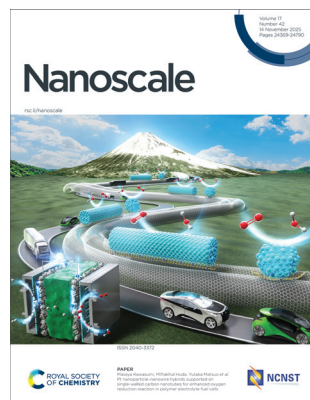


IN THIS ISSUE

ISSN 2040-3372 CODEN NANOHL 17(42) 24369–24790 (2025)



Cover

See Masaya Kawasumi,
Miftakhul Huda,
Yutaka Matsuo *et al.*,
pp. 24503–24512.

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EDITORIAL

24381

NANO 2024 – nanostructured materials for energy, bio, photonics, and electronics applications

Daniel Choi and Dinesh Shetty*

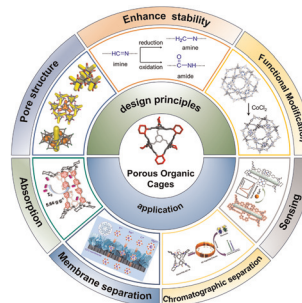


REVIEWS

24383

Porous organic cages for pollution removal and analysis

Mingming Hua, Jingjing Qin, Kaibin Chu* and Kangqi Chang*



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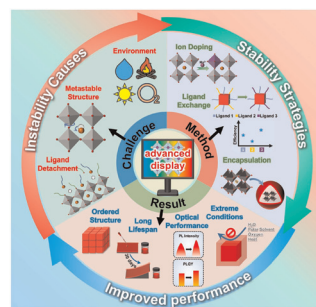
**Fundamental questions
Elemental answers**

REVIEWS

24404

Enhancing the stability of red-emitting CsPbI_xBr_{3-x} QDs for advanced display applications

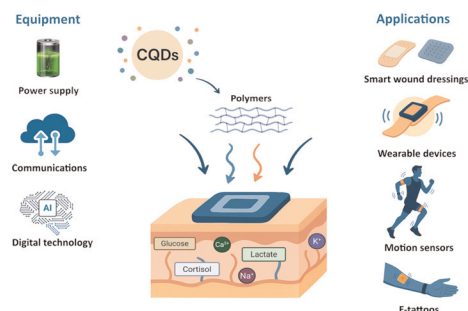
Bin Wang, Fengyi Zhang, Rongqiu Lv, Jun Chen* and Haibo Zeng*



24427

Application of carbon quantum dots in smart polymer films for biomedical diagnostics

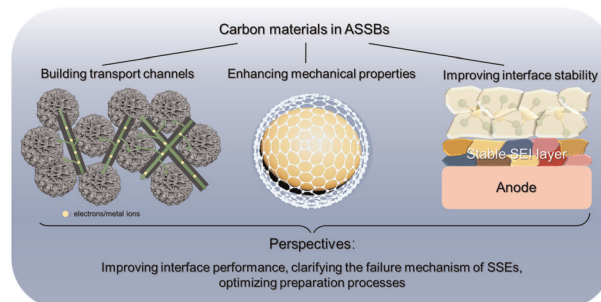
Anna Piasek* and Jolanta Pulit-Prociak



24457

Recent advances in the application of carbon materials in all-solid-state batteries

Yi Zhao, Qi Yin, Yuhang Du, Hui Ma,* Jiechao Ge* and Mianqi Xue*

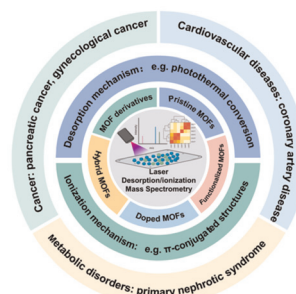


MINIREVIEW

24483

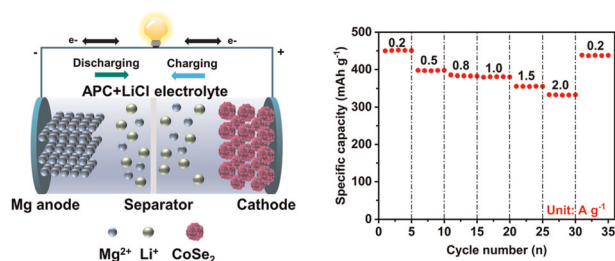
Recent advances in metal–organic frameworks and their derivatives for laser desorption/ionization mass spectrometry in metabolic fingerprinting

Han Songrui, Huang Yida and Qian Kun*



COMMUNICATION

24497

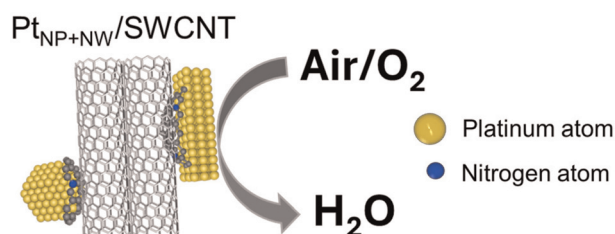


One-step construction of mesh-like CoSe₂ microflowers for magnesium–lithium hybrid batteries with enhanced rate performance

Wutao Wei, Zhikai Wang, Peng Xue, Zhao Liu, Xi Jia, Yanjie Wang, Fang He* and Liwei Mi*

PAPERS

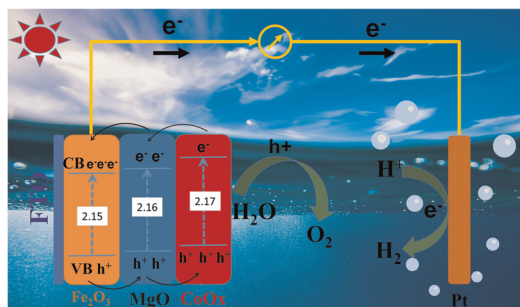
24503



Pt nanoparticle–nanowire hybrids supported on single-walled carbon nanotubes for enhanced oxygen reduction reaction in polymer electrolyte fuel cells

Qiao Chen, Chu-Yang Yu, Takashi Watanabe, Masaya Kawasumi,* Miftakhul Huda* and Yutaka Matsuo*

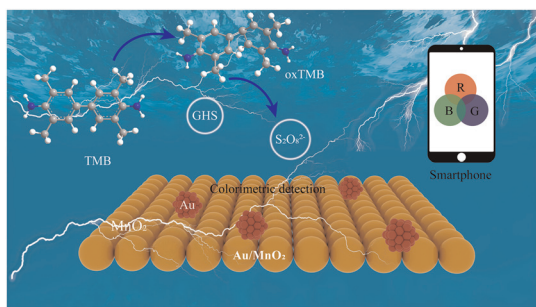
24513



MOF-derived CoO_x/MgO dual modification boosting hematite photoelectrocatalysis

Xiumin Peng, Yani Wang, Kang Zhou,* Lei Wang, Houde She, Qizhao Wang and Jingwei Huang*

24521



Au/MnO₂ featuring efficient oxidase-mimic activity at neutral pH: toward a portable dual-modal sensor for sulfide detection integrated with a smartphone

Mi Li, Haorong Cheng, Yang Song, Xinxin Shi, Tongxiang Li, Yan Chen,* Zhao Li* and Lin Tian*

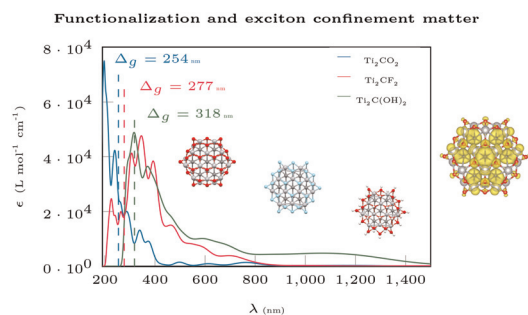


PAPERS

24529

Effects of surface functionalization and size of MXene-based quantum dots on their optical properties: the exciton confinement matters

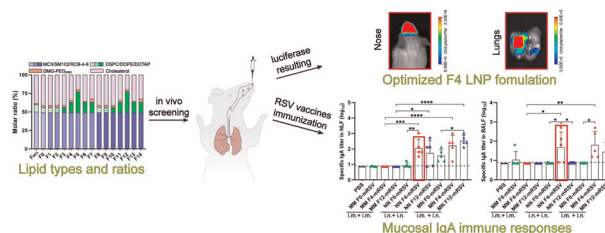
Barbora Vénosová and František Karlický*



24541

An optimized intranasal LNP formulation for potent immune responses of mRNA-based RSV vaccines

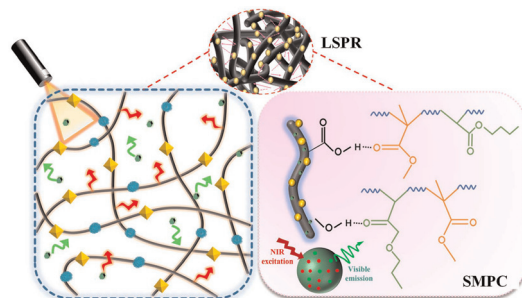
Yan Li, Haiyan Long, Chunxia Wang, Jiayi Weng, Ziyun Kuang and Yucai Peng*



24554

CoFe-NaYF₄:Yb/Er@SMPC derived carbon film: integrated precise stimuli-responsive NIR photo-thermal sensing and shape-memory performance

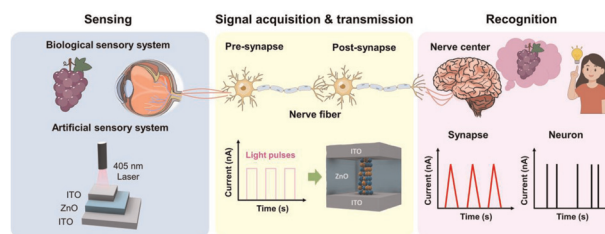
Luning Sun, Yunxiang Yuan, Hongchao Zhang, Yizhi Ma, Wei Wang, Sainan Wei* and Wei Liang



24566

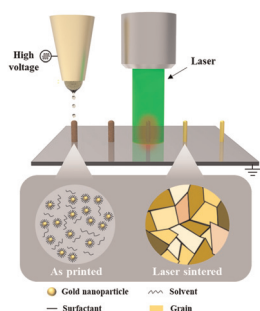
Multifunctional ZnO-based optical memristors for synapse–neuron integration and neuromorphic vision systems

Heeseong Jang, Seongmin Kim, Seohyeon Ju, Seungman Park, Sungjun Kim* and Min-Hwi Kim*



PAPERS

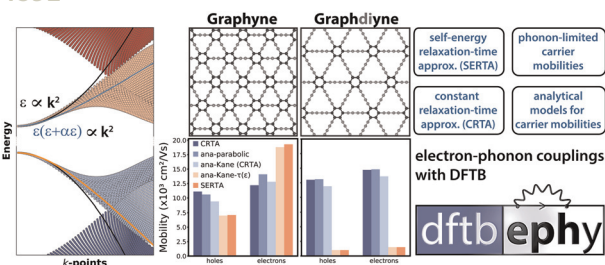
24578



Laser-assisted electrohydrodynamic printing of sub-microscale 3D conductive features on low-melting-point polymeric substrates

Jiaxin Li, Jinke Chang, Yuhua Chen, Qihang Ma, Kun Yu, Yi Ding, Dichen Li and Jiankang He*

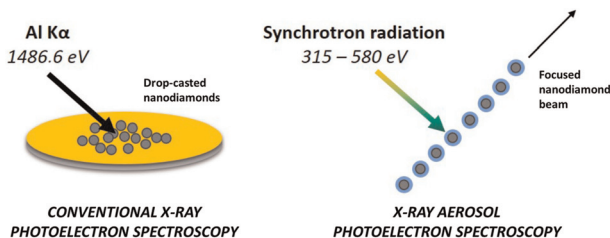
24591



Charge carrier mobilities in γ -graphynes: a computational approach

Elif Unsal,* Alessandro Pecchia, Alexander Croy and Gianaurelio Cuniberti

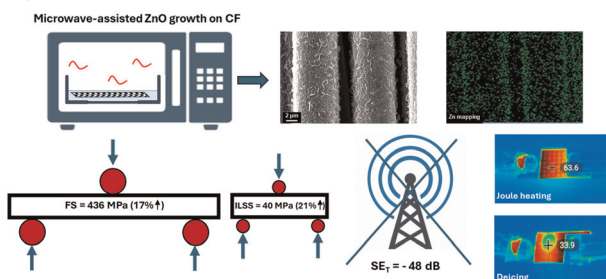
24601



Chemistry of the shallow surface of isolated nanodiamonds probed by synchrotron X-ray photoemission

H. A. Girard,* M. Finas, L. Saoudi, F. Ducrozet, M. Briant, O. Sublemontier, A. R. Milosavljević, C. Nicolas and J.-C. Arnault

24612



Unlocking enhanced properties: surface-engineered carbon fibers *via* microwave-grown ZnO nanoflakes for advanced thermoplastic composites

Akshay Sunil Salvi, Sampath Parasuram, A. Mouliswar Reddy, Akash Basu, Sandeep Kumar Singh,* S. Kumar and Suryasarathi Bose*

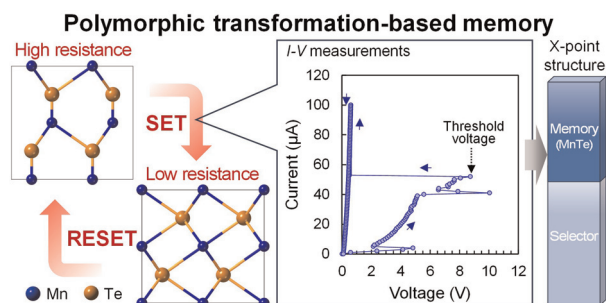


PAPERS

24627

Phase control in polymorphic transformation-based nonvolatile memory devices for reliable data reading in X-point structures

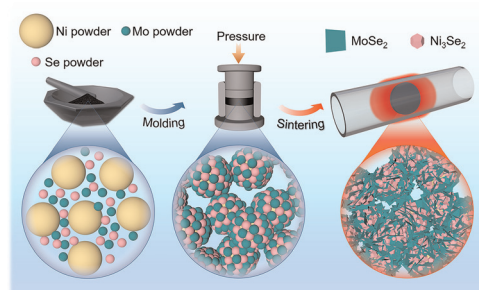
Shunsuke Mori,* Shogo Hatayama* and Yuji Sutou



24637

One-step sintering synthesis of a robust self-supported MoSe₂/Ni₃Se₂ heterostructure electrode for efficient hydrogen evolution at a high current density

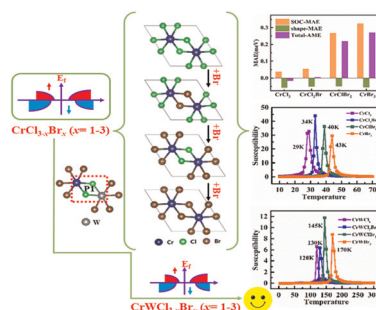
Manman Cui, Yi Zhang, Bin Zhang,* Yang Zhao,* Wenjing Gu, Lu Yang, Shizhong Wei and Zhanling Zhang*



24646

Density functional theory study of the magnetic properties of 2D ferromagnetic semiconductor CrCl_{3-x}Br_x (x = 1–3) monolayers

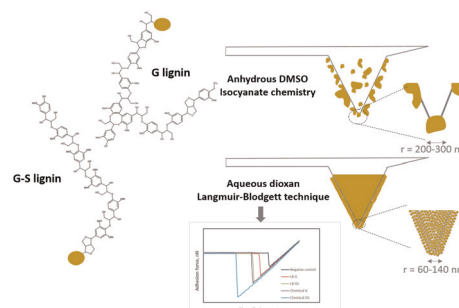
Hua Chen, Xu-li Wang, Hui-min Guo, Bing Wang,* Jin Lv* and Hai-Shun Wu*



24657

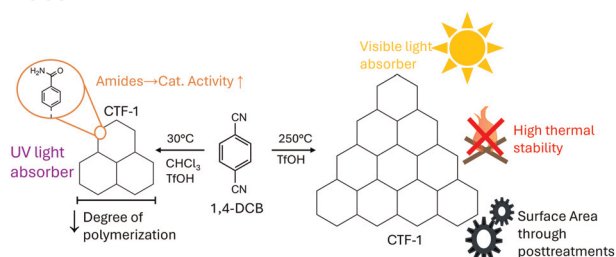
Impact of lignin structuration on its chemical and adhesive properties at the nanoscale: involvement with native and polymer matrices

Carlos Marcuello, Nicolas Bercu, Laurence Foulon, Brigitte Chabbert, Michael Molinari* and Véronique Aguié-Béghin*



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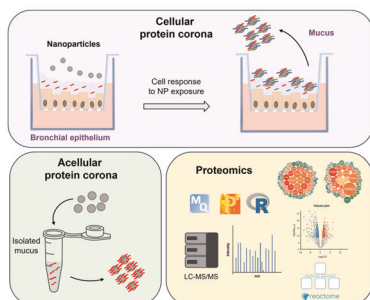
24669



A tale of two syntheses: a comparative study of the physical and photocatalytic properties of covalent triazine frameworks (CTFs)

Mads Lund Nygaard Nielsen, Ruchi Sharma, Marcel Ceccato, Melissa Jane Marks, Sara Frank, Jørgen Skibsted, Jacopo Catalano* and Nina Lock*

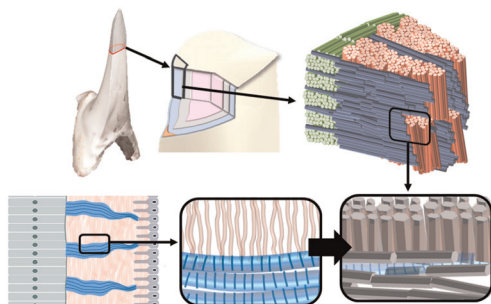
24682



The cellular response of the bronchial epithelium shapes the protein corona of inhaled nanoparticles

Daniel Sanchez-Guzman, Chloé Chivé, Olivier Taché, Marco P. Monopoli, Armelle Baeza-Squiban and Stéphanie Devineau*

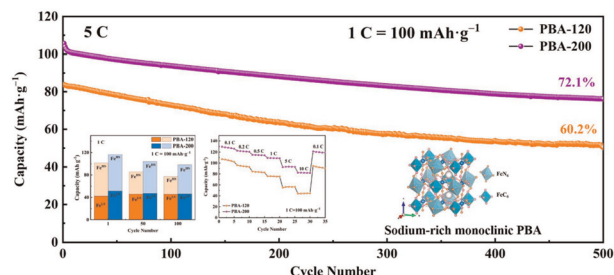
24699



Orthogonal design and dual-mode construction of oriented bundles of fluorapatite from organic fibrils in shark enameloid

Shiho Akimoto, Yuya Oaki and Hiroaki Imai*

24707



Tailoring coordinated water in sodium-rich phase for high-performance Prussian blue cathodes

Junhao Duan, Yu Sun, Bian Li, Peixuan Wu, Zhengqiang Li and Juanjuan Huang*

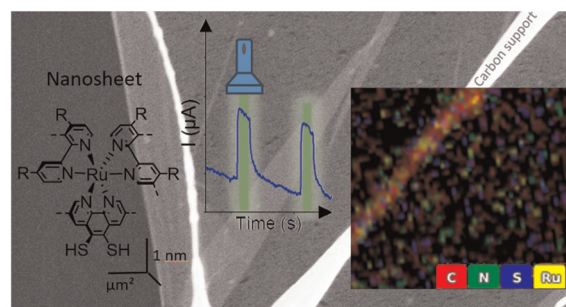


PAPERS

24715

Tailored photoactivity of 2D nanosheets synthesized by electron irradiation of metal–organic Ru(II) monolayers

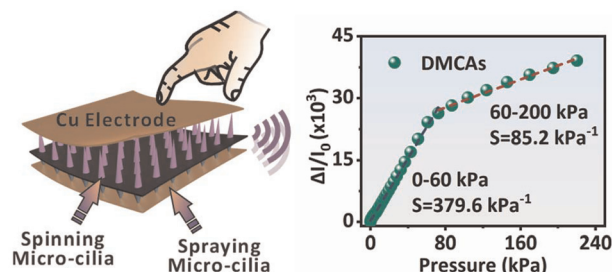
M. Küllmer, A. K. Mengele, J. Kund, R. Leiter, F. Herrmann-Westendorf, D. Hüger, R. Gläßner, E. Najafidehaghani, H. R. Rasouli, C. Neumann, J. Biskupek, L. S. Dröge, V. Müller, K. Witas, M. Presselt, T. Weimann, B. Dietzek-Ivanšić, U. Kaiser, C. Kranz, S. Rau and A. Turchanin*



24726

Cactus-inspired dual-sided micro-cilia arrays with swelling-induced CNT networks for high-performance wearable pressure sensing

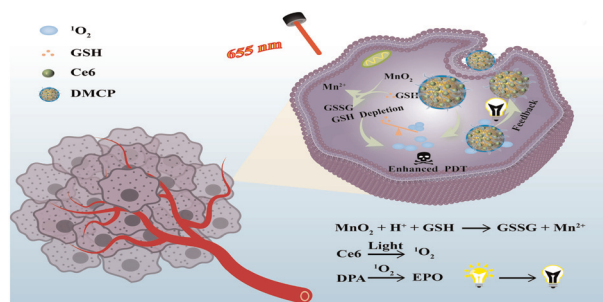
Ming Lei and Bingpu Zhou*



24742

Multifunctional nano-MOFs based on tumor microenvironment modulation for detecting singlet oxygen and enhancing photodynamic therapy

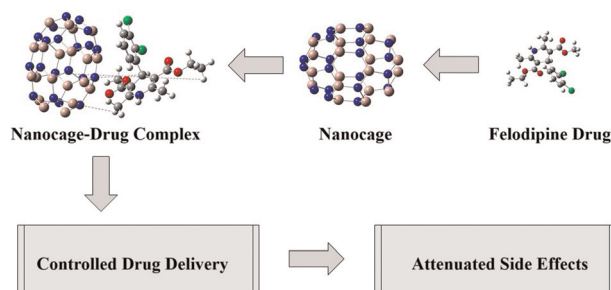
Yongdan Wang, Linshan Jia, Xiaotong Li, Shumeng Li, Ying Yang* and Xiaohong Hou*



24755

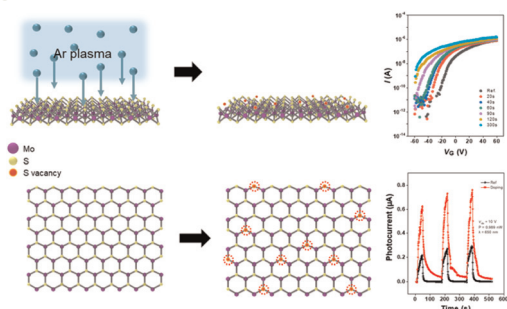
Designing nitride-derived fullerenes X₂₀N₂₀ (X = B, Al, and Ga) for the effective delivery of the cardiovascular drug felodipine: a DFT study

Aoly Ur Rahman,* Md. Kazi Rokunuzzaman,* D. M. Saaduzzaman, Mohammad Sadiqur Rahman, Muzzakkir Amin, Syed Mahedi Hasan and Md. Kabir Uddin Sikder



PAPERS

24773

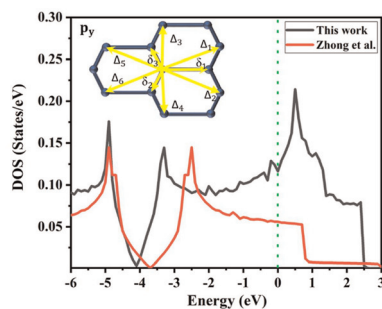


From N-type doping to phase transition in large-area MoS₂ via controlled sulfur vacancy formation

Jimin Kim, Jieun Kang, Hyewon Han, Sunjae Jeong, Siyeon Kim, Heesoo Lee, Hyungsub Kim, Yongil Kim* and Geunyoung Yeom*

COMMENT

24782



Comment on "Two-dimensional honeycomb borophene oxide: strong anisotropy and nodal loop transformation" by C. Zhong, W. Wu, J. He, G. Ding, Y. Liu, D. Li, S. A. Yang and G. Zhang, *Nanoscale*, 2019, 11, 2468

Farid Mohammadi, Kavoos Mirabbaszadeh,* Houshyar Noshad and Ziba Torkashvand

CORRECTION

24788

Correction: Self-assembly of DNA G-quadruplex nanowires: a study of the mechanism towards micrometer length

Yiqi Fan, Jiachen Li,* Min Jiang, Jing Zhao, Lei He, Yong Wang and Fangwei Shao*

