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Cover

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Electrochemistry and Electroanalytical Approaches

Damien W. M. Arrigan, Karolien De Wael, Jeffrey E. Dick, Thiago Paixão and Yi-Lun Ying

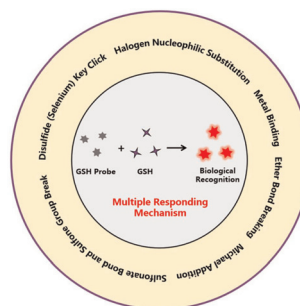


TUTORIAL REVIEW

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Recent advances in glutathione fluorescent probes based on small organic molecules and their bioimaging

Jingdong Wang, Caixia Yin* and Fangjun Huo*



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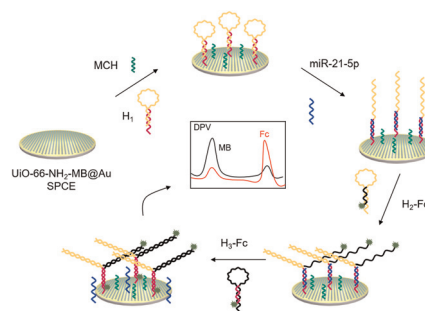
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PAPERS

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Mechanically stabilized UiO-66-NH₂-MB screen printed carbon electrode for high-performance electrochemical ratiometric quantification of miR-21-5p

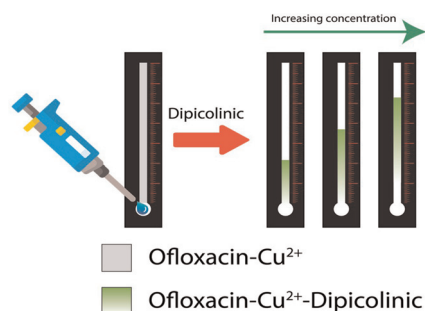
Jianjing Shen, Li Yan, Jun Pang, Zhenyu Chu, Ying Xie, Shan Huang* and Xiaojun Chen*



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A length-band fluorescence-based paper analytical device for detecting dipicolinic acid *via* ofloxacin complexation with Cu²⁺

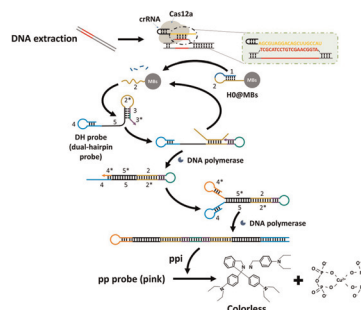
Nguyen Ngoc Nghia, Bui The Huy,* Nguyen Huu Hieu, Nguyen Thi Kim Phuong and Yong-Ill Lee*



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Cas12a/crRNA recognition initiated self-priming mediated chain extension for colorimetric cell-free DNA (cfDNA) analysis

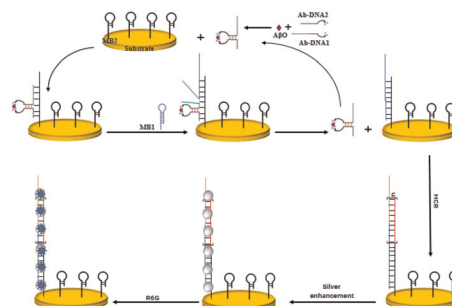
Ming Li, Ting Zheng, Jiaqi Zhu, Hu Zhang and Lijuan Fan*

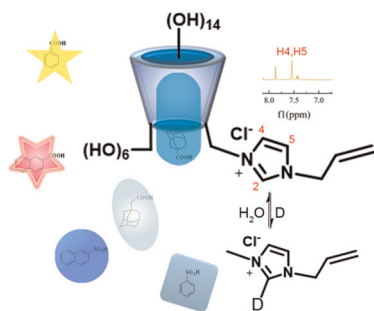


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Proximity hybridization-triggered cascade amplification for label-free SERS detection of Alzheimer's amyloid- β oligomers

Qisheng Luo, Xin Kang, Chunyuan Zhang, He Zhang, Yongning Huang, Qianli Tang, Xianjiu Liao,* Fenglei Gao* and Zhao Liu*

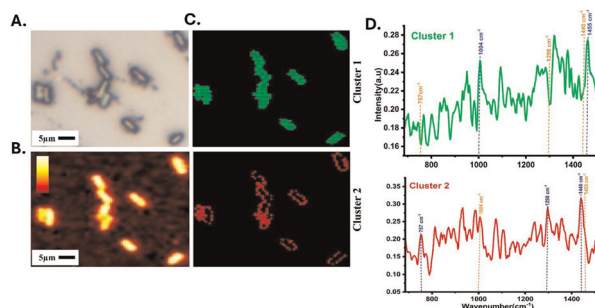




Chenglin Zhang, Yanqi Du, Ye Lu, Leyi Wang,
Deguan Wang, Qiang Zhang,* Yong Wang and Yin Xiao*

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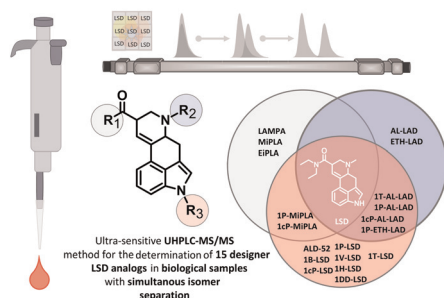
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Dimple Saikia, Cebajel Bhanwarlal Tanan,
G. Dhananjaya, Basavraj S. Hungund, Nilkamal Mahanta
and Surya P. Singh*

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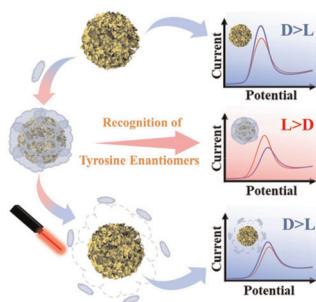
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Olga Wachetko,* Karolina Nowak, Kaja Tusiewicz,
Marcin Zawadzki and Paweł Szpot

Olga Wachetko,* Karolina Nowak, Kaja Tusiewicz,
Marcin Zawadzki and Paweł Szpot

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Yujie Wang, Haibo Chen, Peiming Liu, Wenrong Cai,
Datong Wu, Junyao Li* and Yong Kong*

Yujie Wang, Haibo Chen, Peiming Liu, Wenrong Cai,
Datong Wu, Junyao Li* and Yong Kong*

***In situ* monitoring of quorum sensing signalling molecules using a SERS chip with a micro-chamber array**

SERS monitoring

Without drugs treatment

Drugs treatment

SERS spectrum

● *Raeruginosa*
 ● *Pyocyanin*
 ▲ Antibacterial agents
 ■ SERS substrate

Quantum dot-to-dye-based fluorescent ratiometric immunoassay for GFAP: a biomarker for ischaemic stroke and glioblastoma multiforme

The diagram illustrates the FRET mechanism for GFAP protein detection. On the left, a detailed inset shows the FRET process: an electronic interaction between a SiQD (yellow sphere) acting as the FRET donor and a RhB molecule (purple oval) acting as the FRET acceptor, with a distance-dependent FRET rate. The main part of the diagram shows the assembly of RhB@Ab@SiQDs (labeled 1), where SiQDs are conjugated with Ab-GFPs, which are in turn conjugated with RhB molecules. Upon the addition of GFAP protein (orange diamonds), the system forms a complex (labeled 2) where the GFAP protein binds to the Ab-GFP, bringing the SiQD and RhB into close proximity for FRET. The legend identifies the components: SiQDs (yellow sphere), Ab-GFP (blue Y-shape), -NH-CO- (black dot), RhB (purple oval), and GFAP protein (orange diamond). Wavelengths are indicated: $\lambda_{ex} = 430\text{ nm}$ for excitation and $\lambda_{em} = 580\text{ nm}$ for emission in the initial state, and $\lambda_{ex} = 430\text{ nm}$ and $\lambda_{em} = 530\text{ nm}$ in the presence of the GFAP protein.

Synchrotron-based infrared microspectroscopy unveils the biomolecular response of healthy and tumour cell lines to neon minibeam radiation therapy

Reproducible protein quantitation of 270 human proteins at increased depth using nanoparticle-based fractionation and multiple reaction monitoring mass spectrometry with stable isotope-labelled internal standards

Protein quantitation
LC/MRM-MS of 270 human proteins

PLASMA

AUTOMATED NP

1 Tryp LysC

MANUAL

2 Tryp

Automated NP

3 Tryp LysC

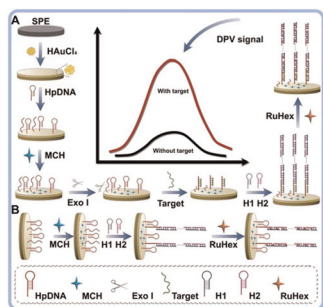
SIS peptides

Protein quantitation
LC/MRM-MS of 270 human proteins

Quantifiable proteins +44%

Tryp Tryp/LysC Automated NP

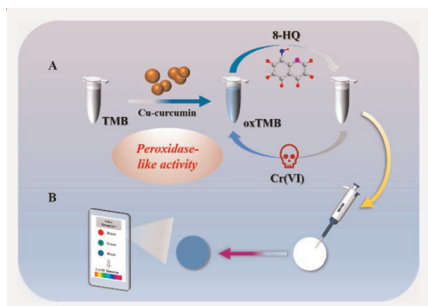
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Low background electrochemical sensor based on HCR towards acute myocardial infarction-specific miRNA detection

Yan Liu, Ziqi Liu, Tingxiu Yan, Luyao Feng, Na He, Lu Tao, Li-Ping Xu* and Xueji Zhang*

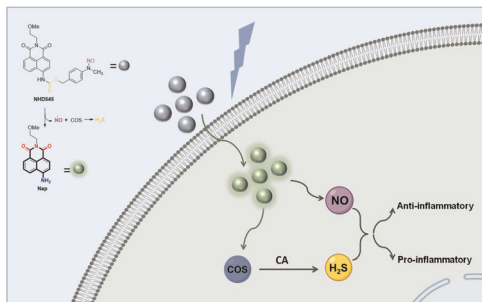
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Cu-curcumin nanozyme for detection of Cr(VI) through an off-on strategy based on peroxidase mimicking activity

Ziwei Chai, Aifang Zhou, Jingjing Huang, Lingbo Qu, Jia Ge,* Lin Zhang* and Zhaohui Li

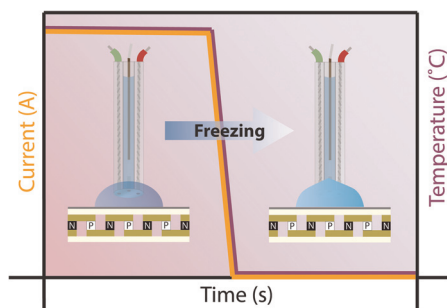
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A photo-triggered dual-gas donor of nitric oxide and hydrogen sulfide with fluorescence for real-time monitoring of its release

Afeng Hou, Zhenmei Lin, Yongfang Cheng, Yaoping Tang, Qing Chen, Lingfeng Jiang,* Li Li* and Ziqian Zhang*

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Witnessing a discrete microdroplet freezing event via real-time electrochemical monitoring of solution temperature

Philip J. Kauffmann, Cristian A. Blanco-Combariza and Jeffrey E. Dick*

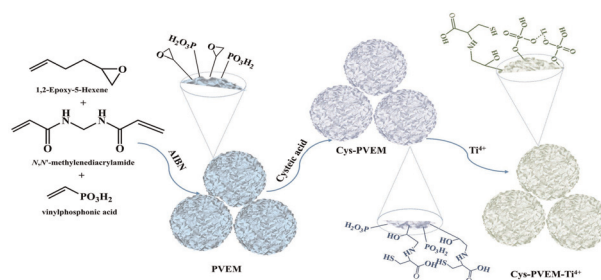


PAPERS

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Preparation of a titanium-functionalized polymeric material rich in hydrophilic groups for phosphoproteome and glycoproteome analyses in serum

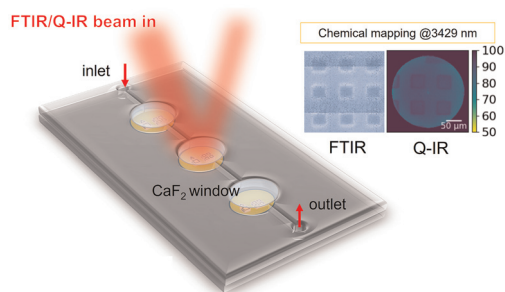
Xiuqin Sheng, Jiakai Chen, Jiahui Shao, Xiaoya Zhang, Bing Wang, Chuan-Fan Ding and Yinghua Yan*



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Infrared imaging with visible light in microfluidic devices: the water absorption barrier

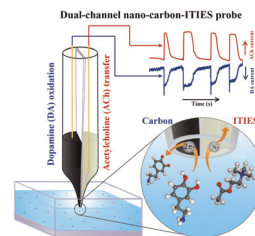
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Dual-channel nano-carbon-liquid/liquid junction electrodes for multi-modal analysis: redox-active (dopamine) and non-redox-active (acetylcholine)

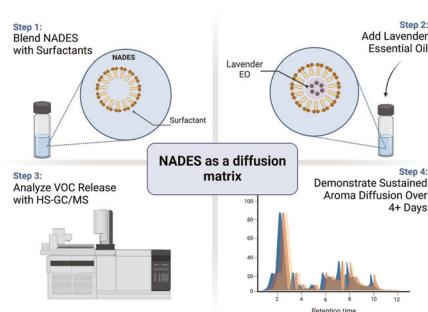
Edappalil Satheesan Anupriya, Ran Chen, Daniel Kalski, Jordynn Palmer and Mei Shen*



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Development of essential oil diffusion matrices using non-ionic surfactants-supported NADES and hydrophobic NADES

Samir Scandar, Natali Rianika Mustafa, Claudia Zadra, Maria Carla Marcotullio* and Young Hae Choi*



EXPRESSION OF CONCERN

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Expression of concern: Diamond nanowires modified with poly[3-(pyrrolyl)carboxylic acid] for the immobilization of histidine-tagged peptides

Palaniappan Subramanian, Ievgen Mazurenko, Vladimir Zaitsev, Yannick Coffinier, Rabah Boukherroub and Sabine Szunerits*

CORRECTION

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Correction: Recent advances and applications to cultural heritage using ATR-FTIR spectroscopy and ATR-FTIR spectroscopic imaging

Guan-Lin Liu and Sergei G. Kazarian*

