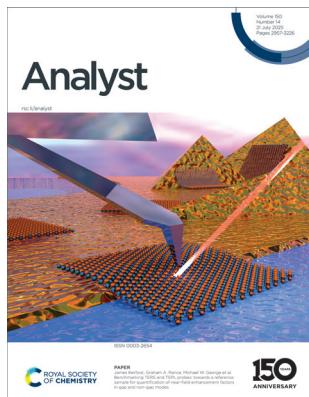


The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

ISSN 0003-2654 CODEN ANALAO 150(14) 2957–3226 (2025)



Cover

See James Kerfoot,
Graham A. Rance,
Michael W. George et al.,
pp. 3077–3088.

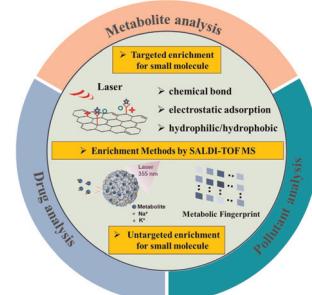
Image reproduced by
permission of James Kerfoot
and Graham Rance from
Analyst, 2025, **150**, 3077.

MINIREVIEWS

2966

Recent advances in sample preparation for analysis of small molecules with surface-assisted laser desorption/ionization time-of-flight mass spectrometry: enrichment methods and applications

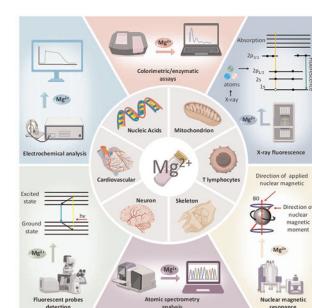
Mingyuan Liu, Tianyu Hua, Yihan Zhang, Zifang Peng, Dan Yin, Wenfen Zhang, Yanhao Zhang, Congcong Pei* and Shusheng Zhang*



2979

Biological functions and detection strategies of magnesium ions: from basic necessity to precise analysis

Tianwei Liu, Lan Wang, Siying Pei, Shuo Yang, Jiayi Wu, Wei Liu* and Qiong Wu*



EES Batteries

Exceptional research on
batteries and energy storage

Part of the EES family

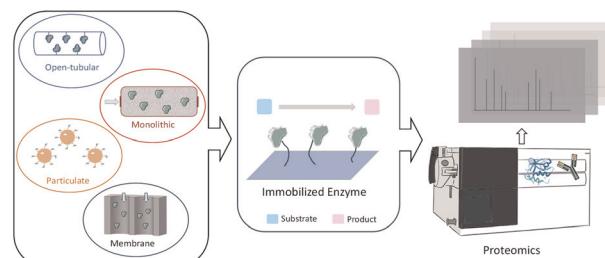
Join
in | Publish with us
rsc.li/EESBatteries

CRITICAL REVIEWS

3000

Micro-immobilized enzyme reactors for mass spectrometry proteomics

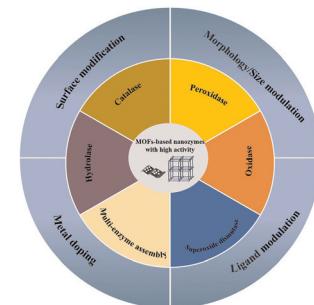
Zhongjie Yao, Yilan Li* and Wei Xu*



3011

Metal–organic framework-based nanozymes: types, activity regulation and analytical applications

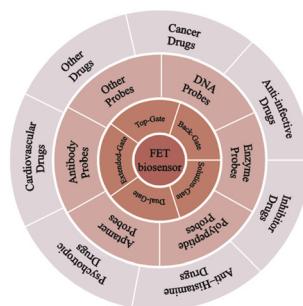
Mingyue Xie,* Shidun Chen, Ke Chen, Qinghuan Gao, Jiake Li, Yiyang Hao and Xingyue Lu



3026

Recent advances in field effect transistor biosensors for drug screening applications

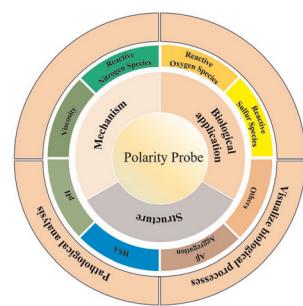
Lemeng Chao,* Ying Liang and Xiao Hu



3045

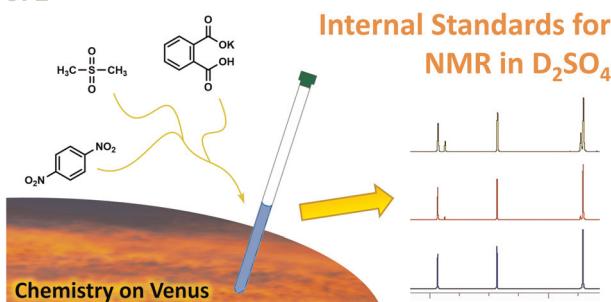
Recent progress of dual-responsive fluorescent probes for polarity and analytes

Junru He, Xuwei Han and Yongkang Yue*



COMMUNICATION

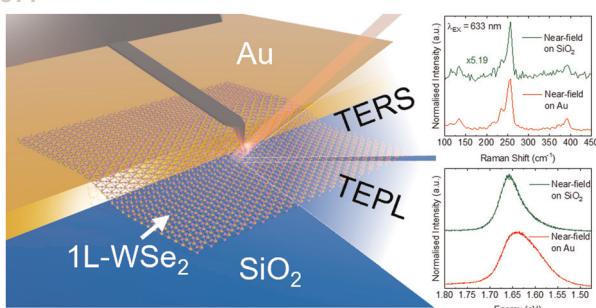
3071

**Internal standards for ^1H NMR spectroscopy in concentrated sulfuric acid**

Desmond B. Ofosu, Robert Z. Mendoza and Paul J. Bracher*

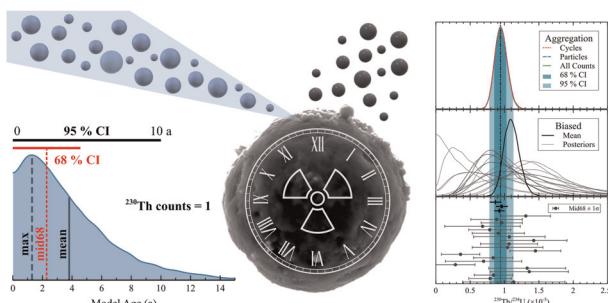
PAPERS

3077

**Benchmarking TERS and TEPL probes: towards a reference sample for quantification of near-field enhancement factors in gap and non-gap modes**

James Kerfoot,* Elizabeth J. Legge, Amy Collins, Jasbinder Chauhan, Kai Rossnagel, Peter H. Beton, Christopher J. Mellor, Andrew J. Pollard, Graham A. Rance* and Michael W. George*

3089

**Uranium particle age dating, aggregation, and model age best estimators**

Evan E. Groopman,* Todd L. Williamson, Timothy R. Pope, Michael G. Bronikowski, Spencer M. Scott and Matthew S. Wellons

3112

**PyFasma: an open-source, modular Python package for preprocessing and multivariate analysis of Raman spectroscopy data**

Eleftherios Pavlou and Nikolaos Kourkoumelis*

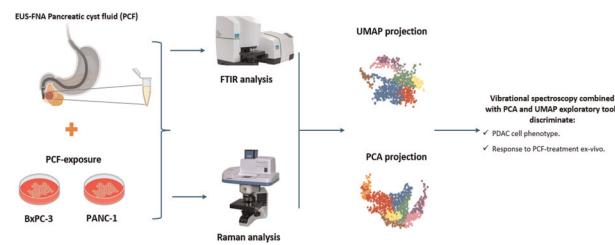


PAPERS

3123

Ex vivo spectroscopic characterisation of the biological activity of pancreatic cyst fluid

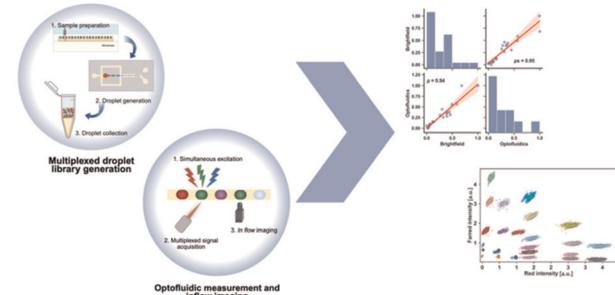
Outmane Bouzerda, Laura E. Kane, Gregory S. Mellotte, Barbara M. Ryan, Stephen G. Maher, Olivier Piot and Aidan D. Meade*



3137

Advancing droplet-based microbiological assays: optofluidic detection meets multiplexed droplet generation

Ashkan Samimi, Sundar Hengoju, Karin Martin and Miriam A. Rosenbaum*



3147

Utilising highly conductive TPU "sticks" for facile and low-cost electroanalysis

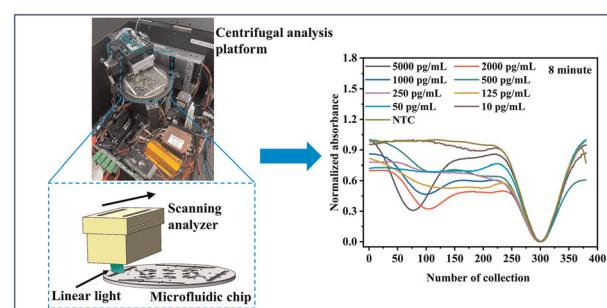
Ana C. M. Oliveira, Elena Bernalte, Robert D. Crapnell, Rodrigo A. A. Muñoz and Craig E. Banks*



3158

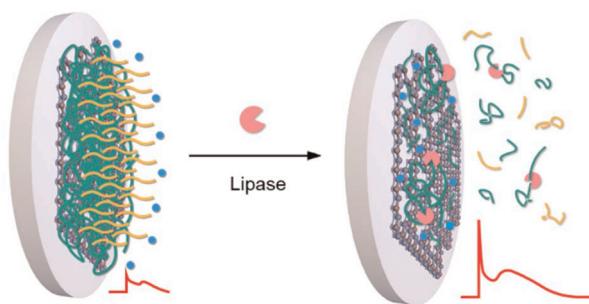
A centrifugal microfluidic chip with its companion device for automatic point-of-care nanzyme ELISA lateral flow immunoassay based on optoelectronic sensing

Ming Liu, Lei Wang, Jiaxi Zhou, Guijun Miao, Lulu Zhang, Lizeng Gao* and Xianbo Qiu*



PAPERS

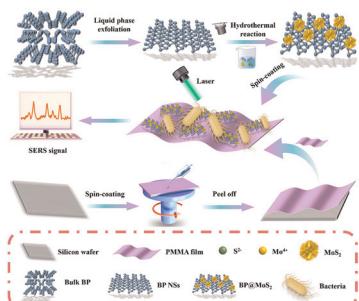
3170



Film-permeability-triggered afterglow electrochemiluminescence for lipase detection

Liyuan Peng, Yunwei Zheng, Hongsheng Hang, Yuting Zhong, Xiaomeng Zheng, Peng He, Jiahui Zhang and Lichan Chen*

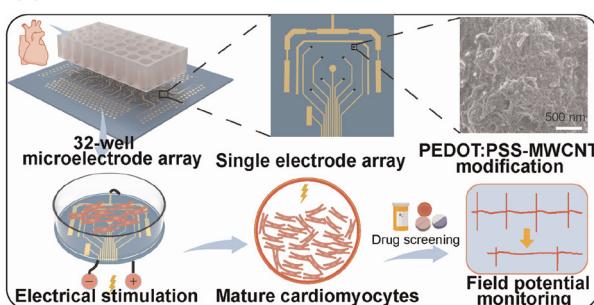
3177



Label-free SERS detection of foodborne pathogens based on a flexible PMMA-BP@MoS₂ binary substrate

Xiaohan Liu, Shijiao Fu, Jialong Zhao, Chenjie Gu, Danting Yang and Tao Jiang*

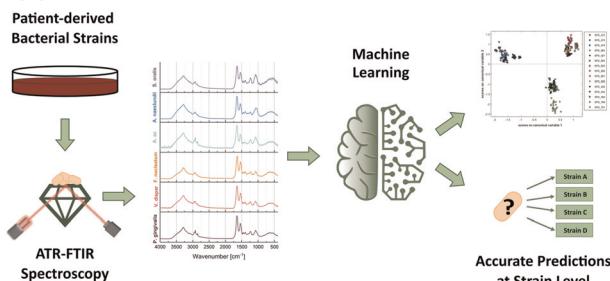
3188



A PEDOT:PSS-MWCNT-modified MEA platform with integrated electrical stimulation for enhanced maturation and drug screening of iPSC-cardiomyocytes

Zhixiang Liang, Huimin Li, Junlei Han, Jun Chen, Jiemeng Ding, Wenteng Tang, Minghui Wang, Qi Meng, Lei Zhang, Zetao Zhang and Li Wang*

3198



Differentiation and identification of commensal and pathogenic oral bacteria at strain level using ATR-FTIR spectroscopy

Katharina Anna Frings,* Rumjhun Mukherjee, Vivien Schulze, Nils Heine, Nicolas Debener, Janina Bahnemann, Szymon Piotr Szafrański, Meike Stiesch, Katharina Doll-Nikutta,* Maria Leilani Torres-Mapa* and Alexander Heisterkamp

PAPERS

3208

An indolizine-derived chemodosimeter with enhanced emission in a micellar environment for ppb-level detection of mercury ions

Amanda Ana Pinheiro, Ankit Thakuri, Soumik Saha, Mainak Banerjee* and Amrita Chatterjee*



3217

Rapid detection of capsaicinoids via a Bi₂S₃/rGO/MWCNT-COOH-modified screen-printed electrode coupled with glass bead-assisted ultrasonic extraction

Jie Jiang, Xuening Wang, Kai Yu,* Zhiping Sun, Qianyun Yu and Yang Chen

