

IN THIS ISSUE

ISSN 0003-2654 CODEN ANALAO 150(2) 209–438 (2025)



Cover

Cover image © Getty Images

EDITORIAL

219

Electrochemistry and Electroanalytical Approaches

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

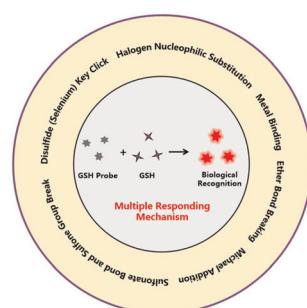


TUTORIAL REVIEW

220

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

Jingdong Wang, Caixia Yin* and Fangjun Huo*



RSC Advances

**At the heart of open access for
the global chemistry community**

Editor-in-chief

Russell J Cox

Leibniz Universität Hannover, Germany

We stand for:



Breadth We publish work in all areas of chemistry and reach a global readership



Quality Research to advance the chemical sciences undergoes rigorous peer review for a trusted, society-run journal



Affordability Low APCs, discounts and waivers make publishing open access achievable and sustainable



Community Led by active researchers, we publish quality work from scientists at every career stage, and all countries

Submit your work now

rsc.li/rsc-advances

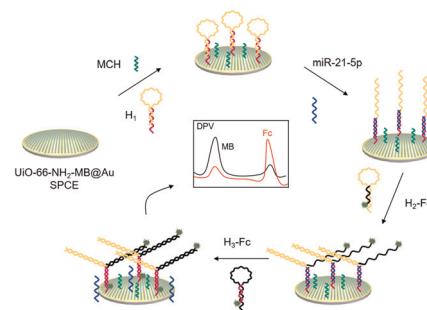
@RSC_Adv

PAPERS

240

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

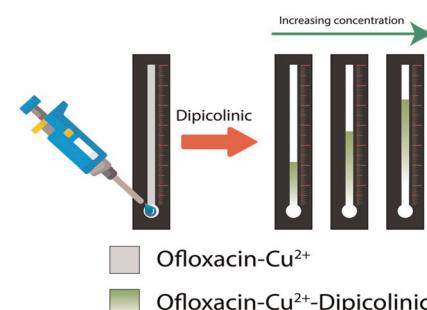
Jianjing Shen, Li Yan, Jun Pang, Zhenyu Chu, Ying Xie, Shan Huang* and Xiaojun Chen*



249

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

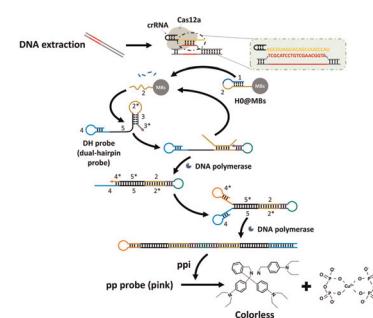
Nguyen Ngoc Nghia, Bui The Huy,* Nguyen Huu Hieu, Nguyen Thi Kim Phuong and Yong-Ill Lee*



258

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

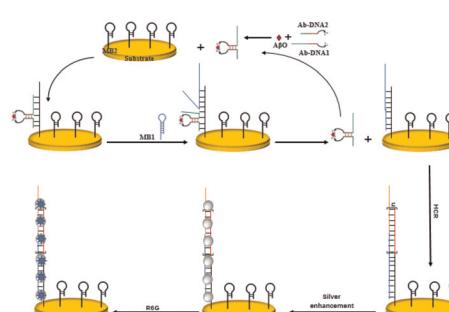
Ming Li, Ting Zheng, Jiaqi Zhu, Hu Zhang and Lijuan Fan*



264

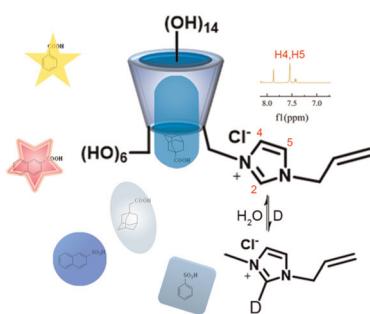
Proximity hybridization-triggered cascade amplification for label-free SERS detection of Alzheimer's amyloid- β oligomers

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

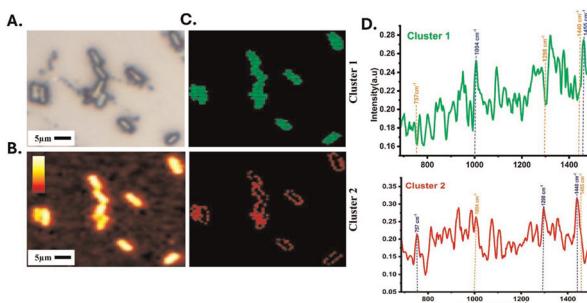


PAPERS

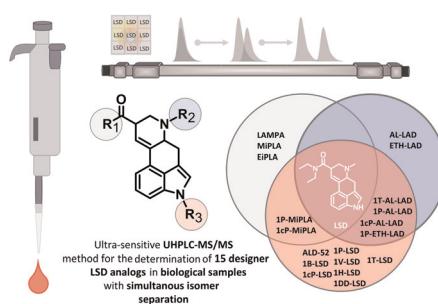
272



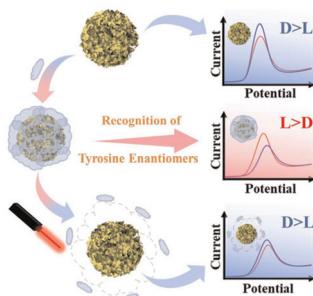
281



290



309



β -Cyclodextrin modified imidazole probe specific recognition of organic acids based on nuclear magnetic resonance

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

Validating phosphoethanolamine modification as a potential spectral marker of colistin resistance

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

A highly sensitive UHPLC-MS/MS method for determining 15 designer LSD analogs in biological samples with application to stability studies

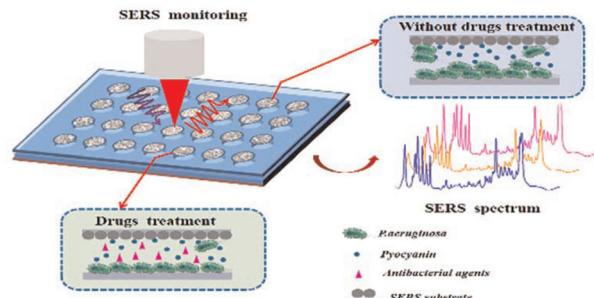
Olga Wachętko,* Karolina Nowak, Kaja Tusiewicz,
Marcin Zawadzki and Paweł Szpot

Construction of a regulable chiral recognition platform based on the photothermal effect of popcorn-like gold nanoparticles/bovine serum albumin

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

PAPERS

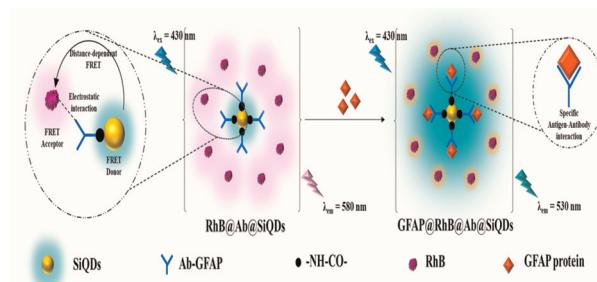
318

***In situ* monitoring of quorum sensing signalling molecules using a SERS chip with a micro-chamber array**Lulu Liu, Wenrui Ma, Haolan Tan, Chuang Ge,*
Bei Zhang, Chunyan Wang, Yang Zhang and Yi Xu*

329

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

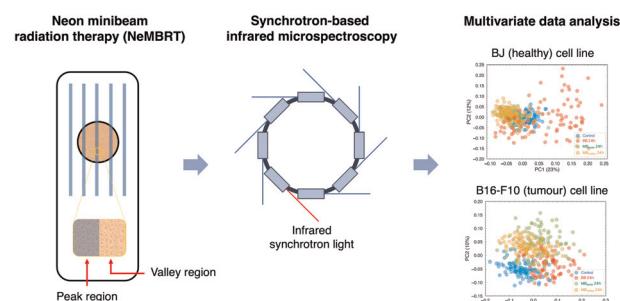
Susan Varghese, Anju S. Madanan, Merin K. Abraham, Ali Ibrahim Shkhair, Geneva Indongo, Greeshma Rajeevan, B. K. Arathy and Sony George*



342

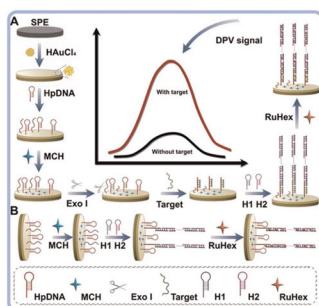
Synchrotron-based infrared microspectroscopy unveils the biomolecular response of healthy and tumour cell lines to neon minibeam radiation therapy

R. González-Vegas, O. Seksek, A. Bertho, J. Bergs, R. Hirayama, T. Inaniwa, N. Matsufuji, T. Shimokawa, Y. Prezado, I. Yousef and I. Martínez-Rovira*



PAPERS

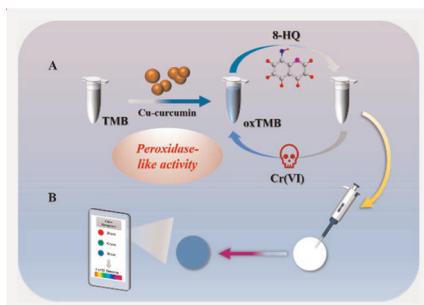
362



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*

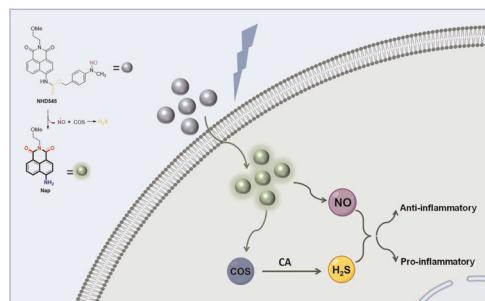
371



Cu-curcumin nanzyme 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

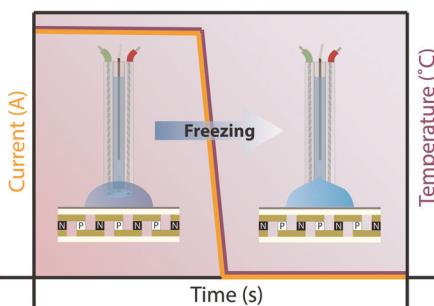
378



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*

386



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*

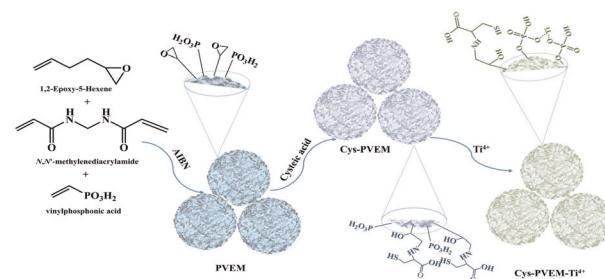


PAPERS

395

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

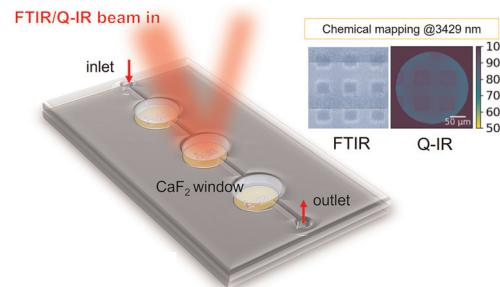
Xiuqin Sheng, Jiakai Chen, Jiahui Shao, Xiaoya Zhang, Bing Wang, Chuan-Fan Ding and Yinghua Yan*



405

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

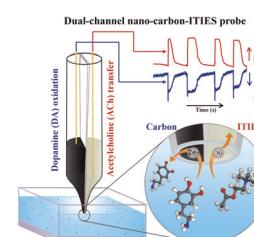
Mona Suryana, Thomas Produit, Hongzhi Yang, Giovanni Birarda, Jegan Vishnuwardhana Shanmugar, Leonid Krivitsky, Anna Paterova and Gianluca Grenci*



414

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

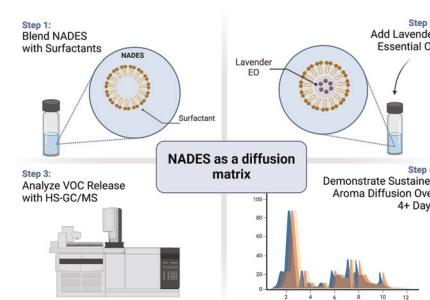
Edappalil Satheesan Anupriya, Ran Chen, Daniel Kalski, Jordynn Palmer and Mei Shen*



425

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

435

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

436

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

Guan-Lin Liu and Sergei G. Kazarian*

