

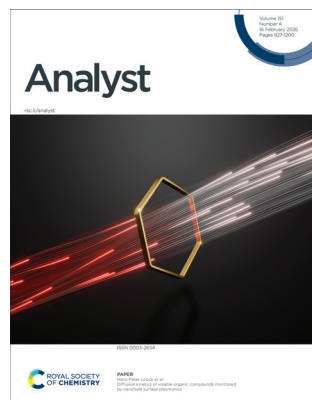
Analyst

rsc.li/analyst

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 151(4) 927–1200 (2026)



Cover

See Hans-Peter Loock *et al.*, pp. 1014–1022.

Image reproduced by permission of Philippe-Olivier Lapalme (artist), and Hans-Peter Loock *et al.* from *Analyst*, 2026, **151**, 1014.

EDITORIAL

937

Resolving the chemical space: a legacy of recording separation science and innovation in *Analyst*

Leon P. Barron,* Brett Paull* and Lihua Zhang*

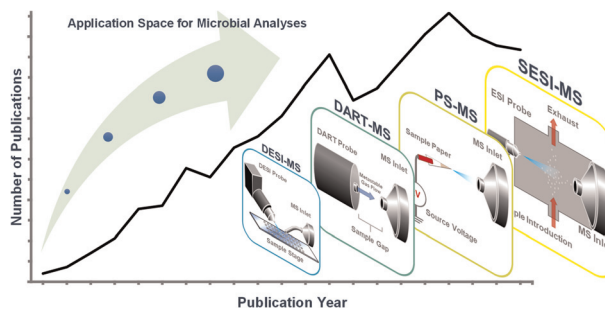


MINIREVIEWS

939

Ambient ionization strategies for the characterization of microbial systems *via* mass spectrometry

Hawkins S. Shepard, Jody C. May and John A. McLean*



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



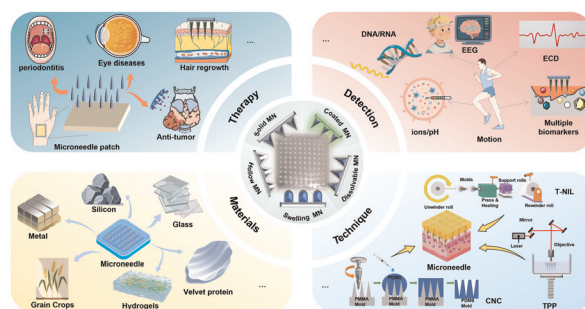
**SAVE
10%**

MINIREVIEWS

949

Design, preparation of microneedles and their applications in medical diagnosis and cosmetic regeneration

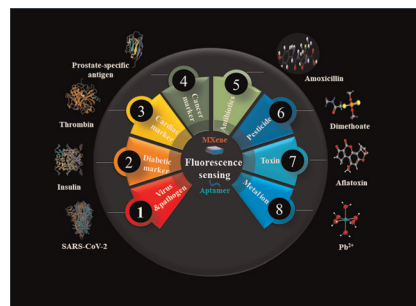
Shanqi Bao, Huanhuan Shi,* Weizheng Xu, Zidong Zhou, Shijie Qu, Xinyi Wang, Ziwen Cheng and Chen Huang



973

MXene-based fluorescent aptasensors: advances and prospects in diagnostics and environmental monitoring

Rajapriya Govindaraju and Jongsung Kim*

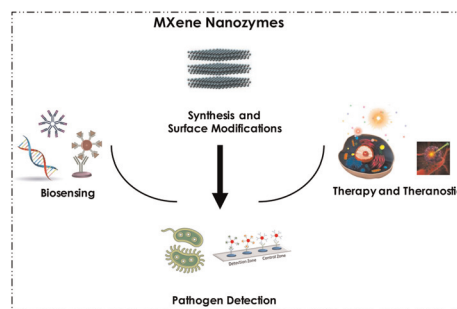


TUTORIAL REVIEW

991

Recent advances in MXene nanozymes: synthesis, surface modifications, catalytic properties, and their emerging roles in biosensing and therapeutic applications

Hatem A. Al-Aoh, Chellasamy Panneerselvam,* Asim. M. Alghamdi, Abdulrahman Alasmari and Zuhair M. Mohammedsleh

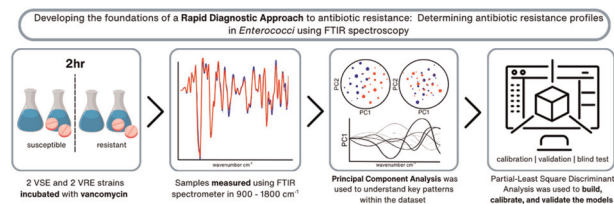


COMMUNICATION

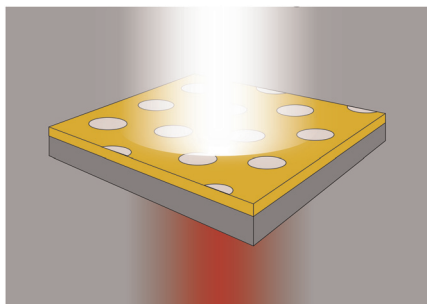
1008

Vibrational spectroscopy for rapid profiling of vancomycin susceptibility in *Enterococci*

Ava Rossetti, Xenia Kostoulas, Magdalena Giergiel, Jih-Hang Jiang, Anton Y. Peleg and Kamila Kochan*



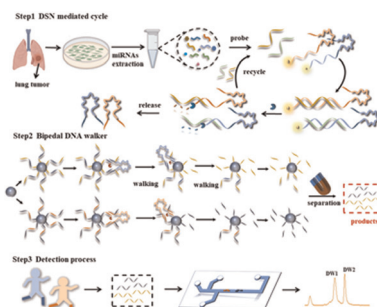
1014



Diffusion kinetics of volatile organic compounds monitored by nanohole surface plasmonics

Swapnil Daxini, Chris Prüfert, Paul Reid, Pedro Barros, Juan Gomez-Cruz, Carlos Escobedo, Jack A. Barnes and Hans-Peter Looock*

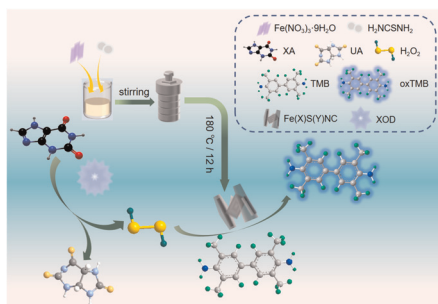
1023



Microchip electrophoretic sensing of multiplex microRNAs based on dual nucleic acid amplification

Qihui Xie, Shuang Tang, Jianan Lv, Xing Geng, Fan Zhang* and Qingjiang Wang*

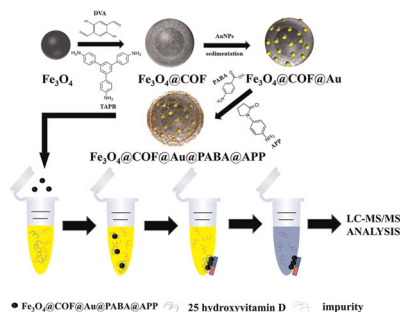
1033



FeS-loaded nitrogen-doped carbon nanozymes for sensitive colorimetric detection of xanthine in urine samples

Xueying Zhu, Shuo Tian, Shuyun Chen, Yunsen Wang and Dianping Tang*

1041



Pyrrolidone modified magnetic COF materials for the quantitative determination of 25-hydroxyvitamin D in human serum via isotope dilution mass spectrometry

Xiaojie Zhang, Jixing Huang, Yazhou Han, Wentao He, Chuan-fan Ding* and Yinghua Yan*

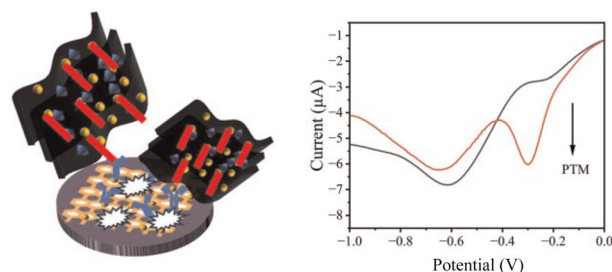


PAPERS

1049

An electrochemical immunosensor based on MXene–Au and Au–Ce-COF to detect methyl parathion

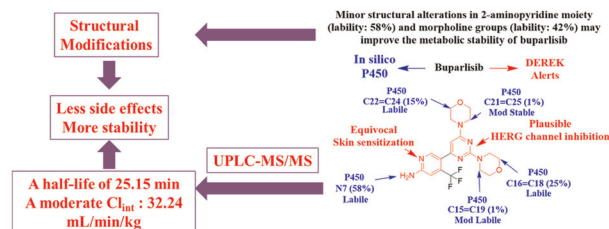
Peiyao Zhu, Deyu Liu, Yaqi Chen, Haiping Huang* and Fang Xu*



1058

Quantification of buparlisib in human liver microsomes employing an ultra-fast, sensitive UPLC-MS/MS method: *in vitro* and *in silico* metabolic stability evaluation

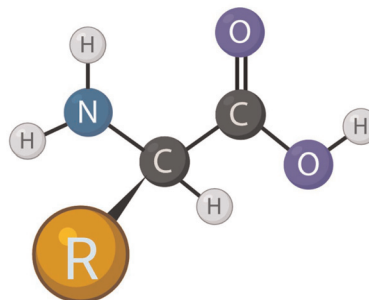
Mohamed W. Attwa,* Haitham AlRabiah, Ali S. Abdelhameed and Adnan A. Kadi



1071

AminoacidDB: a liquid chromatography-tandem mass spectrometry-based toolkit for the untargeted analysis of non-protein amino acids

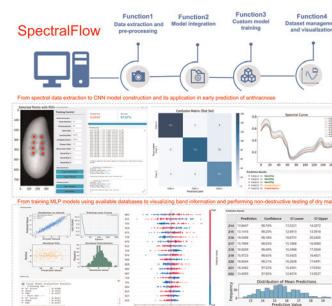
Pawanjit K. Sandhu, Ryland T. Giebelhaus, Ryan Hayward, Tingting Zhao, Alix Tucker, Daniel Gaudet, Tao Huan and Susan J. Murch*



1086

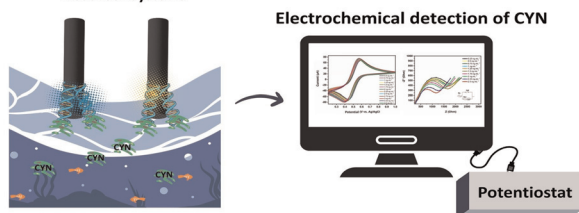
SpectralFlow: an integrated platform for spectral data preprocessing and predictive modeling analysis in fruit quality evaluation

Zhikai Chen, Guanzhi Lyu, Xiaochan Wang, Mengfei Yang, Xin Xu and Xiaolei Zhang*



1100

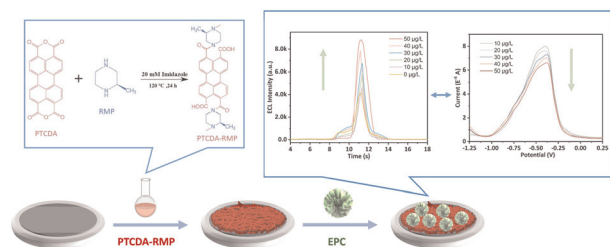
PGE/PEDOT/cynApt and PGE/PPy/cynApt Biosensor Systems



Conductive polymer-based electrochemical aptasensor for sensitive detection of cylindrospermopsin in water resources

Ece Kesici-Meco and Ece Unur-Yilmaz*

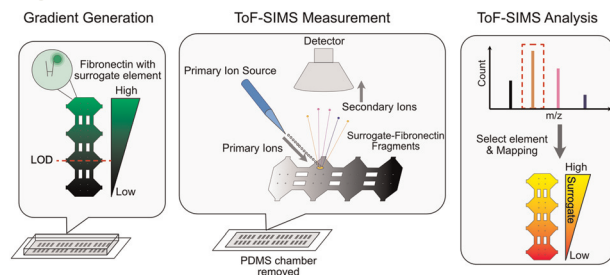
1113



Synchronous dual-mode sensing platform based on 1D chiral ionic COF for epoxiconazole detection

Yeqian Ruan, Xiaodong Zheng, Xuan Kuang* and Shusheng Li*

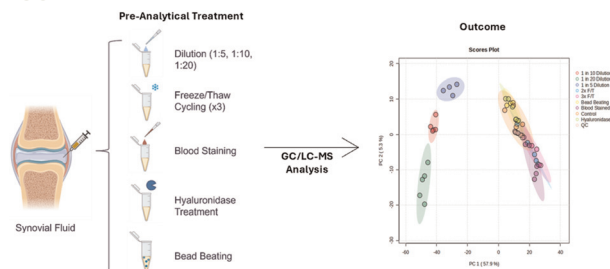
1118



Evaluation of ToF-SIMS imaging for semi-quantitative mapping of BODIPY-labeled fibronectin surface gradients

Chao Liu, Tae Kyong John Kim, Douglas H. Wu, Radhika Atit, Rodrigo A. Somoza and Samuel E. Senyo*

1130



Systematic evaluation of pre-analytical variables on synovial fluid metabolomic profiles using GC-ToF-MS and UHPLC-MS

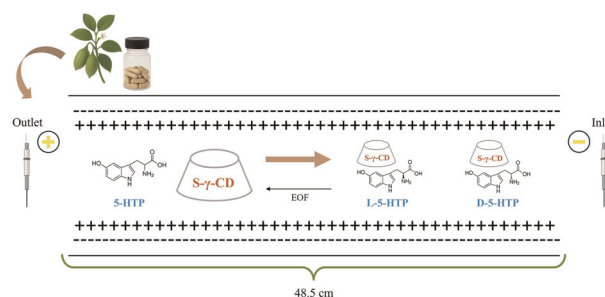
Yumna Ladha,* Adam Burke, Nigel Gotts, Royston Goodacre, Karina Wright, Jade Perry and Charlotte H Hulme



1145

Development of an electrokinetic chromatography method for the rapid enantiomeric determination of 5-hydroxytryptophan. Application to the analysis of dietary supplements

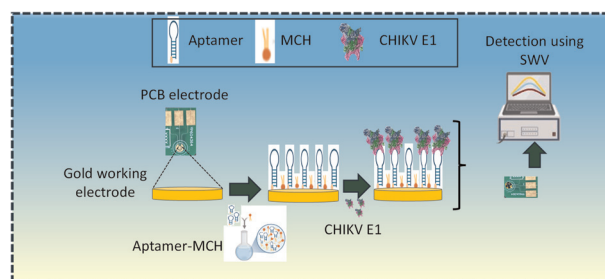
Sandra Adámez-Rodríguez, María Luisa Marina and María Castro-Puyana*



1153

Development of a PCB-based electrochemical aptasensor for Chikungunya virus protein detection

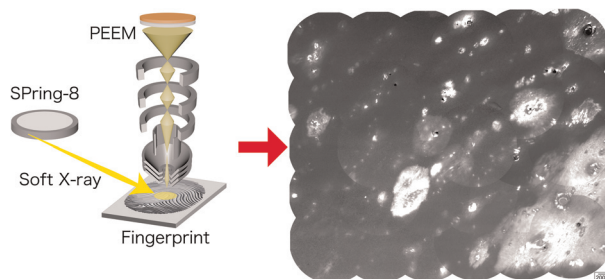
Syama Sajikumar, Naveenkumar Sureshkumar, V. V. R. Sai, Verma Jyoti, Sujatha Sunil* and Ramanathan Srinivasan*



1163

Visualization of heated latent fingerprints by synchrotron radiation soft X-ray photoemission electron microscopy

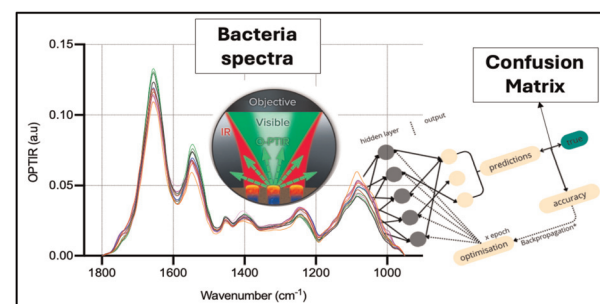
Satoru Hamamoto,* Masahisa Takatsu, Hiroyuki Fujiwara, Hideya Okada, Takuo Ohkochi, Shimpei Watanabe, Masaki Oura and Yasuo Seto*



1172

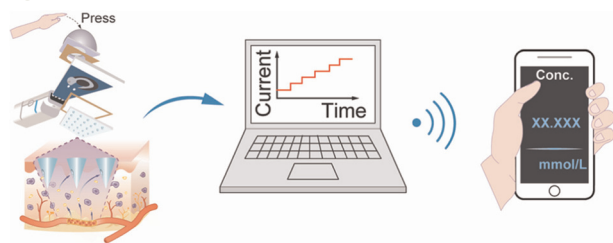
Optical photothermal infrared (OPTIR) spectroscopy assisted by machine learning for lactic acid bacteria identification at strain level

Paul Lagneaux,* Nathan Widjaja, Bastien Lagneaux, Thi Kim Chi Nguyen, H el ene Licandro, Pascale Winckler and Yves Wach e



PAPERS

1182

**3D-printed hollow microneedle-based electrochemical sensor for wireless glucose monitoring**

Chuchu Chen, Yonghao Fu, Yuehe Lin, Yun Liu, Dan Du* and Kaiyan Qiu*

CORRECTION

1195

Correction: Light-activated nanocomposite thin sheet for high throughput contactless biomolecular delivery into hard-to-transfect cells

Hima Harshan Padma, Donia Dominic, Kavitha Illath, Srabani Kar and Tuhin Subhra Santra*

