-atom abstraction by HOO• from H-donor compounds of antioxidant relevance**

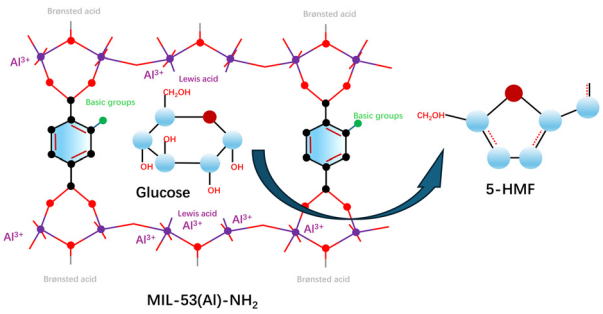
Mario C. Foti,* Concetta Rocco, Zongxin Jin and Riccardo Amorati




16057

**Preparation of MIL-53(Al) with different ligands for application in the glucose transformation to 5-hydroxymethylfurfural**

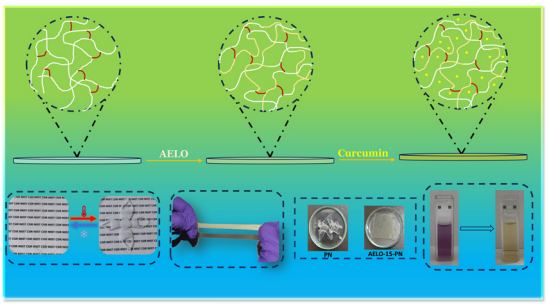
Yongzhao Zhang,* Xuzheng Chen, Yunlei Zhou, Tao Feng, Zhenya Zhu, Luping Lv and Yifan Liu




16065

**Dual responsive curcumin loaded *N*-isopropylacrylamide/acrylated linseed oil copolymeric hydrogel films: tuned LCST with value-added properties**

P. A. Parvathy, Victor A. Ajisafe, Ashok M. Raichur and Sushanta K. Sahoo*



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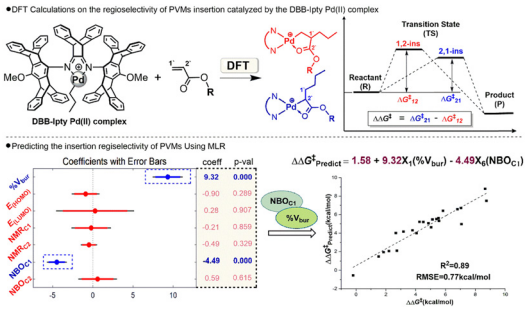
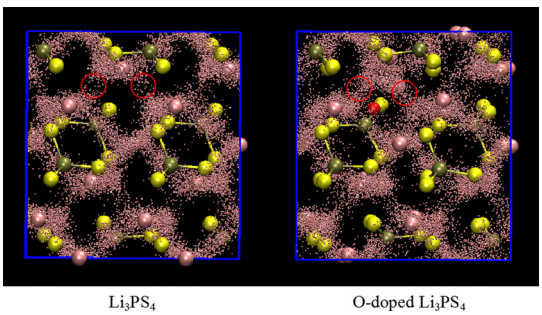
16080




## Theoretical studies on the regioselectivity of polar vinyl monomer insertion catalyzed by an α-diimine Pd(II) complex

Kaipai Ren, Xin Wen, Yanfeng Jiang, Xiaohui Kang* and Yi Luo*

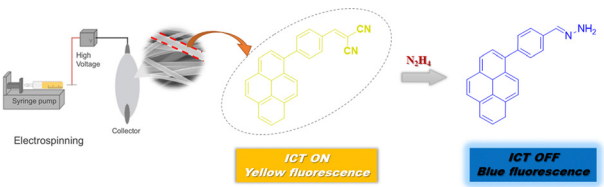
16088




## Investigation of the effect of O doping on the Li-ion mobility of $Li_3PS_4$ solid-state electrolytes: an *ab initio* molecular dynamics study

Leijuan Ma,* Kai Yuan, Jifang Zhang, Chen Wu* and Xiaoyang Zhao*

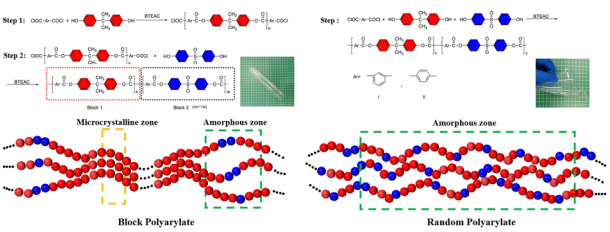
16095




## Novel pyrenylbenzylidene-malononitrile derivative mixed with cellulose acetate electrospun nanofibrous sheets for hydrazine detection

Pipattra Mayurachayakul, Jirawan Thianchai, Naraporn Attakul, Kornkanya Pratumyot, Mongkol Sukwattanasinitt, Kittiwat Srikittiwanna and Nakorn Niamnont*

16107




## Reaction strategies of bisphenol A derivatives to regulate the microstructure of polyarylates: synthesis of bisphenol S/bisphenol A random polyarylates and block polyarylates

Zhoufeng Wang,* Bolin Wang, Yingying Liu, Xiubo Long and Wenlong Yao

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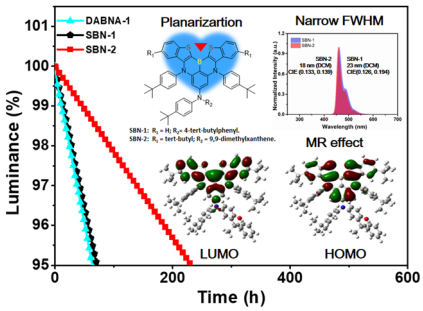
## PAPERS

16119

**Constructing highly efficient multiple resonance fluorescence materials by inserting benzothiophene within B/N-skeletons**

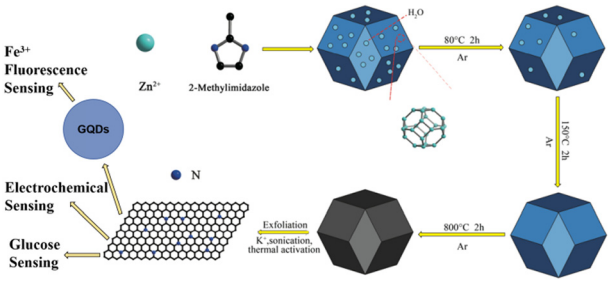
He Zhao, Wenkun Han,* Jianan Xu, Yan Bi, He Li, Tianyu Yang, Xiaoyu Ma* and Chunhui Su*




16127

**A multifunctional nanoporous carbon platform derived from a zeolitic imidazolate framework for sensing and enzyme-like catalysis**

Lin Lu,* Xiaojing Li, Junsong Mou, Xiyue Cao and Jianfei Xia*




## CORRECTION

16134

**Correction: A zinc–porphyrin–peptide conjugate *via* "click-chemistry": synthesis and amyloid-β interaction**

Rita Tosto, Stefania Zimbone, Giuseppe Di Natale, Maria Laura Giuffrida, Tiziana Campagna, Giuseppe Pappalardo* and Giuseppina Sabatino*