

## IN THIS ISSUE

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### Cover

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## EDITORIAL

1566

### Special issue: molecular spectroscopy in the study of reaction mechanisms

Alberto Mezzetti\* and Josefine Schnee

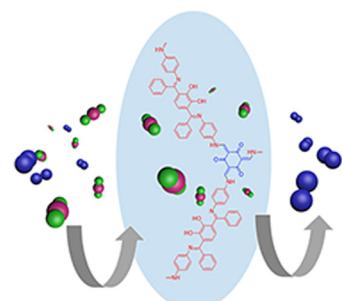


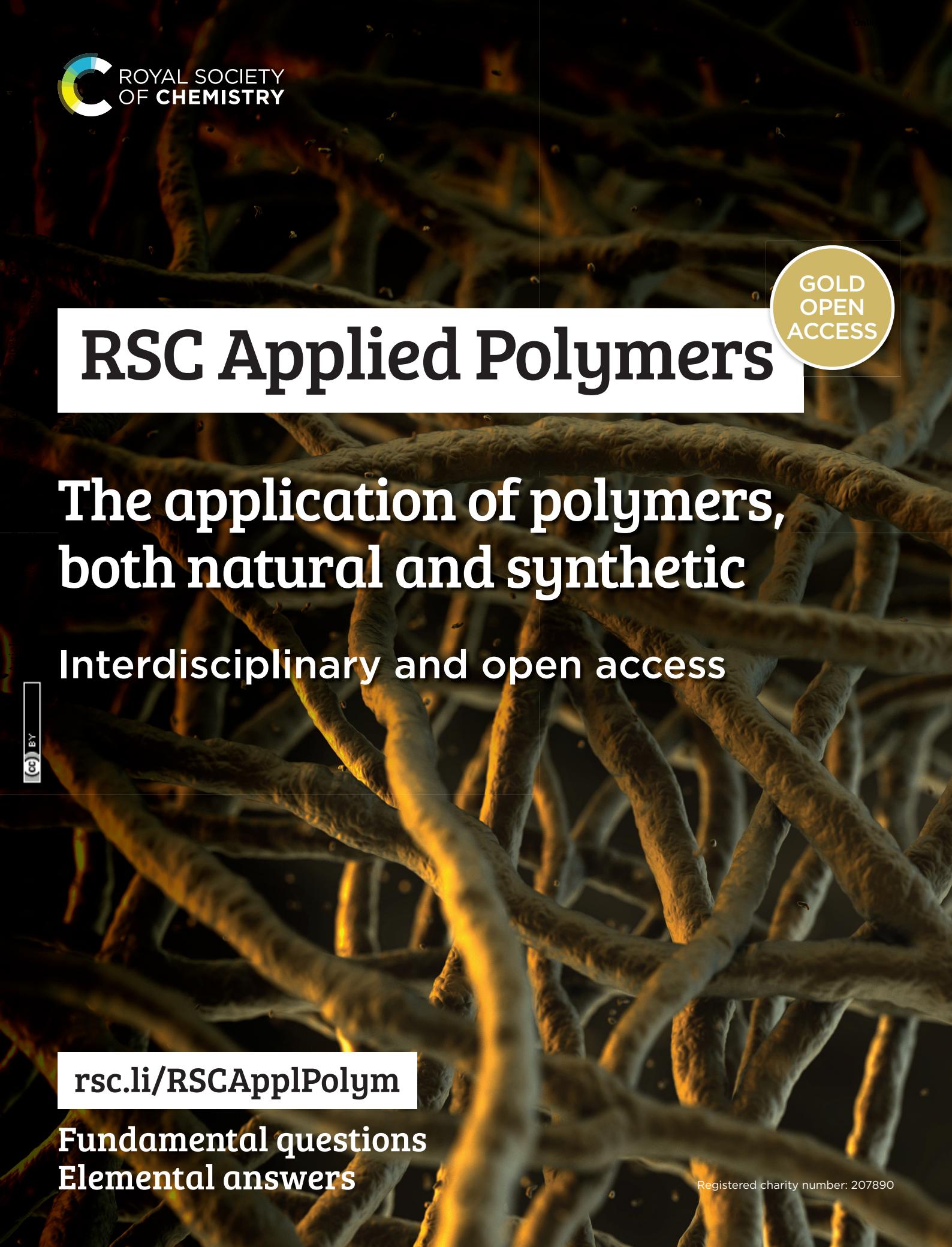
## PAPERS

1567

### A ketimine–ketoenamine-linked porous organic polymer: synthesis, characterization and applications

Guoxin Cui, Yan Li, Guan Yun, Yongzheng Zhao, Peng Gu, Jing Li, Jinghan Zhang, Shuxin Cui, Minghao Liu, Weiqi Zeng, Zhenlu Wang and Jian Jiang\*





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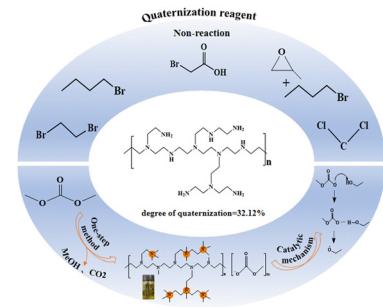
Registered charity number: 207890

## PAPERS

1574

## One-step synthesis of quaternized polyethylenimine and its application in transesterification reactions

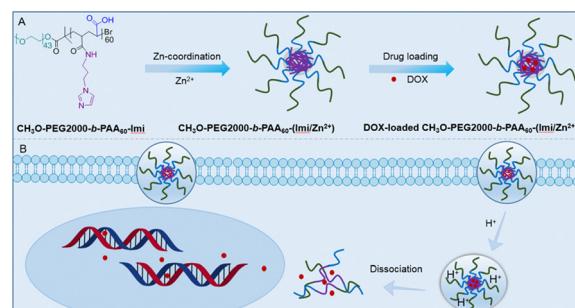
Junqiang Zhou, Zhentao Zhao, Yuxin Wang, Guangwen Xu and Lei Shi\*



1588

## Zn-crosslinking of copolymer-bearing imidazole pendants to form polymeric nanoparticles for pH-sensitive drug delivery

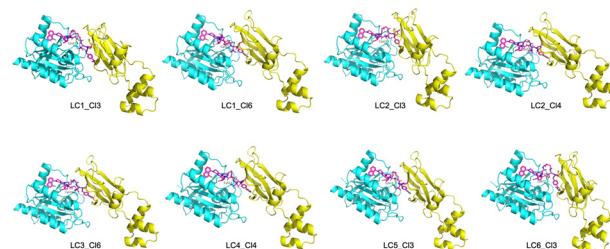
Wenjing Yang,\* Mengna Zhang and Xubo Zhao\*



1596

## Computational assessment of the binding modes of the first VHL-recruiting PROTACs designed for oncogenic KRas<sup>G12C</sup>

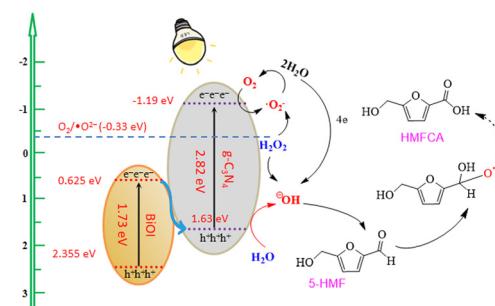
Tanos C. C. Franca, Eleonore K. M. Delaire, Michael Drummond, Maximilian C. C. J. C. Ebert, Al Ajamian and Steven R. LaPlante\*



1607

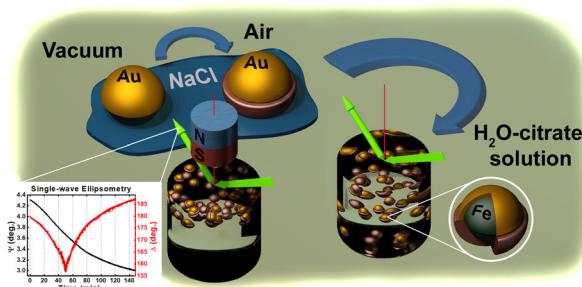
## Construction of a BiOI/g-C<sub>3</sub>N<sub>4</sub> heterojunction photocatalyst: visible light-mediated efficient and selective oxidation of 5-hydroxymethylfurfural

Xuehan Zhang, Wenzhuang Wang, Wenling Xu, Qinghua Chuai, Yongming Bao and Feng Guo\*



## PAPERS

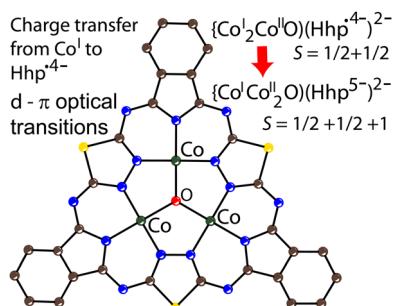
1619



### Shell structure, magnetic and magnetodynamic properties of oxidized iron nanoparticles with partial gold coating

Sergey Lyaschenko,\* Ivan Tarasov, Tatyana Andryushchenko, Ivan Yakovlev, Dmitry Velikanov, Mikhail Volochayev, Ivan Nemtsev, Ruslan Kriukov, Olga Maximova,\* Dmitry Shevtsov, Sergey Varnakov and Sergei Ovchinnikov

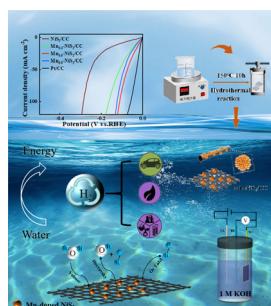
1631



### Macrocyclic- and metal-centered reduction of cobalt trithiadodecaazahexaphyrin (Hhp). Metal-to-ligand charge transfer in $\{(\text{Co}_2\text{Co}^{\text{II}}\text{O})(\text{Hhp}^{\bullet 4-})\}^{2-}$

Dmitry I. Nazarov, Alexey V. Kuzmin, Mikhail K. Islyaikin, Evgenii N. Ivanov, Alexander F. Shestakov, Maxim A. Faraonov, Salavat S. Khasanov, Akihiro Otsuka, Hideki Yamochi, Hiroshi Kitagawa and Dmitri V. Konarev\*

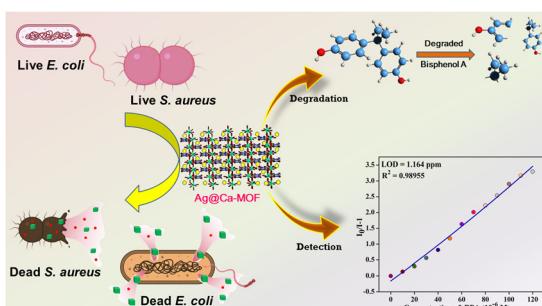
1640



### Simple one-step hydrothermal preparation of Mn–NiS<sub>2</sub> for hydrogen evolution in alkaline environments

Junde Zhang, Xuejiao Xu, Dandan Liu, Aoze Wang, Shunyi Zhu and Guangming Nie\*

1648



### Ag@Ca-MOF composite: a dual-function material for luminescence detection and dose reliant photocatalytic breakdown of Bisphenol A

Vibhav Shukla, Gulshitar Aalam, S. Wazed Ali, Musheer Ahamed, Nazrul Haq and Kafeel Ahmad Siddiqui\*

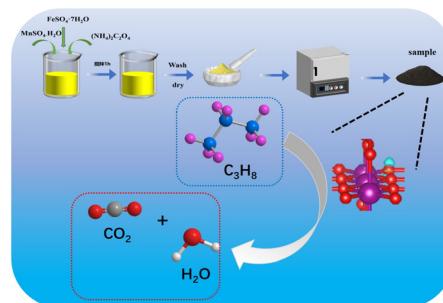


## PAPERS

1663

**Superior performance of iron-doped manganese dioxide for low-temperature propane oxidation**

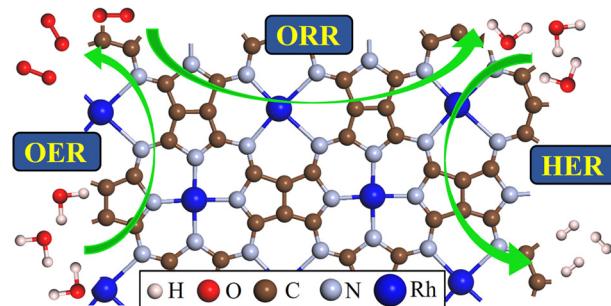
Zhengqiang Yang, Xinyi Yu, Jianchao Zhao, Rui Wang, Chuanhui Zhang and Haijie Cao\*



1672

**Theoretical screening of highly efficient multifunctional single-atom catalysts supported by pc-C<sub>3</sub>N<sub>2</sub> monolayers for the electrocatalytic HER, OER and ORR**

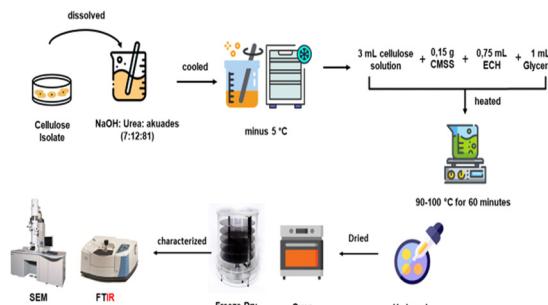
Liang-Cai Ma,\* Hai-Juan Wang, Hao Li, Pan-Ge Yuan and Jian-Min Zhang



1686

**Synthesis of a hydrogel from a combination of cellulose *Gracilaria verrucosa* and carboxymethyl sago starch using freeze-drying and oven-drying methods as a commercial textile dye adsorbent**

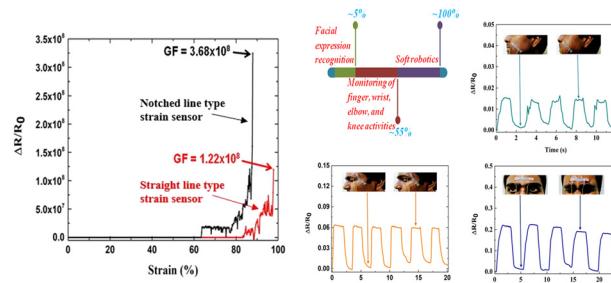
Nudia Tuljannah, Dewi Sondari, Putri Amanda, Arzqa Sabilah Hanifah, Ahyar Ahmad\* and Harningsih Karim



1700

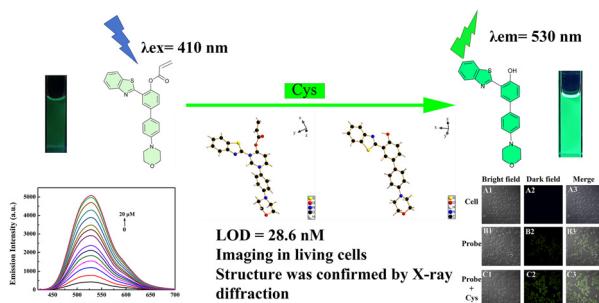
**Manufacturing of nanomaterial composites and flexible electronic devices with record high performance for human-technology design, human-computer interaction, biomedical sensing and soft robotics**

R. Madhavan\*



## PAPERS

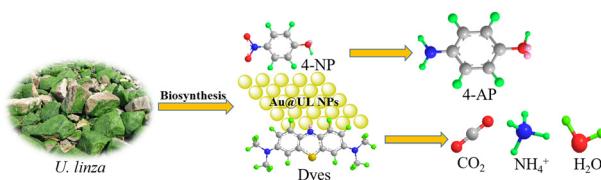
1718



### A turn-on benzothiazole-based fluorescent probe for rapid cysteine detection in living cells

Kaimin Wang, Jianning Dong, Leilei Sun,\* Yayi Tu, Shouzhi Pu\* and Congbin Fan\*

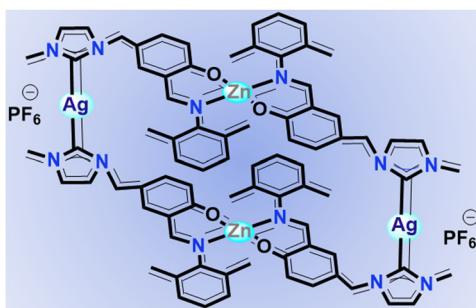
1725



### Utilizing *Ulva linza* as eco-friendly biogenic synthesis approach of gold nanoparticles for reduction of 4-nitrophenol and degradation of dyes in wastewater

Lijun Wang, Xi Qiang, Li Huan, Xulei Wang, Wenhui Gu, Jianfeng Niu, Quancheng Fan and Guangce Wang\*

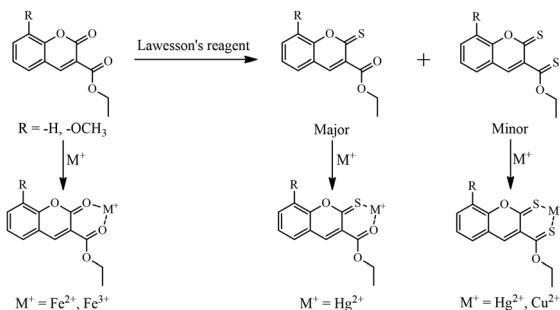
1736



### A novel ligand system comprising N-heterocyclic carbene and Schiff base ligands: spectroscopic and electrochemical analysis, investigation of silver and gold complexation, and their biological effects

Mohammad Reza Yousefshahi, Abdollah Neshat,\* Reza Taghizadeh-Tabarsi, Shiva Akbari-Birgani\* and Fahimeh Varmaghani

1745



### Synthesis of thiocarbonyl analogues of colourimetric coumarin-based chemosensors: altering the selectivity from Fe to Hg(II) and Cu(II) ions

Stiaan Schoeman,\* Neliswa Mama and Lisa Myburgh

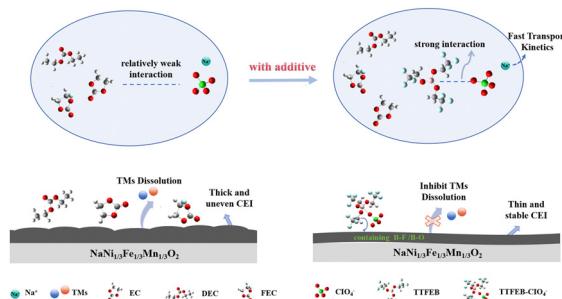


## PAPERS

1755

## Stabilizing the cathode–electrolyte interphase and enhancing Na<sup>+</sup> kinetics by a boron-based anion receptor additive

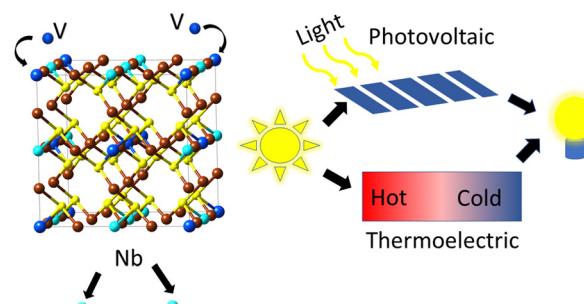
Jie Li, Yufan Long, Lei Li, Fan Pu, Wei Liao, Xiaowen Yu, Hongxin Liao and Xuebu Hu\*



1763

## Enhanced optical and thermoelectric properties of Cu<sub>3</sub>Nb<sub>1-x</sub>V<sub>x</sub>S<sub>4</sub> through chemical substitution: a DFT approach

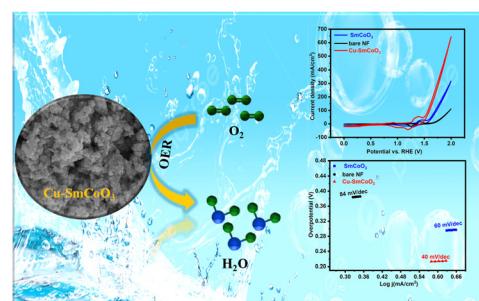
Bernard Lalroliana, Lalmuanchhana, Lalhumhima, L. Celestine, Dibya Prakash Rai, Lalrinthara Pachuau, N. Surajkumar Singh, Shivraj Gurung and Lalhriatzuala\*



1773

## Copper doping in perovskite oxide: a novel route to high-performance oxygen evolution reaction

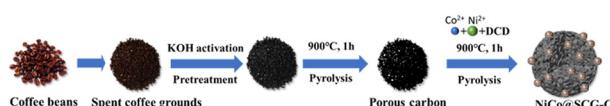
Rida Zahra, Abhinav Kumar,\* Soumaya Gouadria, Subhash Chandra, Roopashree R, RSK Sharma, Piyus Kumar Pathak, Rahul Raj Chaudhary and Vijayalaxmi Mishra\*



1786

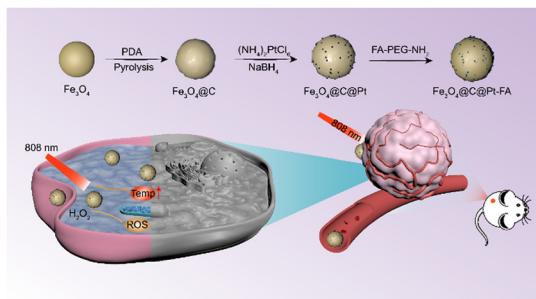
## Nano-alloy anchored on spent coffee ground-derived N-doped carbon frameworks for an enhanced oxygen reduction reaction and oxygen evolution reaction

Zihan Jia,\* Zijian Gao, Shaokun Zhou and Xinjie Gao



## PAPERS

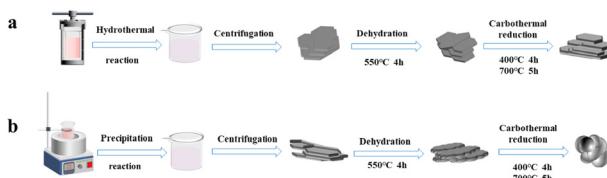
1795



### Folic-acid-functionalized $\text{Fe}_3\text{O}_4@\text{C}@\text{Pt}$ nanzyme for synergistic catalytic-photothermal tumor therapy

Yanan Li,\* Zhilong Xu and Lei Fan\*

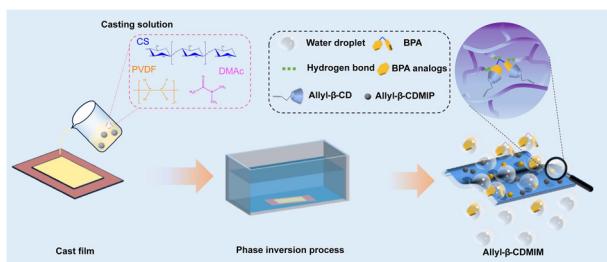
1802



### Regulation of nano $\text{FePO}_4$ precursors and exploration of influencing mechanisms in $\text{LiFePO}_4/\text{C}$ cathode

Yuzhu Yuan, Wenwen Zhou, Xinyi Dai,\* Fuzhong Wu, Haijun Chen, Yi Mai, Renguo Zhang, Shan Guo and Jiexi Wang

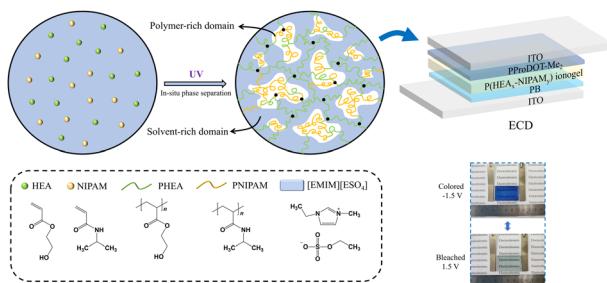
1814



### Switchable adsorption/desorption bisphenol A and its derivatives by allyl- $\beta$ -cyclodextrin functionalized intelligent molecularly imprinted polymer membrane

Wenzheng Xie, Kangping Ning, Zhipeng Chen, Jingwen Xia, Seitkhan Azat, Wei Liu,\* Xiaoya Hu and Qin Xu\*

1827



### A tough and high adhesive ionogel electrolyte achieved by *in situ* phase separation for high-performance electrochromic devices

Dawei Nie, Jin Xu Zhao, Jianming Zheng and Chunye Xu\*

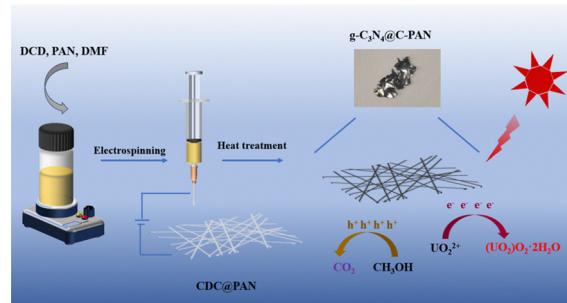


## PAPERS

1836

**Photocatalytic removal of U(vi) from wastewater using g-C<sub>3</sub>N<sub>4</sub>@C-PAN nanofiber membranes**

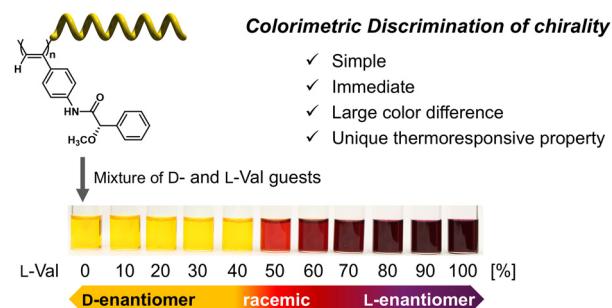
Jiao Zhang, Lijie Chen, Weilin Zhang, Shuai Han\* and Zhongran Dai\*



1845

**A facile method for colorimetric determination of the enantiomeric purity of amino acids using poly(phenylacetylene) possessing (S)-mandelamide receptors**

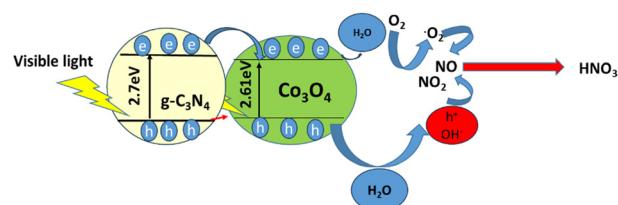
Keisuke Ogata, Airi Matsuyama, Ryota Suzuki, Satoshi Umeda, Katsuyuki Tsuda, Toshifumi Satoh, Toyoji Kakuchi\* and Ryosuke Sakai\*



1854

**Photocatalytic removal of NO<sub>x</sub> using cobalt oxide/graphitic carbon nitride nanocomposites under visible light irradiation**

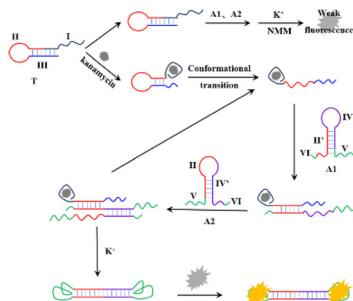
Yasser A. Attia,\* Mohamed Taha and Shams H. Abdel-Hafez



1865

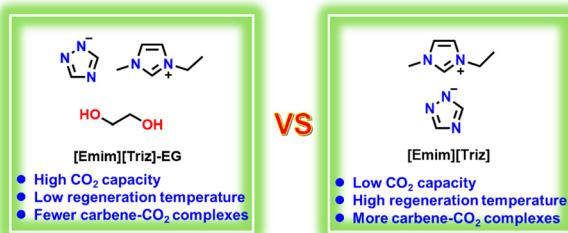
**Catalytic hairpin assembly-based double-end G-quadruplex signal amplification for sensitive fluorescence detection of kanamycin**

Wanling Cui,\* Yaxian Shao, Mengying Niu, Enguang Lv, Rui Wang, Mei Qiao, Xiaoxin Wang and Zhaohong Qian



## PAPERS

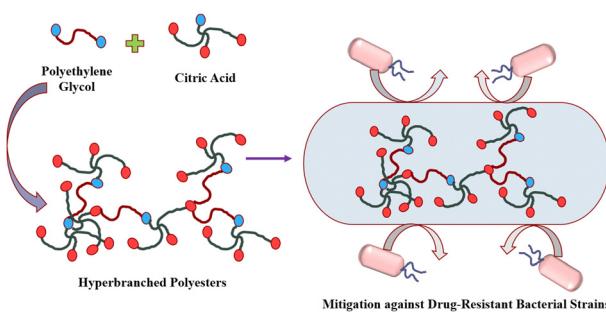
1875



### Efficient $\text{CO}_2$ capture by deep eutectic solvents through reducing the reaction between carbenes and $\text{CO}_2$

Jiaxun Zhu, Bohao Lu and Dezhong Yang\*

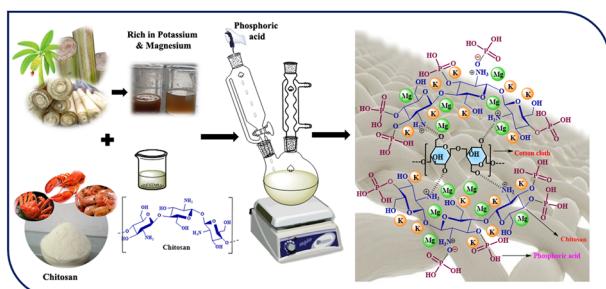
1883



### Synthesis and characterization of hyperbranched polyesters from polyethylene glycol and citric acid: structural insights and antibiotic resistance mitigation against drug-resistant bacterial strains

Aniruddha Mukherjee, Sonai Dutta, Reetika Sarkar, Sayan Basak, Srijoni Sengupta, Subhadeep Chakraborty, Anirban Mukherjee, Payel Biswas, Satish Kumar and Abhijit Bandyopadhyay\*

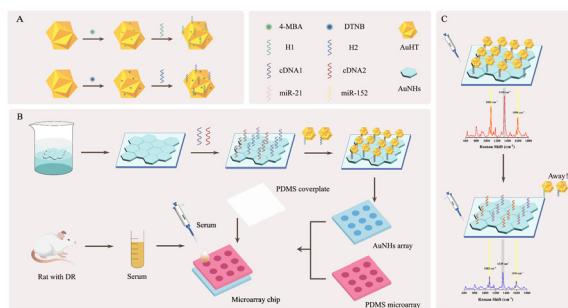
1899



### A waste-to-wealth and safer bio-based flame retardant: a novel approach towards a phosphorus-functionalized chitosan-banana pseudo-stem composite

Akhil V. Nakhate,\* Vinayak M. Kadam and Ganapati D. Yadav\*

1908



### Competitive recognition strategy based on a gold nano-hexagons microarray chip for simultaneous high-sensitivity detection of diabetic retinopathy-associated miR-21 and miR-152

Jingwen Zhu, Xia Zong, Taijing Xu, Ying Chen, Xinjue Dai, Xiaowei Cao\* and Changhua Lu\*

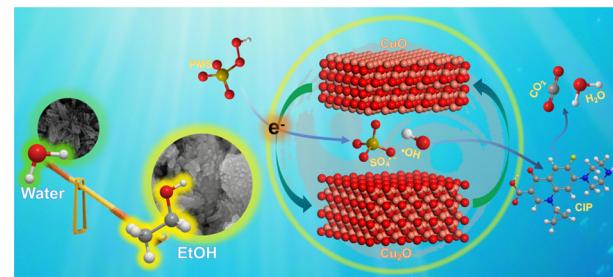


## PAPERS

1918

## Modulation of the Cu<sub>x</sub>O structure and morphology for acceleration of peroxyomonosulfate oxidation

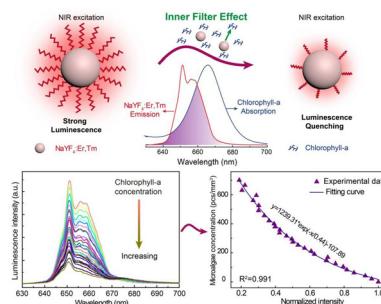
Yunhui Tian, Shilin Li and Guangxin Zhang\*



1927

## A novel upconversion nanoprobe-based approach for microalgae concentration determination

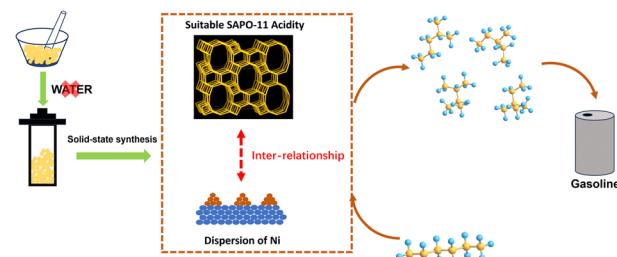
Hong Wang, Limin Wei, Fangyun Xin, Sicheng Xia, Xiumei Yin, Xixian Luo and Ying Tian\*



1935

## Regulation of the inter-relationship between the dispersion of Ni and suitable SAPO-11 acidity via solid-state synthesis in *n*-hexane hydroisomerization

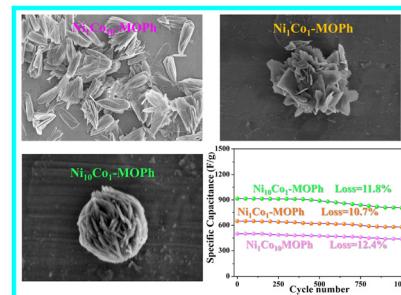
Lijun Wang, Yujia Wang,\* Tao Jiang, Weiwei Tai, Na Sun and Qiao Han\*



1945

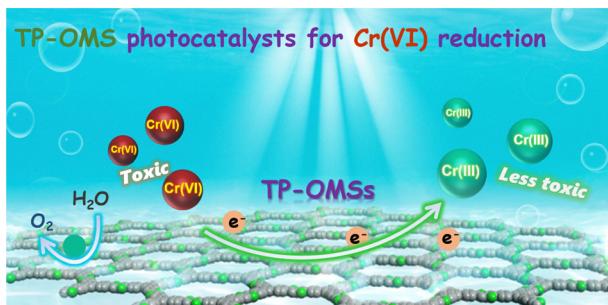
## A sphere-like NiCo metal–organic phosphate-modified glassy carbon electrode for electrochemical supercapacitors

Li Yu,\* XiaoCai Ma and Qin Liang



## PAPERS

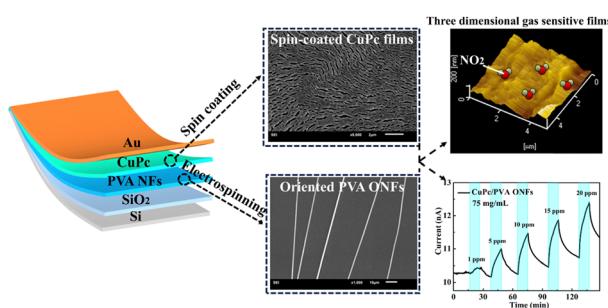
1952



**Constructing thiophene-decorated organic molecular sieves as efficient photocatalysts for removing chromium(vi)**

Jingjing Ge, Lingkang Meng, Xin He, Xin Xu, Jiaxin Chu, Wan-Kai An,\* Lixia Xie, Xianfu Zheng and Yunlai Ren\*

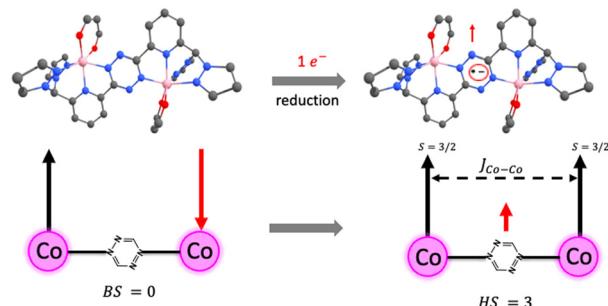
1961



**Fabrication of three-dimensional porous copper phthalocyanine films and their applications for NO<sub>2</sub> gas sensors**

Lu Wang,\* Ziyang Cui, Yiqun Zhang and Li Juan Wang\*

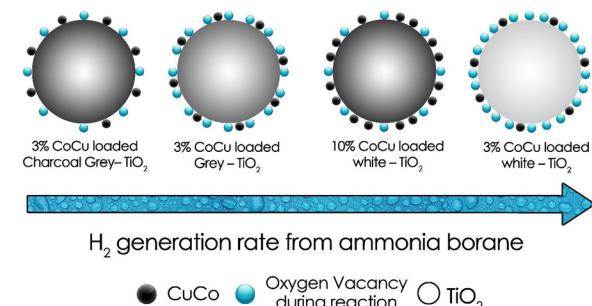
1972



**The role of the radical tetrazine bridging ligand in spin-only magnetic coupling in complex dimers**

Karrar Al-Ameed\* and Ghadeer Abass

1982



**In situ oxygen vacancy formation at the metal/TiO<sub>2</sub> interface during ammonia borane hydrolysis: a study of CuCo nanoparticles supported on various colored TiO<sub>2</sub> samples**

Dinabandhu Patra, Reeya Garg, Ankita Singh, Ujjal K. Gautam, Ramakrishnan Ganesan\* and Balaji Gopalan\*



## EXPRESSION OF CONCERN

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1994**Expression of concern: Non-symmetrical dialkyl carbonate synthesis promoted by 1-(3-trimethoxysilylpropyl)-3-methylimidazolium chloride**

Subodh Kumar and Suman L. Jain\*

## RETRACTION

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1995**Retraction: Silver doped reduced graphene oxide as a promising plasmonic photocatalyst for oxidative coupling of benzylamines under visible light irradiation**

Anurag Kumar, Aathira M. Sadanandhan and Suman L. Jain\*

