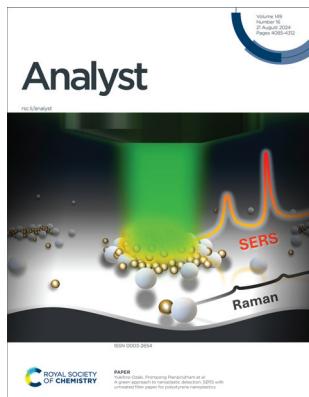


## IN THIS ISSUE

ISSN 0003-2654 CODEN ANALAO 149(16) 4085–4312 (2024)



### Cover

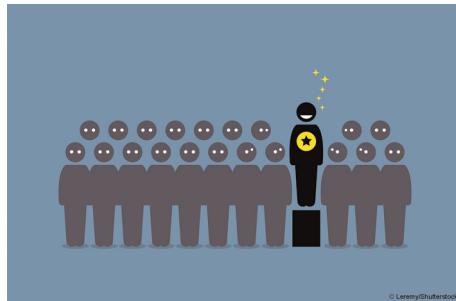
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Prompong Pienpinijtham  
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## EDITORIAL

4094

Outstanding Reviewers for *Analyst* in 2023

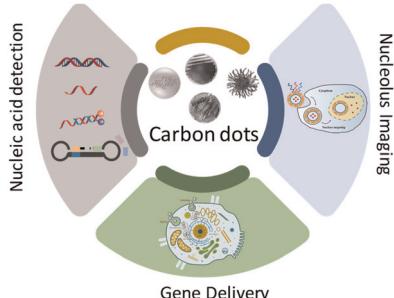


## CRITICAL REVIEWS

4095

Comprehensive review on fluorescent carbon dots  
and their applications in nucleic acid detection,  
nucleolus targeted imaging and gene delivery

Arumugam Selva Sharma and Nae Yoon Lee\*





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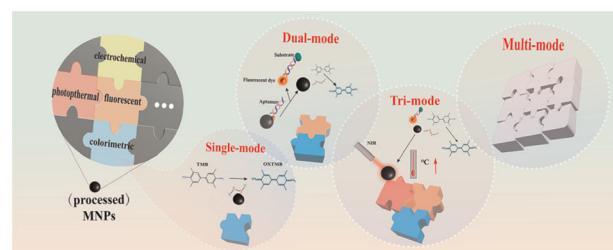


## CRITICAL REVIEWS

4116

**Multimodal biosensing systems based on metal nanoparticles**

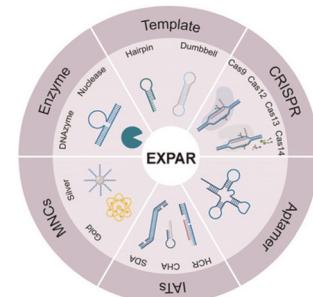
Liang Yan, Peijia Zheng, Zhicheng Wang, Wenjie Wang, Xiaoman Chen and Qi Liu\*



4135

**EXPAR for biosensing: recent developments and applications**

Xinyi Ou, Kunxiang Li, Miao Liu, Jiajun Song, Zhihua Zuo\* and Yongcan Guo\*

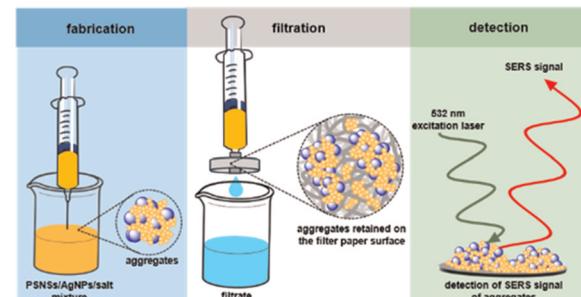


## PAPERS

4158

**A green approach to nanoplastic detection: SERS with untreated filter paper for polystyrene nanoplastics**

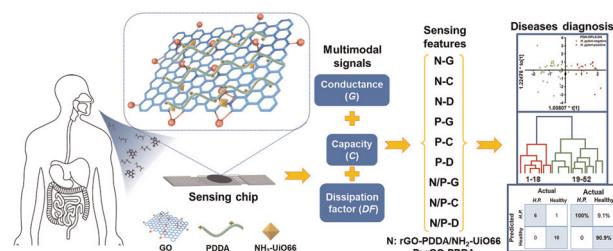
Boonphop Chaisrikhwun, Mary Jane Dacillo Balani, Sanong Ekgasit, Yunfei Xie, Yukihiko Ozaki\* and Prompong Pienpinijtham\*



4168

**High-precision *Helicobacter pylori* infection diagnosis using a dual-element multimodal gas sensor array**

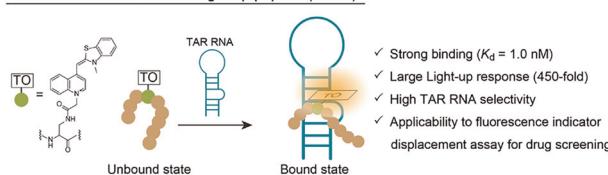
Jiaying Wu, Shiyuan Xu, Xuemei Liu, Jingwen Zhao, Zhengfu He, Aiwu Pan\* and Jianmin Wu\*



## PAPERS

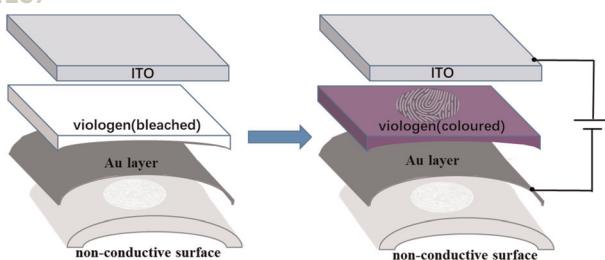
4179

Forced intercalation-induced light-up peptide (FiLuP)

**Forced intercalation-induced light-up peptides as fluorogenic indicators for the HIV-1 TAR RNA-ligand assay**

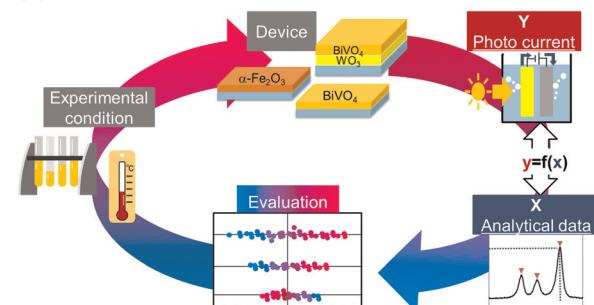
En Ting Tabitha Lee, Yusuke Sato,\* Akunna F. Ujuagu and Seiichi Nishizawa\*

4187

**Electrochromic visualization of latent fingermarks deposited on nonconductive surfaces**

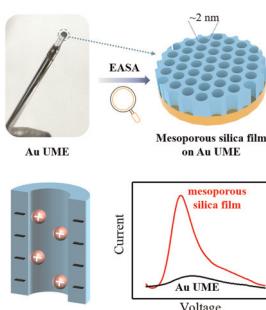
Yawen Kong, Xiuge Shi, Meng Wang, Weiyi Chen, Lu Li,\* Lan Zhang and Debao Xiao\*

4193

**A robust methodology for PEC performance analysis of photoanodes using machine learning and analytical data**

Moeko Tajima, Yuya Nagai, Siyan Chen, Zhenhua Pan and Kenji Katayama\*

4208

**Ultrasensitive detection of dopamine using Au microelectrodes integrated with mesoporous silica thin films**

Juan Huang, Huaxu Zhou, Yanqi Zou, Huiqing Liu\* and Qianjin Chen\*

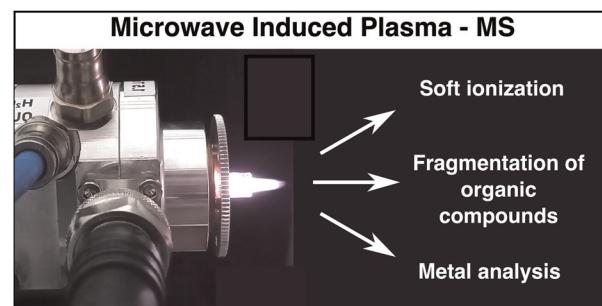


## PAPERS

4213

**Study of a microwave induced plasma as a universal ion source for inorganic and organic mass spectrometry**

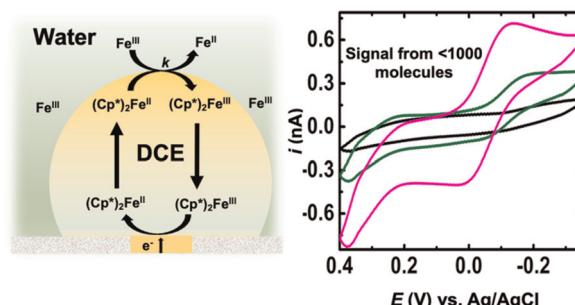
Marc-Aurèle Boillat and Peter C. Hauser\*



4222

**Amplifying the electrochemical footprint of <1000 molecules in a dissolving microdroplet**

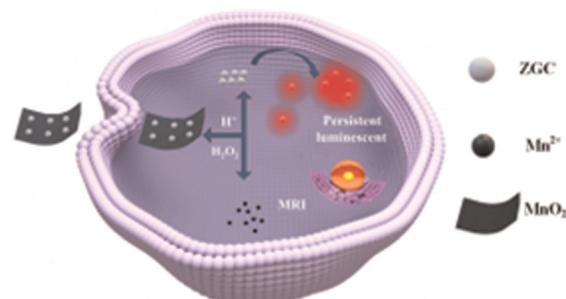
James H. Nguyen, Ashutosh Rana and Jeffrey E. Dick\*



4230

**Lighting up endogenous  $H_2O_2$  in the tumor microenvironment using a dual-mode nanoprobe for long afterglow and MR bioimaging**

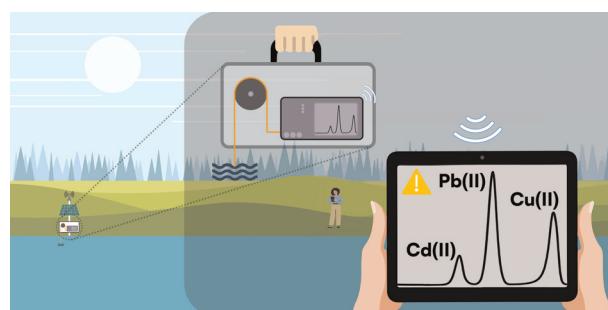
Yiming Wang, Jintao He, Rong Feng, Jingwen Chen, Gege Xie, Shengrong Yu,\* Yong-Xiang Wu\* and Keqi Tang\*



4239

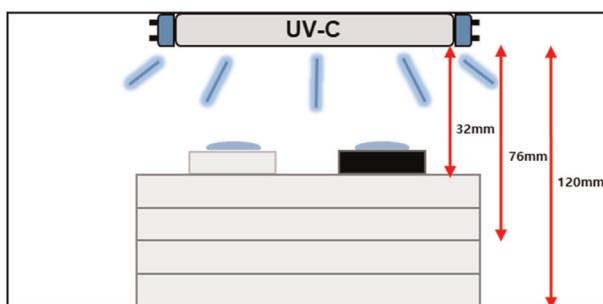
**Development of a flow system for decentralized electrochemical analysis of heavy metals using screen-printed electrodes: the importance of sensor stability**

Serena Laschi, Patrick Severin Sfragano, Francesco Tadini-Buoninsegni, Nathalie Guigues and Ilaria Palchetti\*



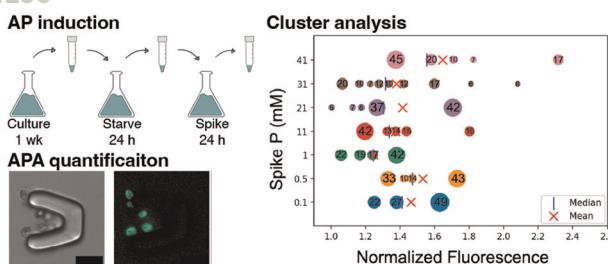
## PAPERS

4250

**Sterilization efficacy of a homemade UV lamp system on ceramic and porcelain tiles**

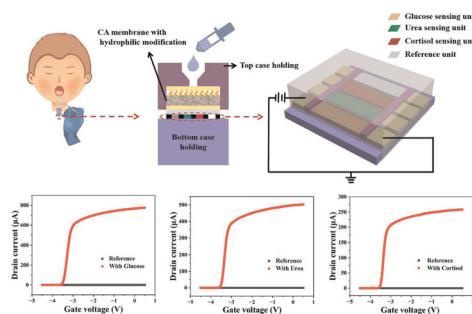
Dokyung Kwon, Yongju Jo, Youngku Sohn and Jeongkwan Kim\*

4256

**A microfluidic approach to study variations in *Chlamydomonas reinhardtii* alkaline phosphatase activity in response to phosphate availability**

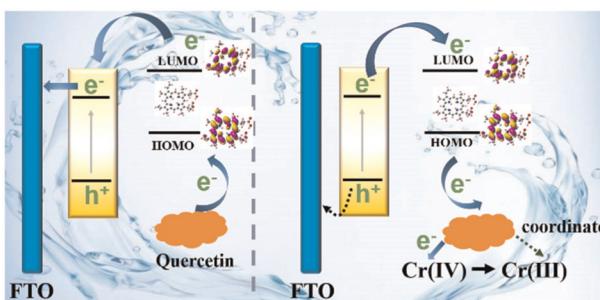
Alireza Rahnama, Manibarathi Vaithyanathan, Luis Briceno-Mena, Travis M. Dugas, Kelly L. Yates, Jose A. Romagnoli and Adam T. Melvin\*

4267

**An integrated electronic tag-based vertical flow assay (e-VFA) with micro-sieve and AlGaN/GaN HEMT sensors for multi-target detection in actual saliva**

Zhiqi Gu,\* Hui Chang, Guo Yang, Boxuan Xu, Bin Miao and Jiadong Li\*

4276

**Photoelectrochemical signal polarity transition mediated by quercetin for the detection of neuron-specific enolase**

Rui Xu, Chenyu Jiang\* and Qin Wei\*

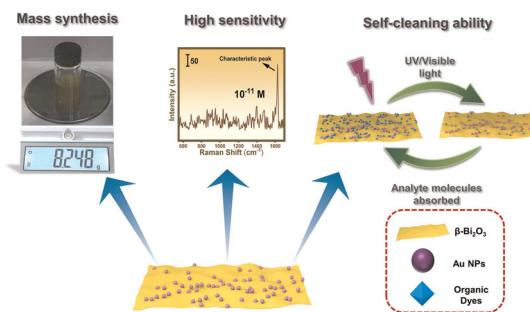


## PAPERS

4283

**Au nanoparticles decorated  $\beta$ -Bi<sub>2</sub>O<sub>3</sub> as highly-sensitive SERS substrate for detection of methylene blue and methyl orange**

Binbin Chen, Lizhu Fan, Chunyu Li, Lu Xia, Kaiwen Wang, Jinshu Wang, Dawei Pang,\* Zhouhao Zhu\* and Peijie Ma\*



4295

**Strategies for assessing the limit of detection in voltammetric methods: comparison and evaluation of approaches**

Colby E. Ott

