

IN THIS ISSUE

ISSN 0003-2654 CODEN ANALAO 150(18) 3983–4222 (2025)



Cover

See Sandhya K. Y. *et al.*,
pp. 4031–4040.

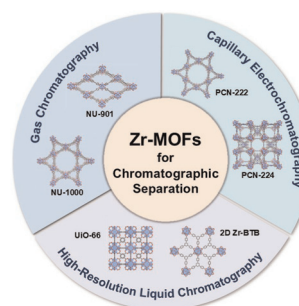
Image reproduced
by permission of
Saisree S., Dhrishya V.,
Gaurav Meena, Arya S. Nair,
and Sandhya K. Y.
from *Analyst*,
2025, **150**, 4031.

MINIREVIEWS

3992

Zirconium-carboxylate metal–organic frameworks as stationary phases for chromatographic separation

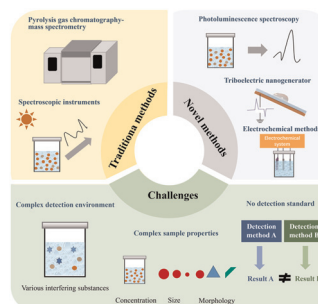
Hai-Yue Wei, Sha-Sha Meng, Jian Zhang, Mo-Han Gu,
Ming Xu* and Zhi-Yuan Gu*



4008

Portable detection methods for marine micro–nano-plastics

Gang Chen, Jiahao Dong, Min Dai, Xiaobo Xiong,
Juan Mei* and Jing Pan*



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



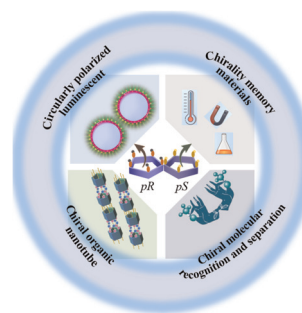
**SAVE
10%**

CRITICAL REVIEW

4020

Recent preparation and applications of chiral pillar[5]arene-based functional materials

Taotao Lu,* Hui Li,* Liang Zhao, Chenghua Lai, Daijiga Luo and Yanxing Qi*

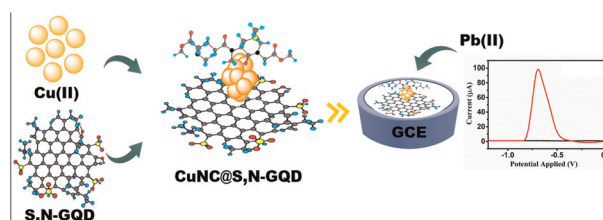


PAPERS

4031

Unraveling the stability and specific electrochemical sensing of lead ions using copper nanoclusters on sulfur and nitrogen-doped graphene quantum dots

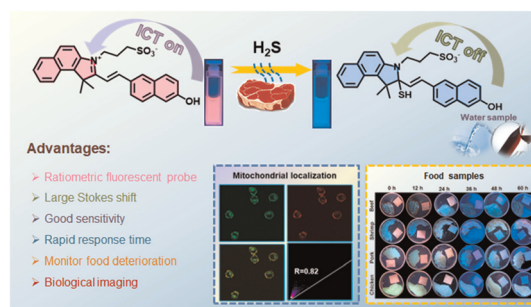
Saisree S., Dhrishya V., Gaurav Meena, Arya S. Nair and Sandhya K. Y.*



4041

A mitochondria-targeted fluorescent probe for ratiometric detection of H₂S and its application in monitoring food freshness and bioimaging

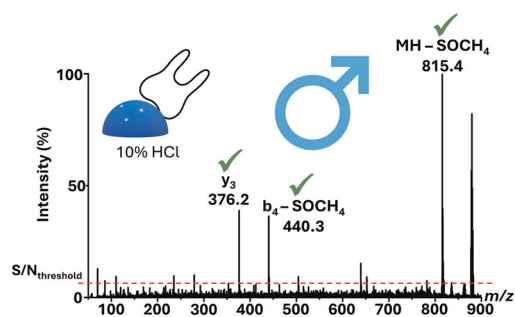
Xiaoyu Zhang, Na Tang, Kangshuo Xu, Ruian Sun, Xue Li* and Haichang Ding*



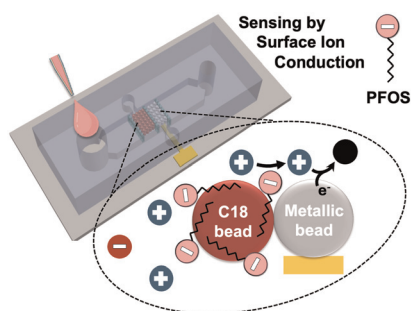
4051

Rapid and accurate biological sex estimation by LAP-MALDI MS analysis of child teeth

Lily R. Adair, Mary E. Lewis and Rainer Cramer*



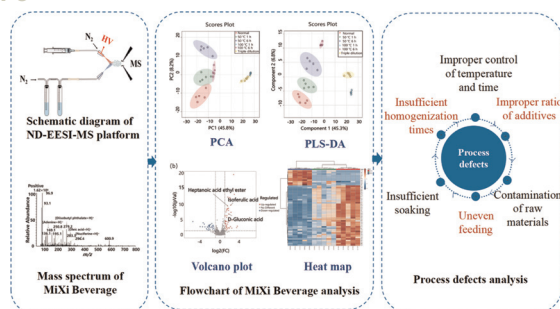
4059



Extension of microscale surface ion conduction (μ SIC) to the sensing of charged small molecules: application to per- and poly-fluoroalkyl substances (PFASs)

Md Ruhul Amin, Beatrise Berzina, Umesha Peramune and Robbyn K. Anand*

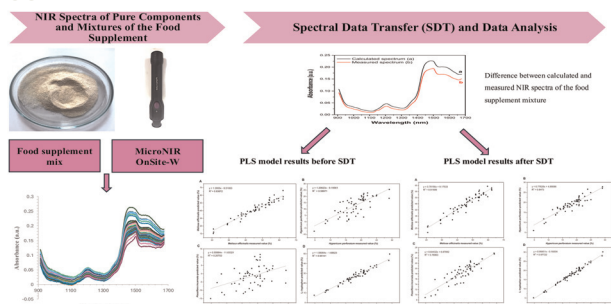
4070



Production process defects of MiXi beverage detected by neutral desorption extractive electrospray ionization mass spectrometry

Lingling Pan, Manman Qin, Leting Wang, Lu Huang, Huiyu Xing, Ning Wang, Tongtong Yang, Liyun Hu, Rui Su* and Huanwen Chen

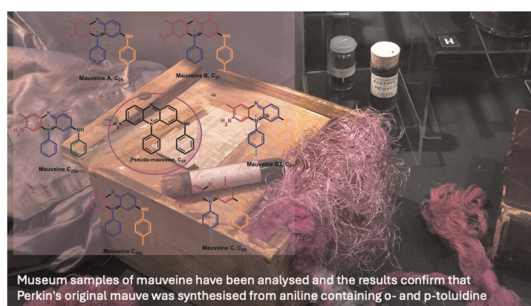
4081



A novel approach for rapid quantification of food supplement components using NIR spectroscopy and spectral data transfer

Kubra Guven, Elif Çalık Kayış, Ilkay Erdogan Orhan, Mustafa Aslan, Ismail Hakki Boyaci* and Uğur Tamer*

4094



Chemical archaeology with historical museum samples of mauveine

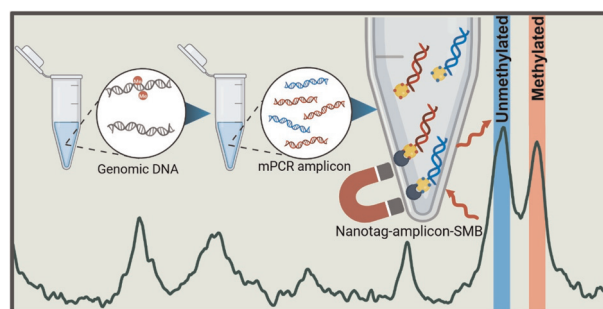
Catarina M. Pinto, M. Conceição Oliveira and J. Sérgio Seixas de Melo*



4102

mPCR/SERS assay for hMLH1 promoter methylation identification

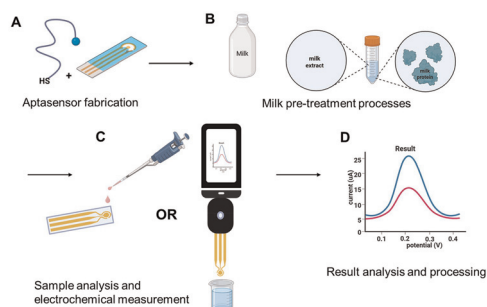
Kazi Morshed Alom, Nana Lyu, Anastasiia Tukova, Alison Rodger* and Yuling Wang*



4111

An electrochemical aptamer-based sensor for detection of aminoglycosides in milk: addressing practical challenges

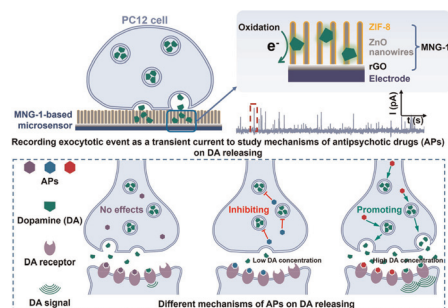
Emeka J. Itumoh,* Yasmin Liu, Erica Cassie, Craig Billington and Onyekachi Raymond*



4122

Revealing the different effects induced by antipsychotic drugs using an electrochemical microsensor to measure exocytosis in living cells

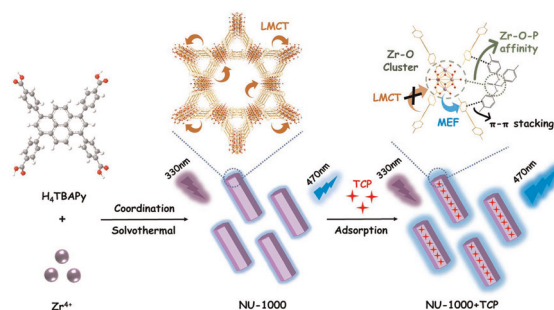
Wenxue Chen, Xuefeng Wang,* Yuan Zhang, Zihui Li, Haoliang Li, Qiongya Wan, Xinxin Li, Dan Zheng* and Pengcheng Xu



4131

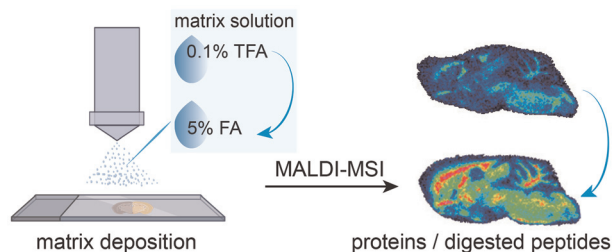
Competitive coordination-triggered fluorescence turn-on in NU-1000 for selective tricresyl phosphate detection

Xue Zou, Jie Hu, Lei Huang, Yuanjun Tong, Yang He, Dongmei Wang, Xinying Gong* and Zhengjun Gong



PAPERS

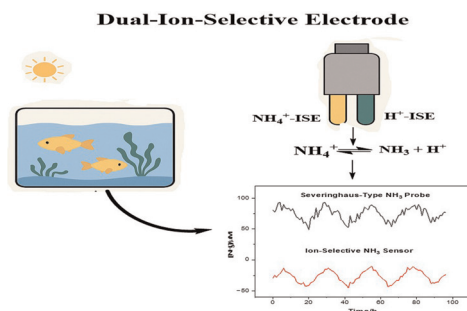
4138



Enhancing MALDI-MSI spatial proteomics analysis through matrix solution acidification

Gaofeng Ji, Li Yi, Kunyue Deng, Peiqi Luo* and Lingpeng Zhan*

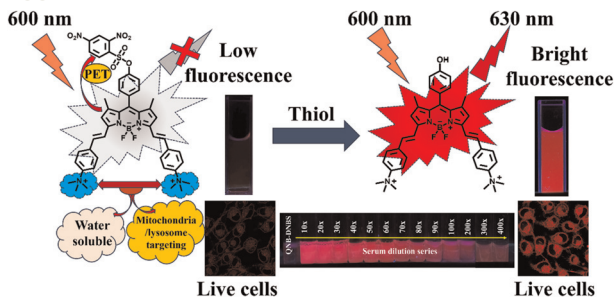
4145



A dual-ion-selective electrode system for real-time monitoring of dissolved ammonia

Ayman H. Kamel* and Hisham S. M. Abd-Rabboh

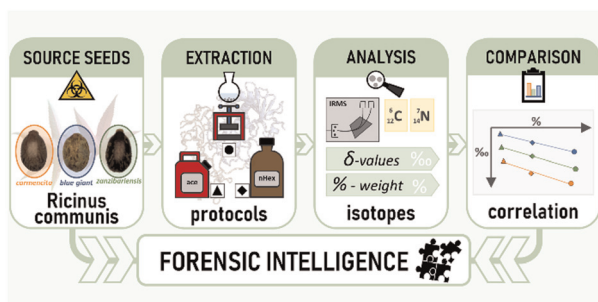
4155



A bright, water-soluble far-red fluorescent probe for detecting thiols in both mitochondria and lysosomes in living cells

Arindam Mondal, Niharika Pareek, Abdul Raheman Khan, Suban K. Sahoo, Animesh Samanta* and Subrata Dutta*

4169



Application of carbon and nitrogen stable isotope and elemental composition data for *Ricinus communis* sample comparison and correlation

Lisa Scharrenbroch, Nicole Scheid, Thomas Holdermann, Thomas Schäfer, Björn Ahrens, Sylvia Worbs, Brigitte G. Dörner and Frederik Lermyte*



PAPERS

4181

Dynamic changes in water-soluble vitamin components in the leaf extracts of sea buckthorn (*Hippophae rhamnoides* L.) via solid-phase extraction-ultra performance liquid chromatography and two-dimensional correlation analysis

Hyon-Hui Ri, Myong-Il An, Kwang-Ho Kim, Song-Hui Kim and Kyong-Sik Ju*

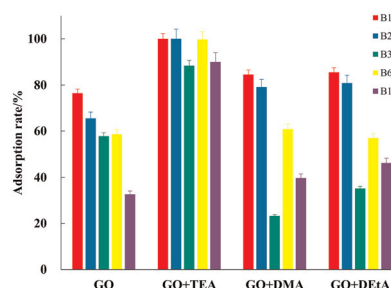
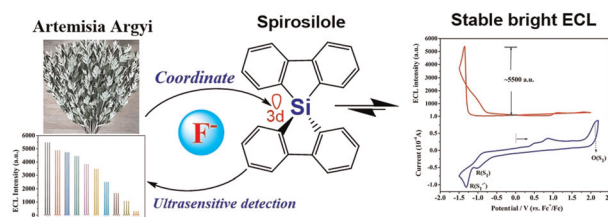


Fig. 1

4194

Highly efficient detection of fluoride in *Artemisia argyi* using silole-based electrochemiluminescence analysis

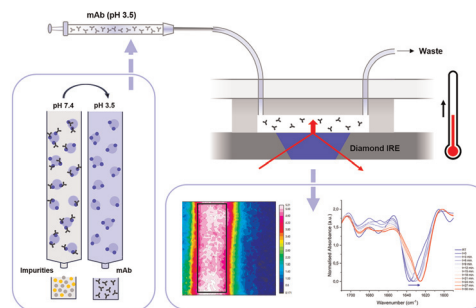
Yanju Zhang,* Jianguyun Song and Zhengang Han*



4201

Assessment of IgG stability in a low pH elution buffer using ATR-FTIR spectroscopic imaging and microfluidics

Céline van Haaren, Bernadette Byrne* and Sergei G. Kazarian*



4211

Cost-effective distance-based paper microfluidic sensor for hemoglobin quantification in human serum samples for rapid diagnosis and follow-up of blood disorders

Kawin Khachornsakkul,* Natkrittaya Saengsawang, Elliot Friesen and Sameer Sonkusale*

