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IN THIS ISSUE

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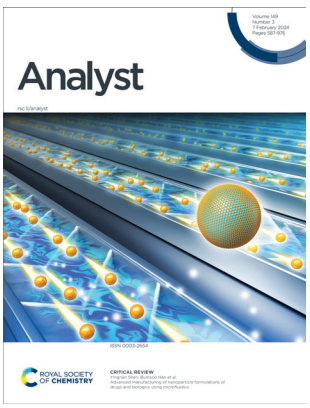

Cover
See Yingnan Shen, Bumsoo Han *et al.*, pp. 614–637.

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Inside cover
See Alessandra Gianoncelli *et al.*, pp. 700–706.

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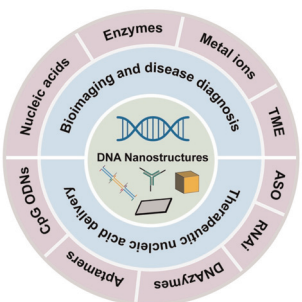
MINIREVIEW

599

DNA nanotechnology-based nucleic acid delivery systems for bioimaging and disease treatment

Zhaorong Sun, Yingjie Ren, Wenjun Zhu, Yuliang Xiao and Han Wu*

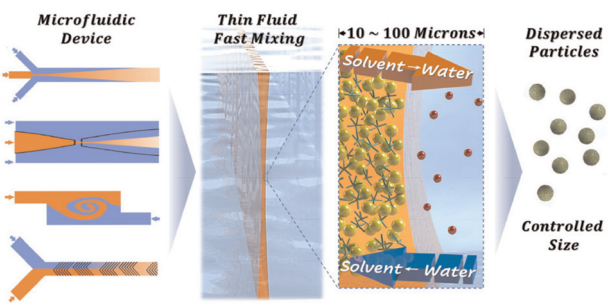


CRITICAL REVIEWS

614

Advanced manufacturing of nanoparticle formulations of drugs and biologics using microfluidics

Yingnan Shen,* Hogyeong Gwak and Bumsoo Han*



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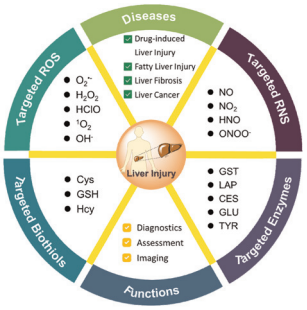
CRITICAL REVIEWS

638

Activatable fluorescent probes for early diagnosis and evaluation of liver injury

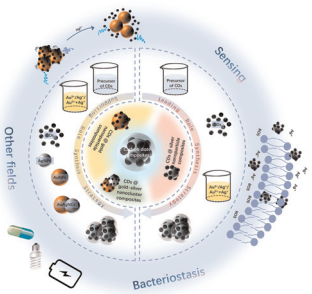
Pengxu Lin, Shali Jiang, Ting Liu, Xiaomin Yuan, Kun Luo, Can Xie, Xiongjie Zhao and Liyi Zhou*



665

Carbon dots@noble metal nanoparticle composites: research progress report

Xuejing Wang, Renyin Zhang, Xiaoyu Ma, Zhihua Xu, Mingze Ma, Tieying Zhang, Yu Ma and Feng Shi*

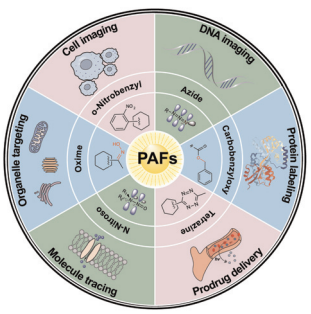


TUTORIAL REVIEW

689

Shedding light on cellular dynamics: the progress in developing photoactivated fluorophores

Huihui Wei, Mingli Xie, Min Chen, Qinhong Jiang, Tenghui Wang and Panfei Xing*

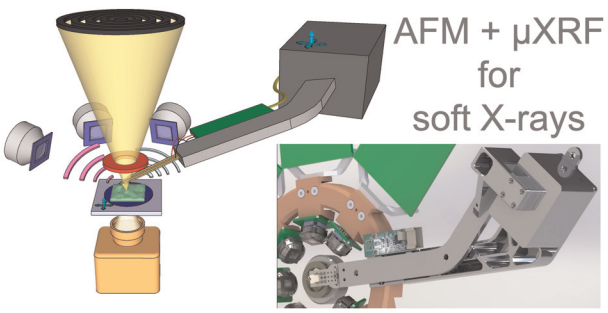


COMMUNICATIONS

700

An innovative *in situ* AFM system for a soft X-ray spectromicroscopy synchrotron beamline

Aljoša Hafner, Luca Costa, George Kourousias, Valentina Bonanni, Milan Žižić, Andrea Stolfa, Benjamin Bazi, Laszlo Vincze and Alessandra Gianoncelli*



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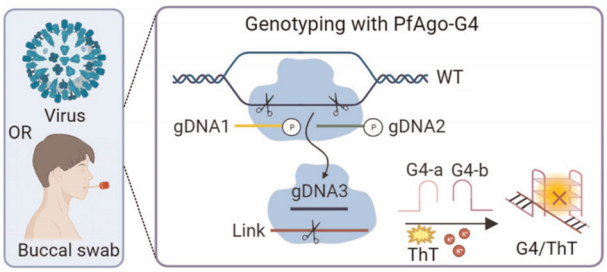
COMMUNICATIONS

707

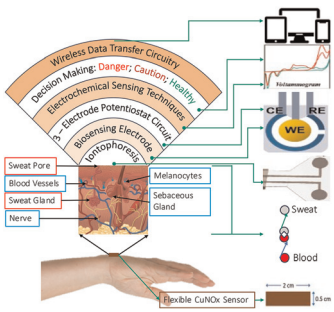


Split G-quadruplex based PfAgo sensing platform for nucleotide mutation discrimination and human genotyping

Yan Zhang, Bin Gong, Yanan Lin, Yuedong Zhu, Gaoxing Su* and Yanyan Yu*

PAPERS

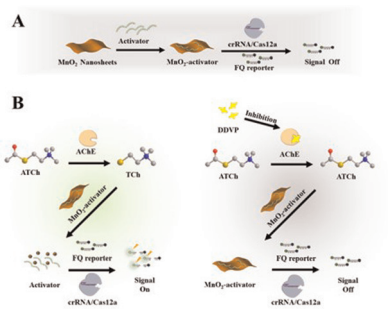
712



High performance nonenzymatic electrochemical sensors *via* thermally grown Cu native oxides (CuNOx) towards sweat glucose monitoring

Maksud M. Alam and Matiar M. R. Howlader*

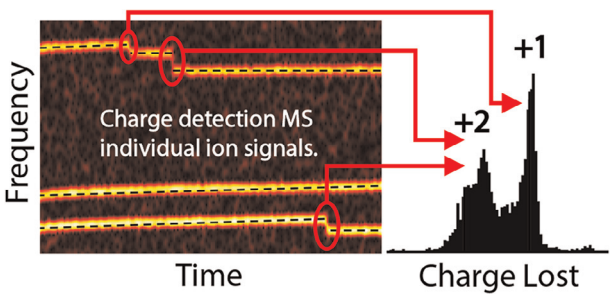
729



A MnO_2 nanosheet-mediated CRISPR/Cas12a system for the detection of organophosphorus pesticides in environmental water

Hao-Ming Yu, Guo-Xi Liang, Hui-Yi Wang, Xiao-Min Hang, Hong-Hong Wang, Jia-Xin Peng and Li Wang*

735



Ion emission from 1–10 MDa salt clusters: individual charge state resolution with charge detection mass spectrometry

Matthew S. McPartlan, Conner C. Harper, Emeline Hanozin and Evan R. Williams*

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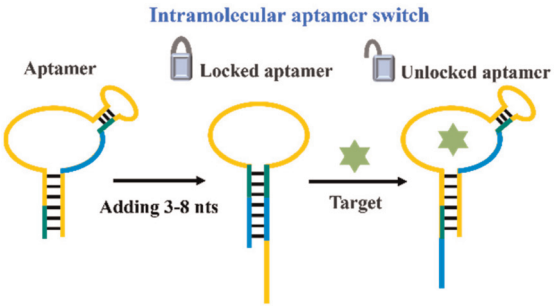
745

Intramolecular aptamer switches

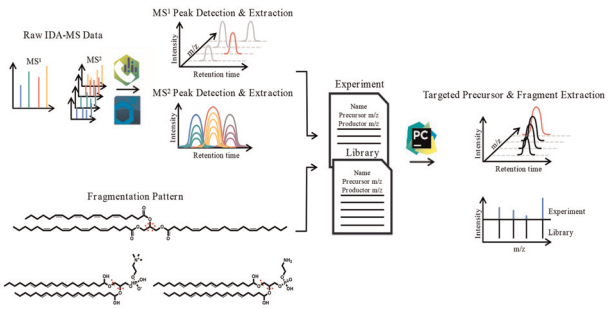
Lu Shi, Yan Jin* and Juewen Liu*



751

SpecLipIDA: a pseudotargeted lipidomics approach for polyunsaturated fatty acids in milk

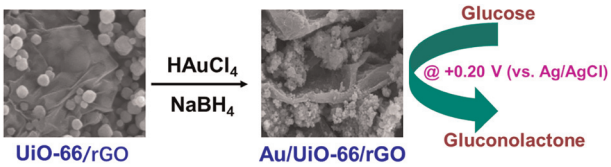
Jingnan Lei, Yuan He, Shuang Zhu, Jiachen Shi, Chin-Ping Tan, Yuanfa Liu and Yong-Jiang Xu*



761

Au nanoparticle-embellished UiO-66 on reduced graphene oxide as a non-enzymatic electrocatalyst at a remarkably low oxidation potential for glucose oxidation and sensing

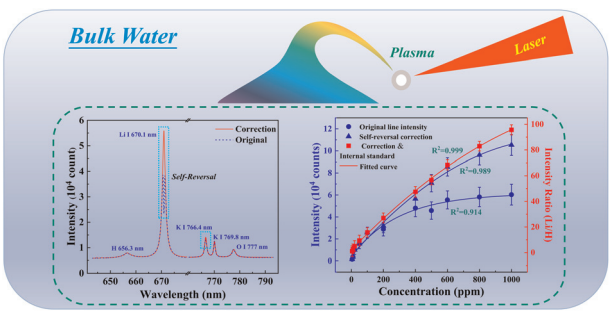
Rongqiu Yan, Qiongfang Zhou, Hui Xie and Chenghong Lei*



768

Performance improvement of underwater LIBS qualitative and quantitative analysis by irradiating with long nanosecond pulses

Yongqiu Zheng, Deyue Ban, Nan Li,* Jiaojian Song,* Jiaxu Zhang, Yifan Luo, Jinge Guan, Chengfei Zhang and Chenyang Xue



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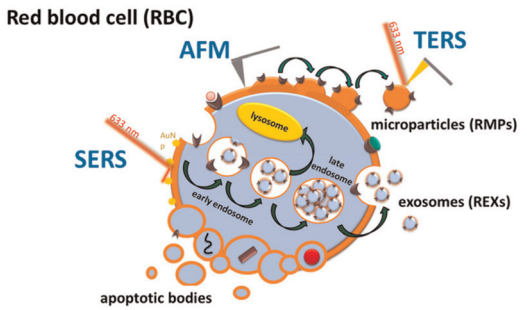
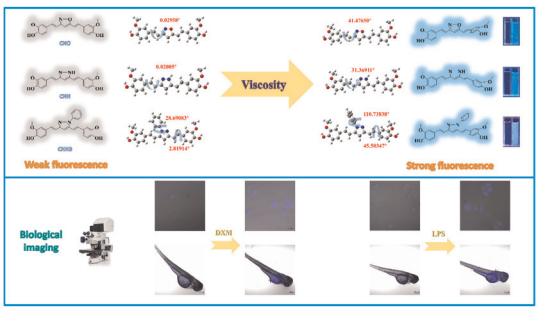
778



Surface-enhanced Raman scattering (SERS) and tip-enhanced Raman scattering (TERS) in label-free characterization of erythrocyte membranes and extracellular vesicles at the nano-scale and molecular level

Tetiana Stepanenko, Kamila Sofińska, Natalia Wilkosz, Jakub Dybas, Ewelina Wiercigroch, Katarzyna Bulat, Ewa Szczesny-Malysiak, Katarzyna Skirlińska-Nosek, Sara Seweryn, Joanna Chwiej, Ewelina Lipiec* and Katarzyna M. Marzec*

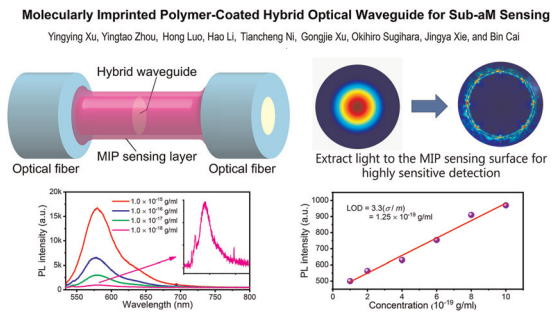
789



Rational design and comparison of three curcumin-based fluorescent probes for viscosity detection in living cells and zebrafish

Wenhao Du, Yue Gu, Xin Zhou, Zhonglong Wang* and Shifa Wang*

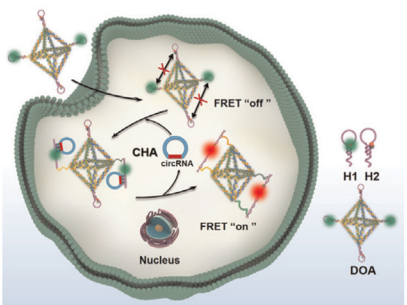
800



Molecularly imprinted polymer-coated hybrid optical waveguides for sub-aM fluorescence sensing

Yingying Xu, Yingtao Zhou, Hong Luo, Hao Li, Tiancheng Ni, Gongjie Xu, Okihiro Sugihara, Jingya Xie and Bin Cai*

807



A DNA octahedral amplifier for endogenous circRNA detection and bioimaging in living cells and its biomarker study

Rong Feng, Shengrong Yu,* Zhiling Qian, Yiming Wang, Gege Xie, Bingqian Li, Jingwen Chen, Yong-Xiang Wu* and Keqi Tang*

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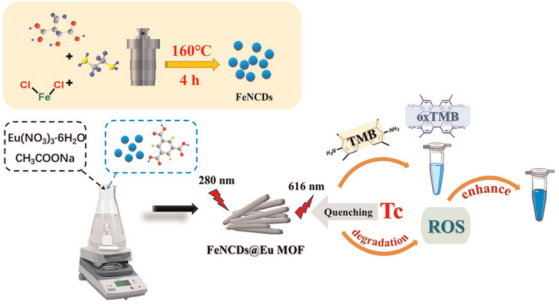
815

Eu MOF-enhanced FeNCD nanozymes for fluorescence and highly sensitive colorimetric detection of tetracycline

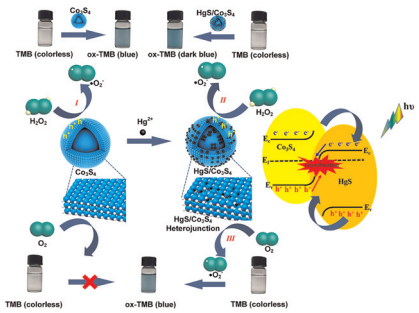
Cheng Chen, Jing Li, Fang Luo, Zhenyu Lin, Jian Wang, Tao Zhang,* Aiwen Huang* and Bin Qiu*



824

In situ **Hg^{2+} improved the peroxidase-like activity and triggered "ON" the oxidase-like activity of yolk–shell Co_3S_4 microspheres for the detection of Hg^{2+}**

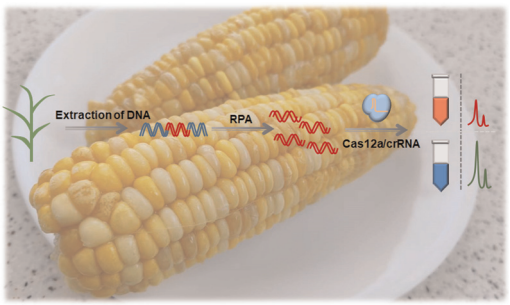
Kang Qin, Ying Chu, Chang Xu, Guijiang Li, Xixi Zhu, Gaochao Fan, Zhongdong Yang* and Qingyun Liu*



836

Sensitive detection of genetically modified maize based on a CRISPR/Cas12a system

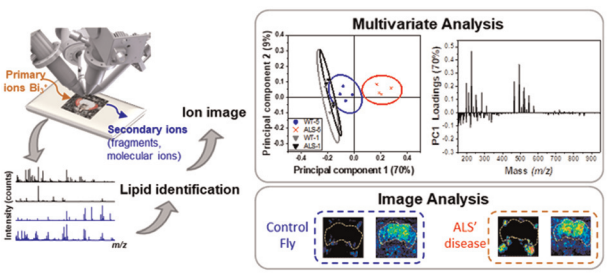
Huimin Wang, Ailing Su, Jingjing Chang, Xiangguo Liu,* Chongyang Liang and Shuping Xu*



846

Monitoring lipid alterations in *Drosophila* heads in an amyotrophic lateral sclerosis model with time-of-flight secondary ion mass spectrometry

Minh Uyen Thi Le, Jeong Hyang Park, Jin Gyeong Son, Hyun Kyung Shon, Sunho Joh, Chang Geon Chung, Jae Ho Cho, Alexander Pirkl, Sung Bae Lee* and Tae Geol Lee*



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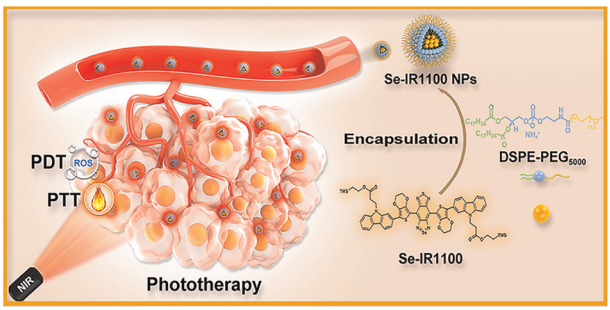
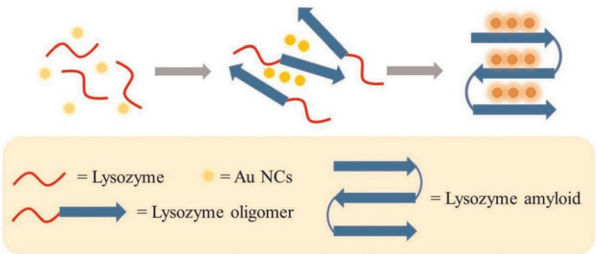
859



A selenium-based NIR-II photosensitizer for a highly effective and safe phototherapy plan

Xiangqian Zhang, Chonglu Li, Xiaofang Guan, Yu Chen, Qingqing Zhou, Huili Feng, Yun Deng, Cheng Fu, Ganzhen Deng,* Junrong Li* and Shuang Liu*

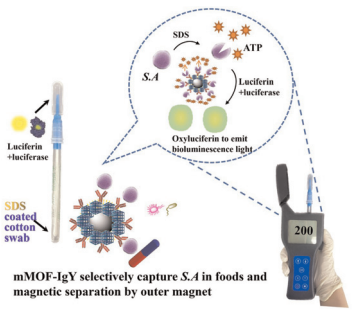
870



Aggregation of gold nanoclusters in amyloid fibers: a luminescence assay for amyloid fibrillation detection and inhibitor screening

Yilin Deng, Ying Guo and Yaodong Zhang*

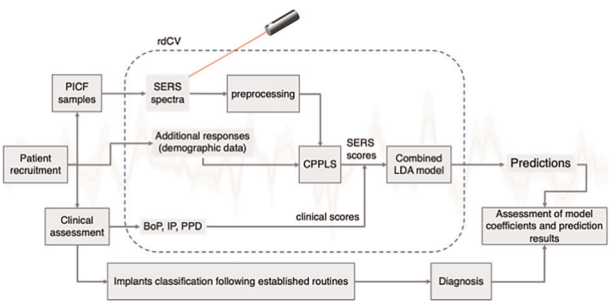
876



Bioluminescence assay for rapid detection of live *Staphylococcus aureus* based on the enrichment of egg yolk antibody modified magnetic metal organic framework immunobeads

Mengli Zeng, Renjie Zhou, Tingting He, Fanling Hu, Weiyue Liu,* Ning Gan* and Shaoning Yu

885



Spectroscopic insights into peri-implant mucositis and peri-implantitis: unveiling peri-implant crevicular fluid profiles using surface enhanced Raman scattering

Stefano Fornasaro,* Antonio Rapani, Federica Farina, Marigona Ibishi, Giulia Pisnoli, Claudio Stacchi, Valter Sergo, Alois Bonifacio, Roberto Di Lenarda and Federico Berton

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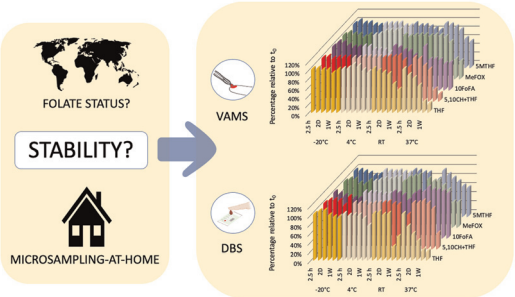
895

Is the stability of folates in dried blood microsamples sufficient to perform home-sampling studies?

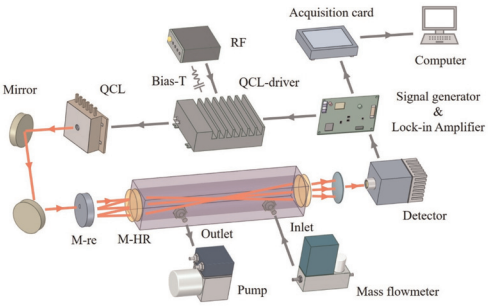
Liesl Heughebaert and Christophe Pol Stove*



909

Re-injection off-axis integrated cavity output spectroscopy for the simultaneous detection of N_2O, H_2O and CO with a mid-infrared QCL laser

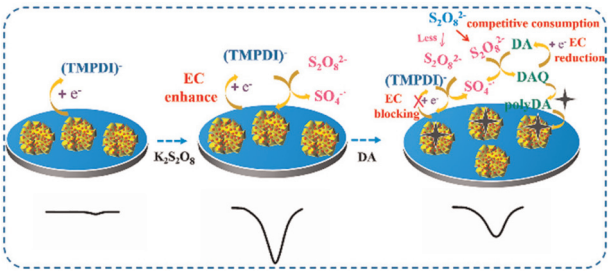
Xi Yang, Zhirong Zhang,* Hua Xia,* Pengshuai Sun, Tao Pang, Bian Wu, Xu Liu and Qiang Guo



917

A perylene diimide electrochemical probe with persulfate as a signal enhancer for dopamine sensing

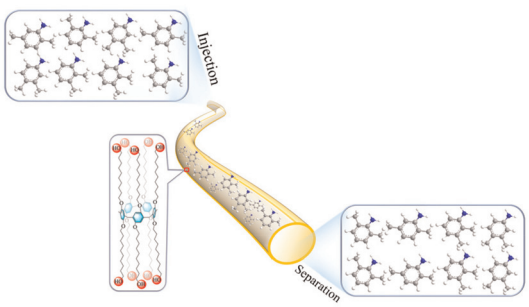
Xiaomin Cui, Huiying Geng, Hong Zhang, Xinyang Sun, Lei Shang, Rongna Ma, Liping Jia, Chuan Li,* Wei Zhang* and Huaisheng Wang*



925

Hydroxyl-functionalized pillar[5]arene with high separation performance for gas chromatography

Mengyi Ba, Wen Li, Yanli Song, Yuanyuan Zhang, Xiang Xu, Haixin Liu, Zhiqiang Cai,* Shaoqiang Hu, Xianming Liu and Tao Sun*



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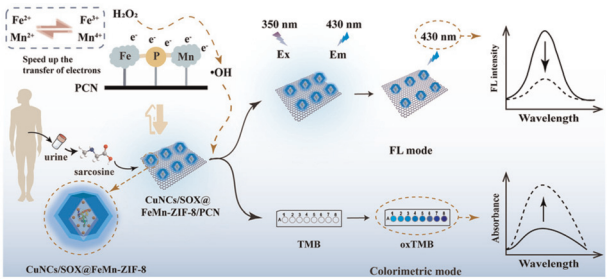
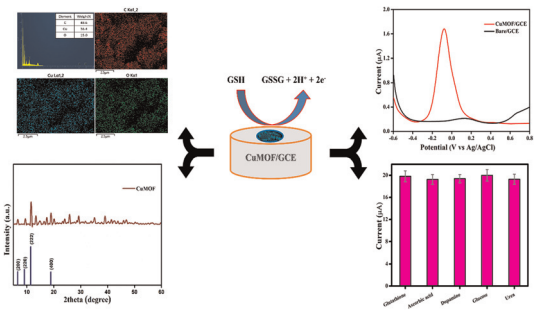
935



Fluorescence and colorimetric dual-mode multienzyme cascade nanoplatform based on CuNCs/FeMn-ZIF-8/PCN for detection of sarcosine

Yu Wu, Chenxi Ke, Zichen Song, Hongda Zhu, Huiling Guo, Hongmei Sun and Mingxing Liu*

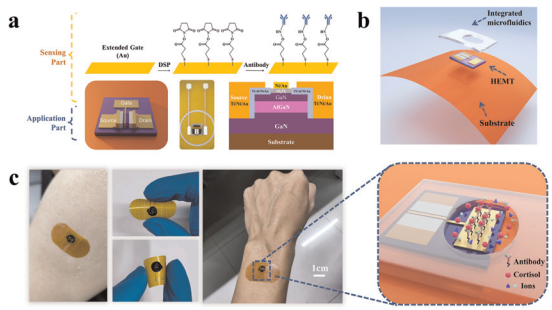
947



A copper metal–organic framework-based electrochemical sensor for identification of glutathione in pharmaceutical samples

Reshma Kaimal, Aashutosh Dube, Abdullah Al Souwaileh, Jerry J. Wu and Sambandam Anandan*

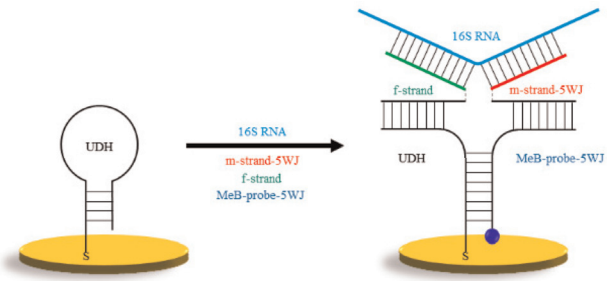
958



An integrated wearable sticker based on extended-gate AlGaN/GaN high electron mobility transistors for real-time cortisol detection in human sweat

Boxuan Xu, Hui Chang, Guo Yang, Zhan Xu, Jun Li,* Zhiqi Gu* and Jiadong Li*

968



DNA nanotechnology for nucleic acid analysis: sensing of nucleic acids with DNA junction-probes

Marcos V. Foguel, Victor Zamora, Julio Ojeda, Mark Reed, Alexander Bennett, Percy Calvo-Marzal, Yulia V. Gerasimova, Dmitry Kolpashchikov* and Karin Y. Chumbimuni-Torres*

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