

# Analytical Methods

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## IN THIS ISSUE

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**Cover**  
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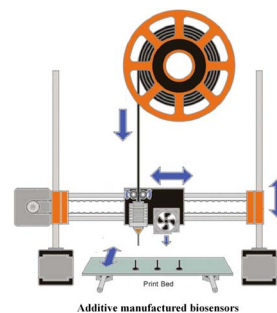
**Inside cover**  
See Nilanjan Dey *et al.*, pp. 2643–2653. Image reproduced by permission of Nilanjan Dey from *Anal. Methods*, 2024, 16, 2643.

## MINIREVIEW

2625

### Electroanalysis overview: additive manufactured biosensors using fused filament fabrication

Robert D. Crapnell and Craig E. Banks\*



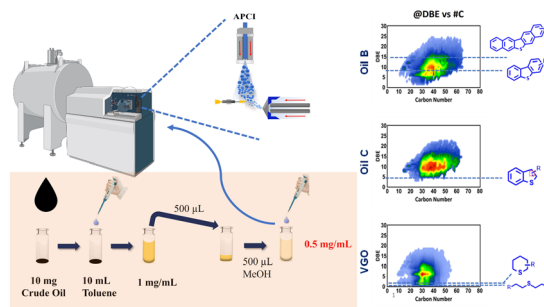
Additive manufactured biosensors

## PAPERS

2635

### Direct sulfur-containing compound speciation in crude oils and high-boiling fractions by APCI (+) FT-ICR mass spectrometry

Danielle Mitze Muller Franco, Taynara Rodrigues Covas, Rosana Cardoso Lopes Pereira, Lidya Cardozo da Silva, Mario Duncan Rangel, Rosineide Costa Simas, Gabriel Henry Morais Dufraayer and Boniek Gontijo Vaz\*



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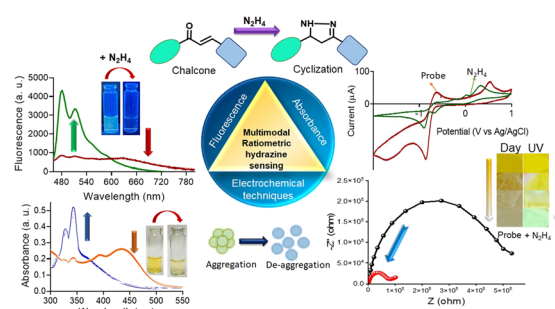
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Fundamental questions  
Elemental answers

2643

## Converging optical and electrochemical detection strategies for multimodal hydrazine sensing: insights into substituent-driven diverse response

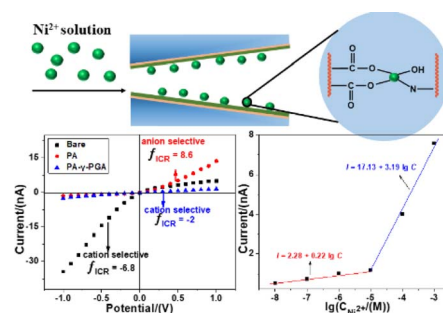
Rikitha S. Fernandes, Sahil Deepak Vasistha, Ritesh Kumar Singh, Sanket Goel and Nilanjan Dey\*



2654

## Layer-by-layer assembly of homopolypeptide polyelectrolytes on asymmetric nanochannels for the detection of nickel ions

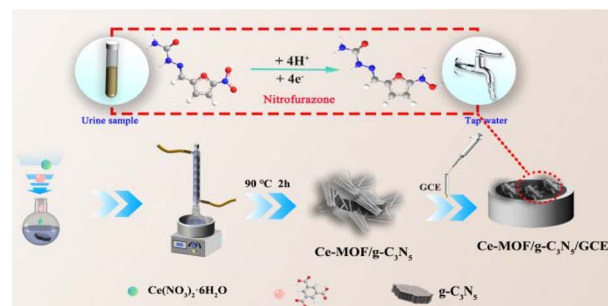
Pengrong An, Jincan Yang, Tianming Wang, Saiwen Lu, Dehao Wang, Zhuoyue Wang, Chun-Lin Sun,\* Chuanguang Qin\* and Jun Li\*



2661

## An efficient electrochemical sensor based on the Ce-MOF/g-C<sub>3</sub>N<sub>5</sub> composite for the detection of nitrofurazone

Jianxia Gu,\* Yiqiong Jia, Zhanbin Jin, Tingting Wei and Yongxia Li



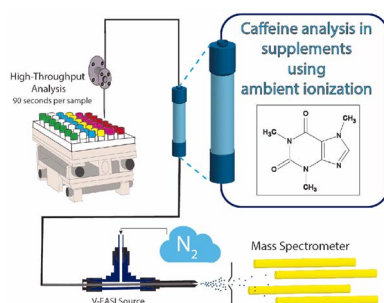
2669

## Field method for preservation of total mercury in waters, including those associated with artisanal scale gold mining

David C. P. King, Michael J. Watts, Elliott M. Hamilton,\* Robert J. G. Mortimer, Mike Coffey, Odipo Osano, Maureene Auma Ondayo and Marcello Di Bonito



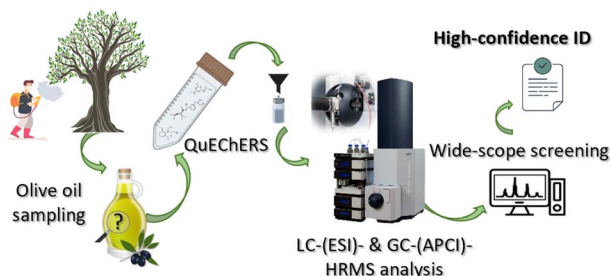
2678



### Caffeine quantification in dietary supplements using high-throughput on-line solid phase extraction coupled to Venturi easy ambient sonic-spray ionization mass spectrometry

David Ulisses Tega, Luan Felipe Campos Oliveira, Patrick Cesar Ferreira, Bruna Beatriz Soldera, Heliara Dalva Lopes Nascimento, Marcos Nogueira Eberlin and Alessandra Sussulini\*

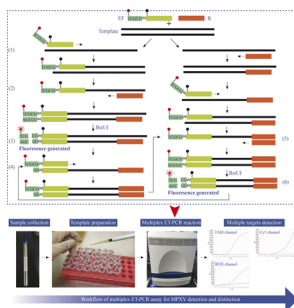
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### A comprehensive HRMS methodology using LC-(ESI)-/GC-(APCI)-QTOF MS complementary platforms for wide-scope target screening of >750 pesticides in olive oil

Sofia K. Drakopoulou, Stefanos E. Kokolakis, Apostolos L. Karagiannidis, Marilena E. Dasenaki, Niki C. Maragou and Nikolaos S. Thomaidis\*

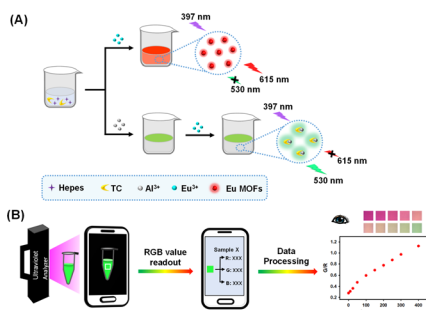
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### Rapid detection of monkeypox virus and differentiation of West African and Congo Basin strains using endonuclease restriction-mediated real-time PCR-based testing

Juan Zhou, Fei Xiao, Xiaolan Huang, Jin Fu, Nan Jia, Chunrong Sun, Min Chen, Zheng Xu, Hui Huang\* and Yi Wang\*

2702



### A novel ratiometric sensor for fluorimetric and visual dual-mode detection of Al<sup>3+</sup> in environmental water based on the target-regulated formation of Eu MOFs

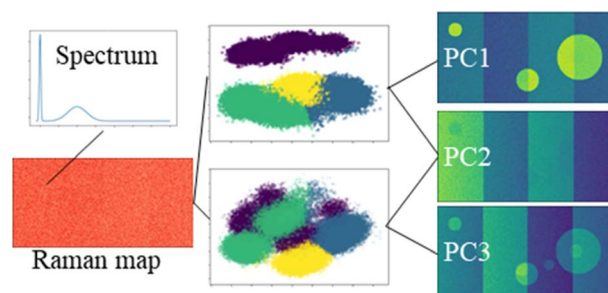
Tao-Li Chen, Xiang-Juan Kong,\* Xin-Xin Dong, Zhi-Jie Mao, Fang-Fang Kong and Qiang Xiao\*



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### Statistical approaches to Raman imaging: principal component score mapping

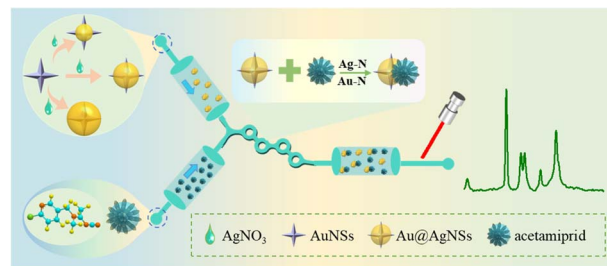
Elia Marin,<sup>\*</sup> Davide Redolfi Bristol, Alfredo Rondinella, Alex Lanzutti and Pietro Riello



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### Ag-coated tetrapod gold nanostars (Au@AgNSs) for acetamiprid determination in tea using SERS combined with microfluidics

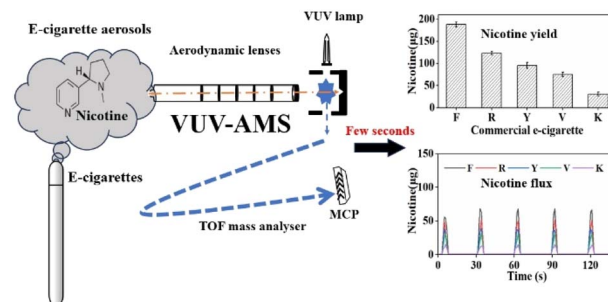
Qian Ke, Limei Yin, Heera Jayan, Hesham R. El-Seedi, Xiaobo Zou and Zhiming Guo<sup>\*</sup>



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### Online quantification of nicotine in e-cigarette aerosols by vacuum ultraviolet photoionization mass spectrometry

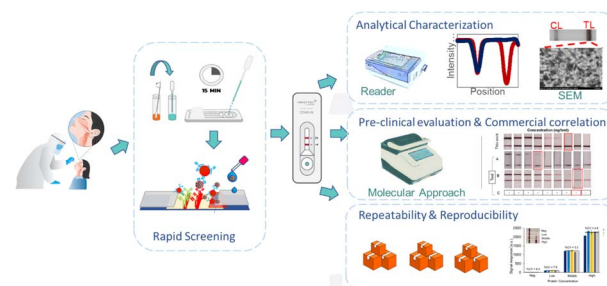
Shaoxin Ye, Zuoying Wen,<sup>\*</sup> Kai Xie, Xuejun Gu, Jian Wang,<sup>\*</sup> Xiaofeng Tang<sup>\*</sup> and Weijun Zhang



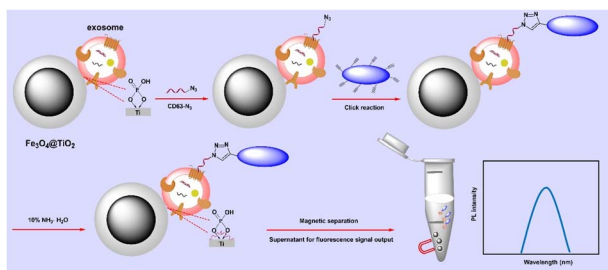
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### Characterizing a visual lateral flow device for rapid SARS-CoV-2 virus protein detection: pre-clinical and system assessment

Natpapas Wiriyaichaiorn,<sup>\*</sup> Jetnapang Kongrueng, Kannika Sukkuea, Rattana Tanrattanawong, Jarunee Vanichtanankul, Thanaya Saeyang, Tararat Jantra, Deanpen Japrungrung, Weerakanya Maneepprakorn, Suwussa Bamrungsap, Pareena Janchompoo and Ekawat Pasomsusb



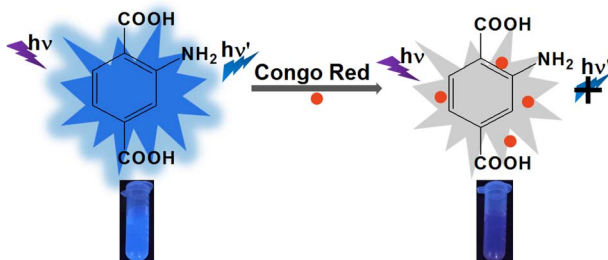
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### A highly sensitive and selective fluorescent biosensor for breast cancer derived exosomes using click reaction of azide-CD63 aptamer and alkyne-polymer dots

Dumei Ma, Yiting Luo, Xiaoya Zhang, Zehu Xie, Yinghua Yan\* and Chuan-Fan Ding\*

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### Simple fluorescence "turn-off" assay for Congo red using commercial 2-aminophthalic acid

Jiaqi Qian, Jie Li, Yihan Jiang, Chaoyong Liu, Jiayao Zhu, Liyu Gu and Yongming Guo\*

