

IN THIS ISSUE

ISSN 0003-2654 CODEN ANALAO 150(12) 2443-2714 (2025)



Cover

See R. Krishna,
S. Francese *et al.*,
pp. 2498–2513.

Image reproduced
by permission of
Rohith Krishna and
Simona Francese
from *Analyst*,
2025, **150**, 2498.

MINIREVIEWS

2453

Nanomaterial-modified electrochemical aptasensors for tetracycline detection: a review

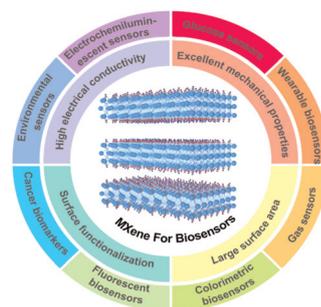
Jingjing Huo, Rui Guo, Juanjuan Yin, Yanran Liu,
Ying Zhang, Fangyi Ruan, Yonghong Shi* and Yang Li*



2469

Recent advances in biosensors based on the electrochemical properties of MXenes

Luming Pan, Dongtao Zhou and Yuzhen Wang*



Royal Society of Chemistry approved training courses

Explore your options.
Develop your skills.
Discover learning
that suits you.

**Courses in the classroom,
the lab, or online**

Find something for every
stage of your professional
development. Search our
database by:

- subject area
- location
- event type
- skill level

Members **get at least 10% off**

Visit rsc.li/cpd-training



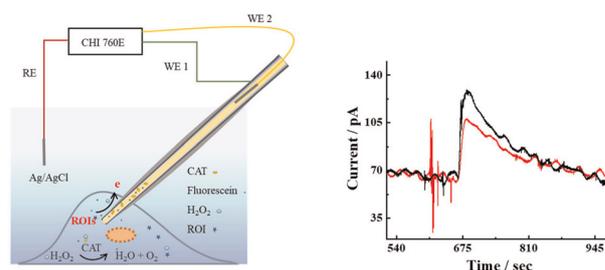
**SAVE
10%**

COMMUNICATIONS

2489

Catalase-assisted peroxide quenching for electrochemical measurement of reactive oxygen intermediates in single living cells

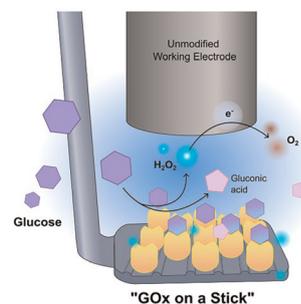
Qian Zhou, Xinhui Yang, Dechen Jiang* and Danjun Fang*



2493

Biocatalysis on plastic stick tips: unconventional electrochemical enzyme biosensing on adjacent bare working electrode disks

Hannadige Sasimali Madusanka Soysa, Kawin Loha, Wipa Suginta and Albert Schulte*

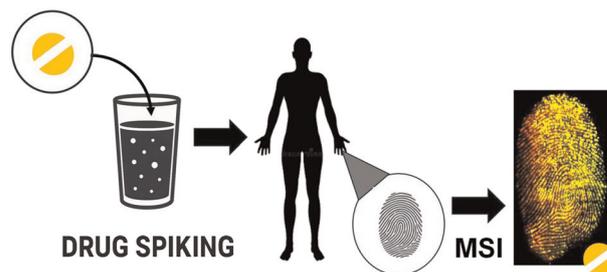


PAPERS

2498

A multi-modal mass spectrometry approach for the detection and mapping of date rape drugs in fingerprints

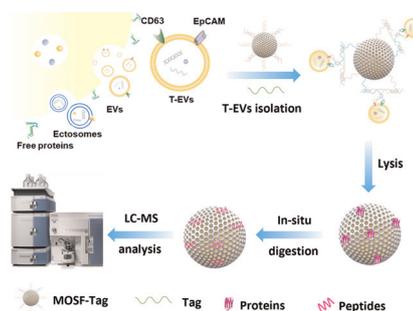
R. Krishna, K. Hamer, R. Bradshaw, S. Bleay, L. M. Cole, E. Claude, J. Langridge, J. Bucek and S. Francese*



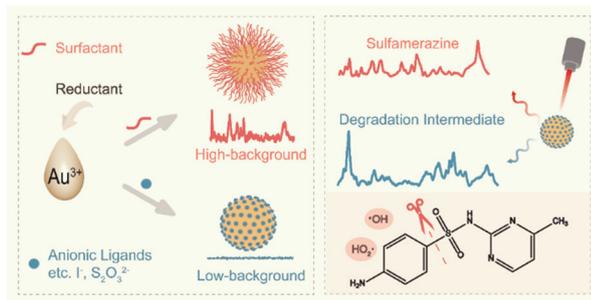
2514

An orthogonal barcoding enabled smart nanodevice for highly efficient isolation and proteomic profiling of tumor-derived extracellular vesicles

Yuqing Wang, Dongmei Liu, Ruoke Wang, Aipeng Chen and Xiaoni Fang*



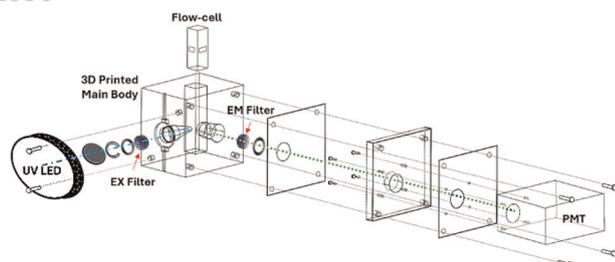
2524



One-pot preparation of anionic ligand-stabilized gold nanoparticles with low SERS background for detecting reaction intermediates under strong oxidative conditions

Wei Zhang, Ranran Yu, Jiadong Chen, Yanzhou Wu,* Yan Chen, Yifan Sui, Shuoyang Yan, Zhiyang Zhang* and Lingxin Chen

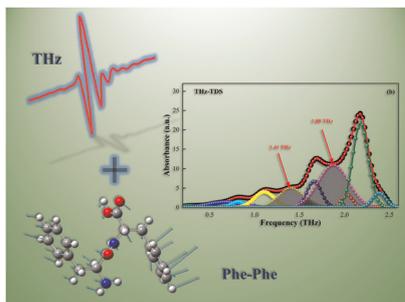
2536



A low-cost, high-sensitivity 3D printed fluorescence detector

Robyn A. Snow, Paul S. Simone, Jr. Gary L. Emmert and Michael A. Brown*

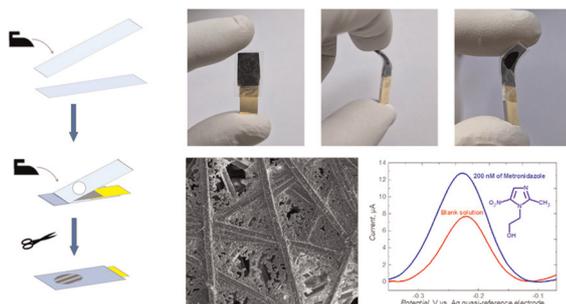
2545



Broadband terahertz signatures and vibrations of Phe-Phe peptide and its fibrils

Rajat Kumar, Federica Piccirilli,* Paola Di Pietro, Johannes Schmidt, Giovanni Birarda, Lisa Vaccari, Andrea Perucchi and Prasanta Kumar Datta*

2554



Flexible hand-made carbon electrode decorated with metronidazole imprinted polymer

Dominik Korol,* Kostiantyn Nikiforow, Paweł Borowicz, Piyush S. Sharma and Maciej Cieplak*

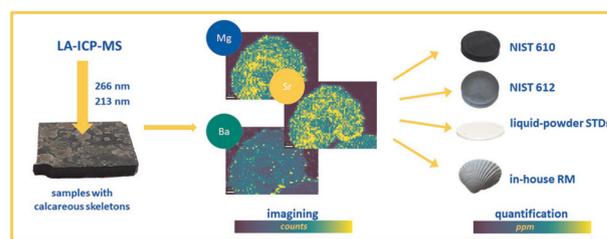


PAPERS

2564

Evaluating solid standards for LA-ICP-MS quantitative imaging of organisms with calcareous skeletons: accuracy, homogeneity, and laser wavelength effects

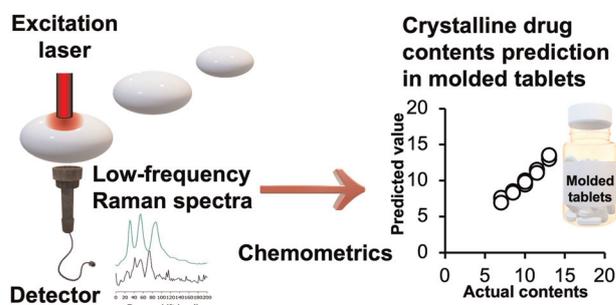
Ewelina Pollak-Kowa, Anna Telk* and Marcin Wieczorek



2574

Quantification of drug contents in molded tablets via transmission low-frequency Raman spectroscopy

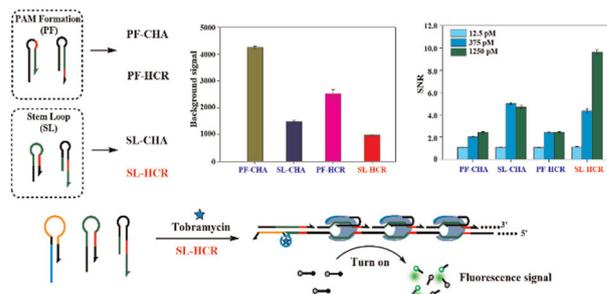
Motoki Inoue,* Tatsuya Akiyama and Toshiro Fukami



2580

Sensitive aptasensing of tobramycin through a rational design of catalytic hairpin assembly and hybridization chain reaction monomers for CRISPR/Cas12a activation

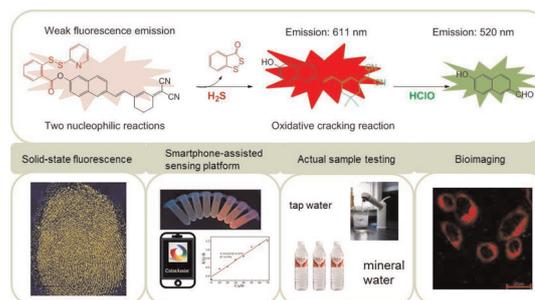
Bei Lv, Pengda Liang, Chenhao Chang and Dawei Li*



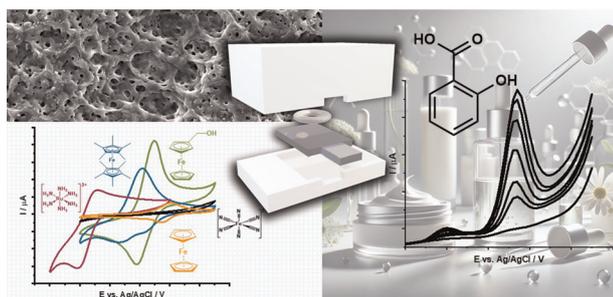
2591

Sequential detection of H₂S and HClO fluorescence probes and their applications in real sample detection, smartphone sensing development, and bioimaging

Zeqian Liu, Yinuo Yan, Hui Wang, Xiaodong Wang* and Bingchun Xue*



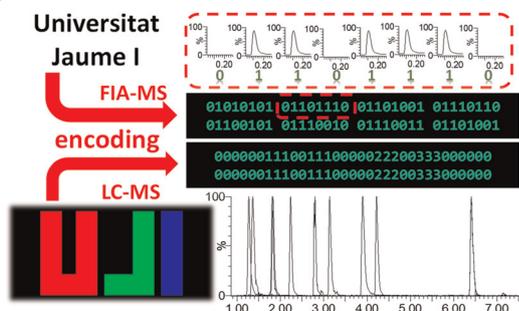
2600



Exploring the potential of 3D-printed solvent activated electrodes for salicylic acid analysis

Karolina Kwaczyński,* Olga Szymaniec,
Diana M. Bobrowska and Lukasz Poltorak*

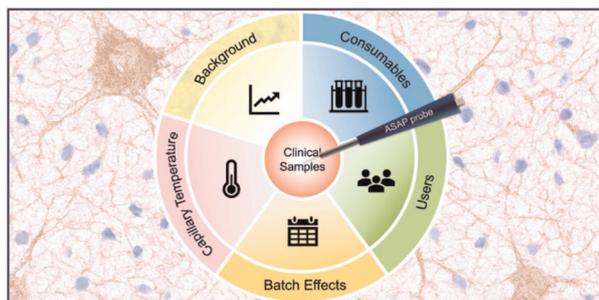
2612



Hyphenated mass spectrometry methods for enlarged capacity data storage systems based on chemical mixtures

Victor Flors, Raquel Cerveró, Christopher Tinajero,
Victor Sans and Cristian Vicent*

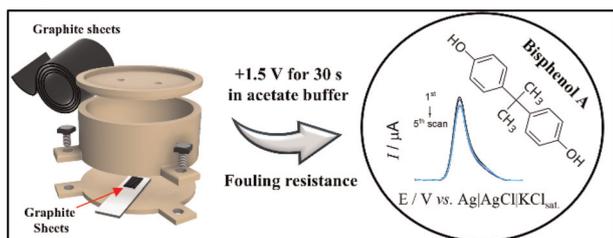
2620



Advancing atmospheric solids analysis probe mass spectrometry applications: a multifaceted approach to optimising clinical data set generation

Liwen Song, Jasmine G. Reese, Michael A. Platt,
Claire Lewis, Annabel S. J. Eardley-Brunt, Bo Sun,
Olaf Ansorge and Claire Vallance*

2632



Enhancing fouling resistance of graphite sheets for electrochemical sensing of bisphenol-A

Diele A. G. Araújo,* Lauro A. Pradela-Filho,
Mariana C. Marra, Thiago C. Oliveira,
Allyson L. Rodrigues, Luiz A. J. Silva, Anizio M. Faria,
Eduardo M. Richter, Rodrigo A. A. Munoz, Thiago
R. L. C. Paixão, Regina M. Takeuchi and André L. Santos

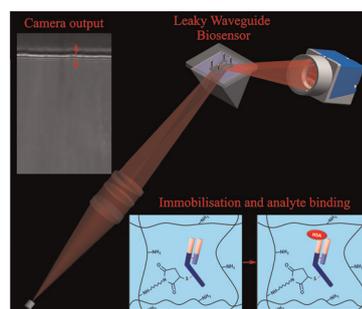


PAPERS

2643

Leaky waveguide biosensors for label-free measurement of human serum albumin

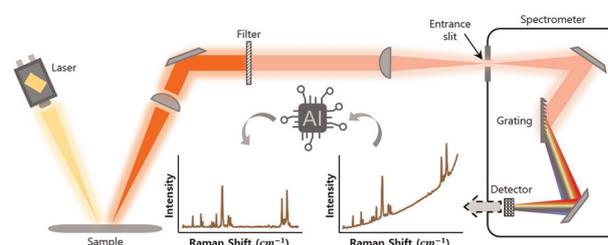
Anil Kumar Pal, Md Nazmul Hossain, Saverio Brogna, Nicholas J. Goddard and Ruchi Gupta*



2653

Baseline correction of Raman spectral data using triangular deep convolutional networks

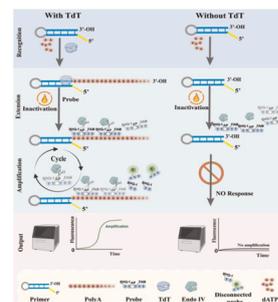
Tiejun Chen, YoungJae Son, Changqing Dong and Sung-June Baek*



2661

An Endo IV-driven signal amplifier for sensitive detection of cancer biomarker TdT

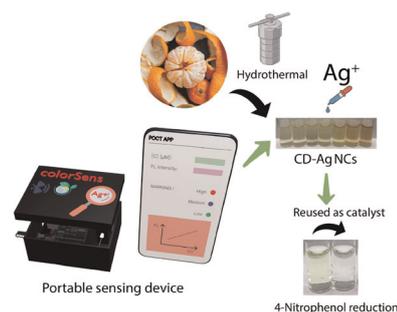
Min Lin, Ziyang Ye, Wei Dai, Jin Tu, Yutong Li, Jie Yu, Xianjin Xiao, Chun Li* and Longjie Li*



2671

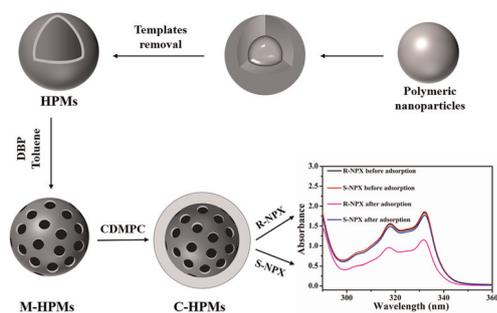
A smartphone-based portable device for Ag⁺ sensing using eco-synthesized carbon dots from mandarin peels

Nguyen Ngoc Nghia, Dang Thanh Cong Minh, Tran Dang Khoa and Nguyen Huu Hieu*



PAPERS

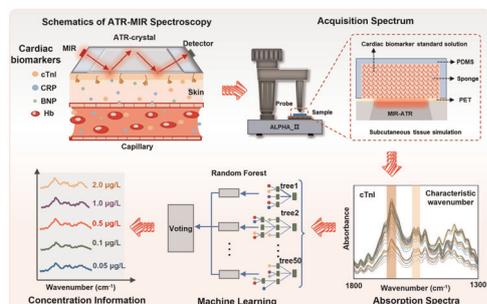
2683



Spectroscopic chiral discrimination of naproxen isomers with cellulose tris(3,5-dimethylphenyl-carbamate)-modified mesoporous hollow polymer microspheres

Nan Shi, Shuyu Li, Laidi Xu, Junyao Li, Wenrong Cai, Datong Wu and Yong Kong*

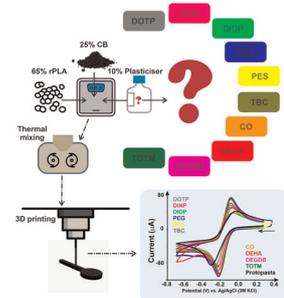
2689



Feasibility of non-invasive measurement of cardiac biomarkers using mid-infrared spectroscopy: finite element analysis and experimental validation

Qingchao Zhang, Yuxuan Xing, Kaizheng Wang, Qiushuo Wu, Yang Zheng, Jian Wu* and Xian Huang*

2702



The effects of different plasticisers on the electrochemical performance of bespoke conductive additive manufacturing filaments using recycled PLA

Robert D. Crapnell, Iana V. S. Arantes, Elena Bernalte, Evelyn Sigley, Graham C. Smith, Thiago R. L. C. Paixão and Craig E. Banks*

EXPRESSION OF CONCERN

2712

Expression of concern: Amplified plasmonic detection of DNA hybridization using doxorubicin-capped gold particles

Jolanda Spadavecchia,* Ramesh Perumal, Alexandre Barras, Joel Lyskawa, Patrice Woisel, William Laure, Claire-Marie Pradier, Rabah Boukherroub and Sabine Szunerits*

