

IN THIS ISSUE

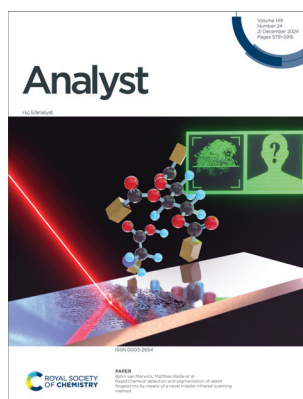
ISSN 0003-2654 CODEN ANALAO 149(24) 5731-5916 (2024)



Cover

See Frederik Lermyte *et al.*, pp. 5762–5767.

Image reproduced by permission of Sarah Brandner from *Analyst*, 2024, **149**, 5762.



Inside cover

See Björn van Marwick, Matthias Rädle *et al.*, pp. 5768–5783.

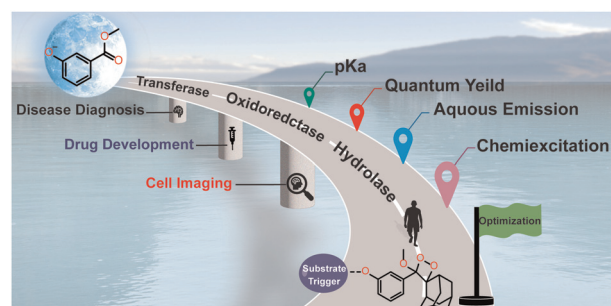
Image reproduced by permission of Björn van Marwick from *Analyst*, 2024, **149**, 5768.

CRITICAL REVIEW

5739

Phenoxy-1,2-dioxetane-based activatable chemiluminescent probes: tuning of photophysical properties for tracing enzymatic activities in living cells

Jagpreet Singh Sidhu,* Gurjot Kaur, Atharva Rajesh Chavan, Mandeep K. Chahal and Rajeev Taliyan

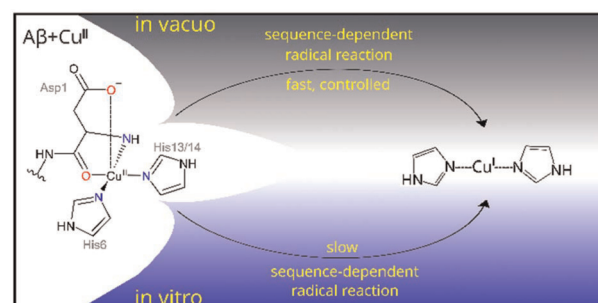


COMMUNICATION

5762

Mass spectrometry reflects key aspects of copper-amyloid β chemistry

Sarah Brandner, Tanja Habeck and Frederik Lermyte*



EES Catalysis

GOLD
OPEN
ACCESS

Exceptional research on energy
and environmental catalysis

Open to everyone. Impactful for all

rsc.li/EESCatalysis

Fundamental questions
Elemental answers

5768

Rapid chemical detection and segmentation of latent fingerprints by means of a novel middle-infrared scanning method

Björn van Marwick,* Tim Kümmel, Felix Wühler, Felix Lauer, Jan Hoffmann and Matthias Rädle*

Introduction

The way to find latent fingerprints
Current analytical methods for chemical and forensic tracing
Established imaging methods for chemical and forensic tracing
Chemical challenge of different surfaces

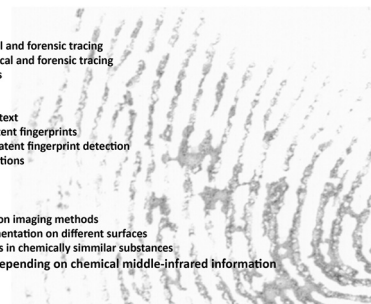
Material and Methods

Latent fingerprints in dactyloscopic context
A review of chemical composition of latent fingerprints
Novel measurement method for rapid latent fingerprint detection
Sample preparation and measure conditions
Algorithms and data (pre-) processing

Results

A proof of concept - Challenging common imaging methods
Rapid chemical latent fingerprints segmentation on different surfaces
How to image hidden latent fingerprints in chemically similar substances
3D latent fingerprint visualization depending on chemical middle-infrared information

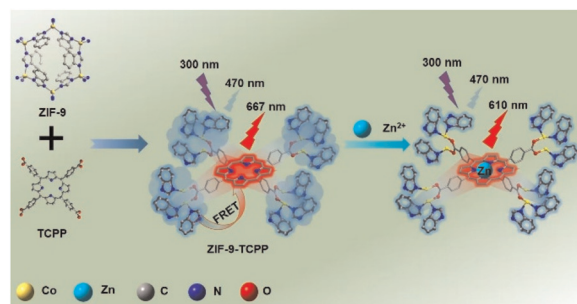
Conclusions



5784

A novel light-harvesting ZIF-9-TCPP as a promising FRET-based ratiometric fluorescence probe for sperm mobility

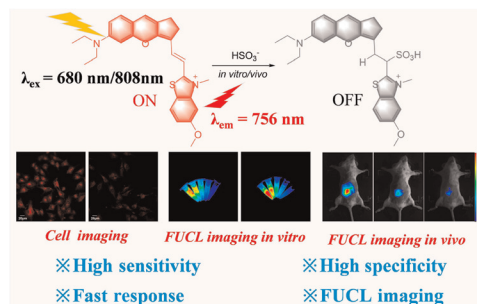
Yi-Xuan Li, Yu-Xuan Dai, Ju-Zheng Wang, Jérôme Chauvin, Xue-Ji Zhang, Serge Cosnier, Robert S. Marks and Dan Shan*



5791

A near-infrared frequency upconversion fluorescent probe for rapid and sensitive visual detection of sulfur dioxide

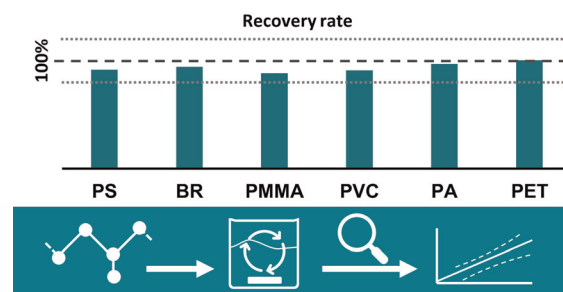
Hong Zeng, Xiao Ma, Shufen Pan, Yuting Han, Yanyan Tang, Yulan Fan and Yongquan Wu*



5800

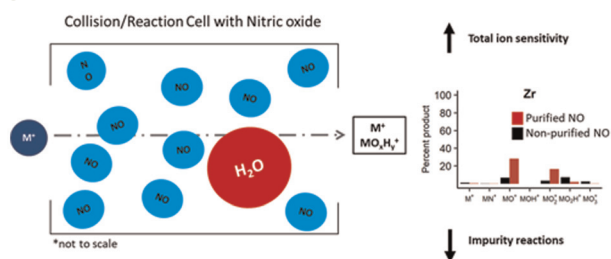
Highly selective solid-liquid extraction of microplastic mixtures as a pre-preparation tool for quantitative nuclear magnetic resonance spectroscopy studies

Marcel Günther and Wolfgang Imhof*



PAPERS

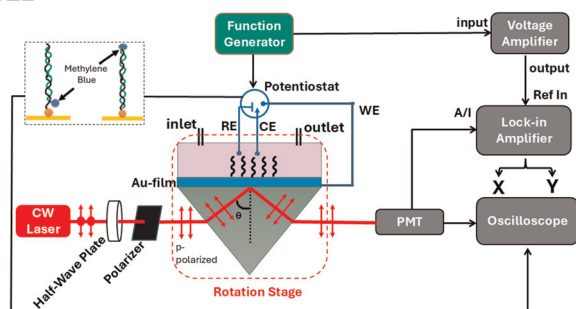
5812



The impact of gas purity on observed reactivity with NO using inductively coupled plasma tandem mass spectrometry

Amanda D. French,* Kirby P. Hobbs, Richard M Cox and Isaac J. Arnquist

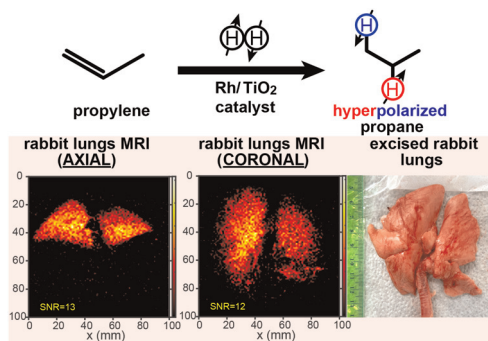
5821



Electrochemically modulated surface plasmon waves for characterization and interrogation of DNA-based sensors

Anil Sharma, Thomas Hulse, Aymen H. Qatamin, Monica Moreno, Klester S. Souza, Marcelo B. Pereira, Fabricio S. Campos, Leandro B. Carneiro, Antonio M. H. de Andrade, Paulo M. Roehle, Flavio Horowitz and Sergio B. Mendes*

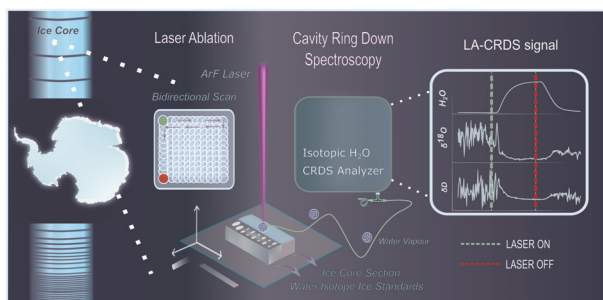
5832



Rapid lung ventilation MRI using parahydrogen-induced polarization of propane gas

Md Raduanul H. Chowdhury, Clementinah Oladun, Nuwandi M. Ariyasingha, Anna Samoilenko, Tarek Bawardi, Dudari B. Burueva, Oleg G. Salnikov, Larisa M. Kovtunova, Valerii I. Bukhtiyarov, Zhongjie Shi, Kehuan Luo, Sidhartha Tan, Juri G. Gelovani, Igor V. Koptug, Boyd M. Goodson and Eduard Y. Chekmenev*

5843



Towards high-resolution water isotope analysis in ice cores using laser ablation – cavity ring-down spectroscopy

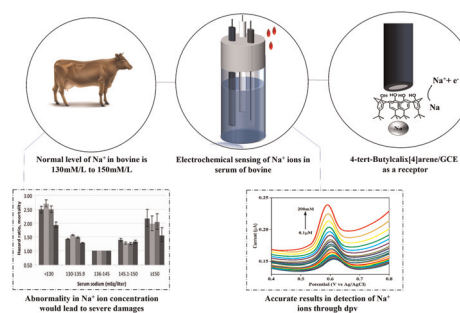
Eirini Malegiannaki,* Pascal Bohleber, Daniele Zannoni, Ciprian Stremtan, Agnese Petteni, Barbara Stenni, Carlo Barbante, Bo M. Vinther and Vasileios Gkinis



5856

Electrochemical sensing of sodium ions present in bovine serum using 4-*tert*-butylcalix[4]arene as a receptor

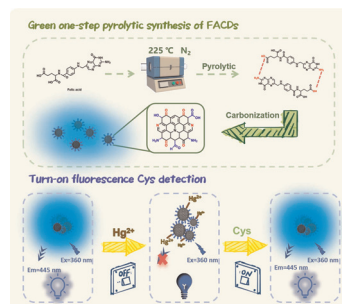
Adrian Ebenezer Paul, Gaurav Gaur, Abdullah Al Souwaileh, Jerry J. Wu and Sambandam Anandan*



5863

Green one-step pyrolytic synthesis of folic acid-derived carbon dots for sensitive turn-on fluorescence detection of cysteine

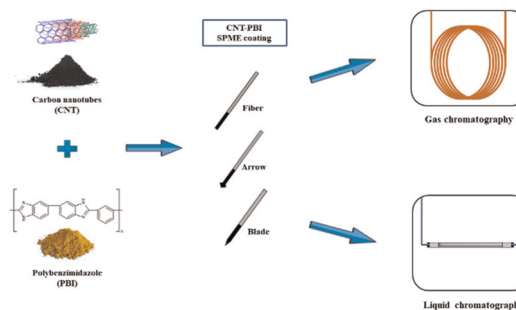
Jie Huang, Ruicheng Xu, Qiaoting Yang, Kang Tao and Dan Shan*



5871

Universal carbon nanotubes-polybenzimidazole SPME coating and its application for both gas and liquid chromatography

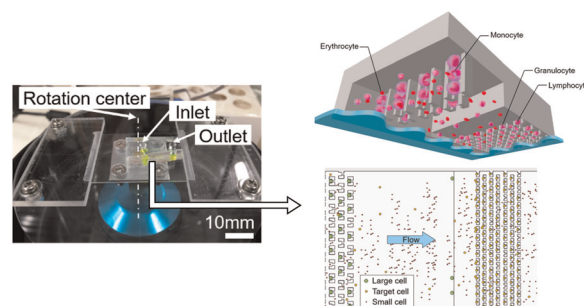
Igor Gustavo Carvalho Oliveira, Khaled Murtada, Maria Eugênia Costa Queiroz and Janusz Pawliszyn*



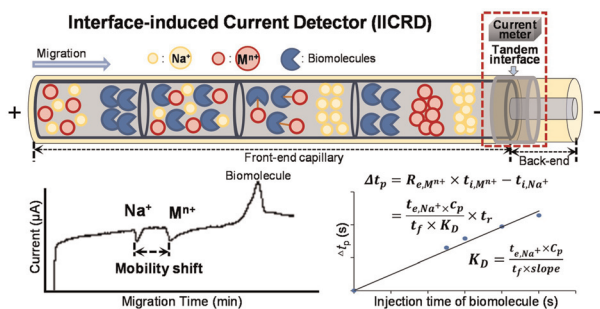
5883

A novel microfluidic chip for on-site radiation risk evaluation

Kenta Takahashi, Takahiro Tamura, Kosuke Yamada, Kaisei Suga, Yuri Aoki, Ryota Sano, Kentaro Koyama, Asako J. Nakamura* and Takaaki Suzuki*



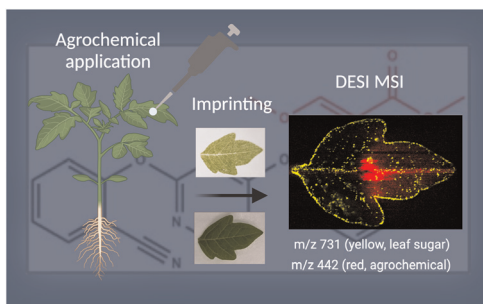
5894



Determination of metal–biomolecule interactions by relative mobility shift partial filling affinity capillary electrophoresis

Tao Huang, Jinxiang Xu, Chunsu Liang, Liyu Gong and Xiaomei Ling*

5904



Visualizing active fungicide formulation mobility in tomato leaves with desorption electrospray ionisation mass spectrometry imaging

Akhila Ajith, Emrys Jones, Emily Prince, Drupad K. Trivedi, Giles N. Johnson, Phillip J. Milnes and Nicholas P. Lockyer*

