

Analytical Methods

rsc.li/methods

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 1759-9679 CODEN AMNECT 15(44) 5911–6110 (2023)



Cover

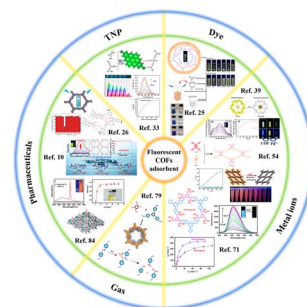
See Nilvan A. Silva and Ivo M. Raimundo, Jr, pp. 6000–6008. Image reproduced by permission of Nilvan A. Silva from *Anal. Methods*, 2023, 15, 6000.

MINIREVIEW

5919

Fluorescent covalent organic frameworks for environmental pollutant detection sensors and enrichment sorbents: a mini-review

Qiuyi Liu, Yulian Yang, Yuemeng Zou, Luchun Wang, Zhu Li, Mingyue Wang, Lingling Li, Meng Tian, Dandan Wang* and Die Gao*

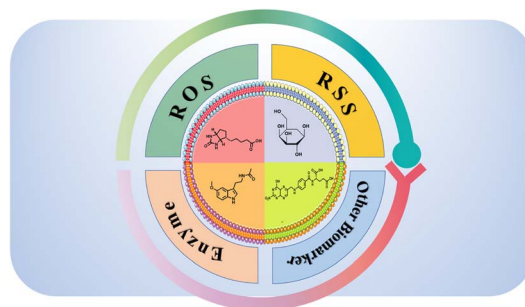


CRITICAL REVIEWS

5947

Recent advances in small-molecule fluorescent probes with the function of targeting cancer receptors

Xinke Li, Caiyun Liu,* Hanchuang Zhu, Kun Wang, Xiaohua Ren,* Lixue Ma, Xiaohui Zhang, Mengyuan Liu and Baocun Zhu*



Editorial Staff**Executive Editor**

Rebecca Garton

Deputy Editor

Alice Smallwood

Editorial Production Manager

Sarah Whitehouse

Development Editor

Celeste Brady

Publishing EditorsGabriel Clarke, Derya Kara-Fisher,
Emma Stephen, Ziva Whitelock**Publishing Assistant**

Andrea Whiteside

Editorial Assistant

Leo Curtis

Publisher

Jeanne Andres

For queries about submitted articles please contact Sarah Whitehouse, Editorial production manager, in the first instance. E-mail methods@rsc.org

For pre-submission queries please contact Rebecca Garton, Executive editor. E-mail methods-rsc@rsc.org

Analytical Methods (electronic: ISSN 1759-9679) is published 48 times a year by the Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, UK CB4 0WF.

All orders, with cheques made payable to the Royal Society of Chemistry, should be sent to the Royal Society of Chemistry Order Department, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, CB4 0WF, UK

Tel +44 (0)1223 432398; E-mail orders@rsc.org

2023 Annual (electronic) subscription price: £2416; US\$4255. Customers in Canada will be subject to a surcharge to cover GST. Customers in the EU subscribing to the electronic version only will be charged VAT.

If you take an institutional subscription to any Royal Society of Chemistry journal you are entitled to free, site-wide web access to that journal. You can arrange access via Internet Protocol (IP) address at www.rsc.org/ip

Customers should make payments by cheque in sterling payable on a UK clearing bank or in US dollars payable on a US clearing bank.

Whilst this material has been produced with all due care, the Royal Society of Chemistry cannot be held responsible or liable for its accuracy and completeness, nor for any consequences arising from any errors or the use of the information contained in this publication. The publication of advertisements does not constitute any endorsement by the Royal Society of Chemistry or Authors of any products advertised. The views and opinions advanced by contributors do not necessarily reflect those of the Royal Society of Chemistry which shall not be liable for any resulting loss or damage arising as a result of reliance upon this material. The Royal Society of Chemistry is a charity, registered in England and Wales, Number 207890, and a company incorporated in England by Royal Charter (Registered No. RC000524), registered office:

Burlington House, Piccadilly, London W1J 0BA, UK,
Telephone: +44 (0) 207 4378 6556.

Advertisement sales:

Tel +44 (0) 1223 432246; Fax +44 (0) 1223 426017;

E-mail advertising@rsc.org

For marketing opportunities relating to this journal, contact marketing@rsc.org

Analytical Methods

rsc.li/methods

Early applications of new analytical methods with clear societal impact.

Editorial Board**Editor-in-Chief**

Scott Martin, St. Louis University, USA

Juan García-Reyes, Jaén University, Spain
Tony Killard, University of the West of
England, UK

Chao Lu, Beijing University of Chemical
Technology, China

Fiona Regan, Dublin City University, Ireland
Michael Roper, Florida State University, USA
Jill Venton, University of Virginia, USA

Associate Editors

Jonas Bergquist, Uppsala University, Sweden
Wendell Coltro, Federal University of Goiás,
Brazil

Zhen Liu, Nanjing University, China
Matthew Lockett, University of North
Carolina at Chapel Hill, USA

Advisory Board

Jailson de Andrade, Federal University of
Bahia, Brazil

Lane Baker, Indiana University, USA

Craig Banks, The Manchester Metropolitan
University, UK

Emanuel Carrilho, University of São Paulo,
Brazil

James Chapman, The University of
Queensland, Australia

Yi Chen, Chinese Academy of
Sciences, China

Christopher Easley, Auburn University, USA
Anthony Gachanja, Jomo Kenyatta University
of Agriculture and Technology, Kenya

Amanda Hummon, Ohio State University,
USA

Lauro Kubota, Instituto de Química, Brazil
Ally Lewis, University of York, UK

Juewen Liu, University of Waterloo, Canada
Susan Lunte, University of Kansas, USA

Jim Luong, Dow Chemical Canada ULC,
Canada

Susheel Mittal, Thapar University, India
Antonio Molina-Díaz, University of Jaén,
Spain

Koji Otsuka, Kyoto University, Japan
Brett Paull, University of Tasmania, Australia

Zachary Schultz, Ohio State University, USA
Guobao Xu, Changchun Institute of Applied
Chemistry, China

Information for Authors

Full details on how to submit material for publication in Analytical Methods are given in the Instructions for Authors (available from <http://www.rsc.org/authors>). Submissions should be made via the journal's homepage: rsc.li/methods

Authors may reproduce/republish portions of their published contribution without seeking permission from the Royal Society of Chemistry, provided that any such republication is accompanied by an acknowledgement in the form: (Original Citation)–Reproduced by permission of the Royal Society of Chemistry.

This journal is © The Royal Society of Chemistry 2023.

Apart from fair dealing for the purposes of research or private study for non-commercial purposes, or criticism or review, as permitted under the Copyright, Designs and Patents Act 1988 and the Copyright and Related Rights Regulation 2003, this publication may only be reproduced, stored or transmitted, in any form or by any means, with the prior permission in writing of the Publishers or in the case of reprographic reproduction in accordance with the terms of licences issued by the Copyright Licensing Agency in the UK. US copyright law is applicable to users in the USA. Registered charity number: 207890

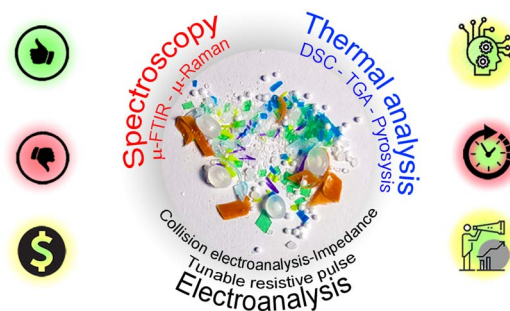


CRITICAL REVIEWS

5978

When microplastics meet electroanalysis: future analytical trends for an emerging threat

Mónica Mosquera-Ortega, Lucas Rodrigues de Sousa, Sabina Susmel, Eduardo Cortón and Federico Figueredo*

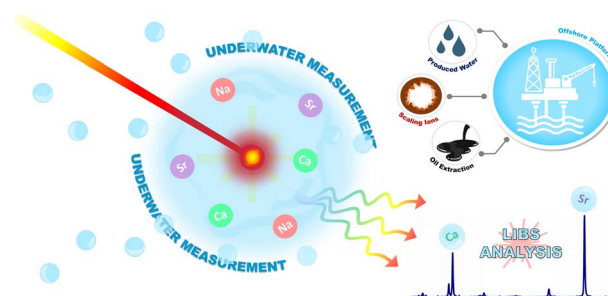


PAPERS

6000

Underwater determination of calcium and strontium ions in oilfield produced water by laser-induced breakdown spectroscopy (LIBS)

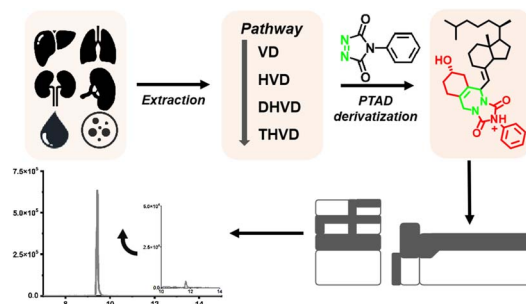
Nilvan A. Silva and Ivo M. Raimundo, Jr*



6009

Determination of vitamin D metabolites in various biological samples through an improved chemical derivatization assisted liquid chromatography-tandem mass spectrometry approach

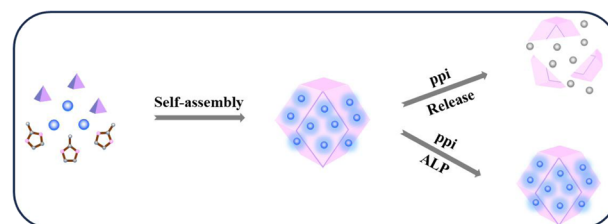
Qin-Feng Zhang, Hua-Ming Xiao, Na An, Quan-Fei Zhu* and Yu-Qi Feng*



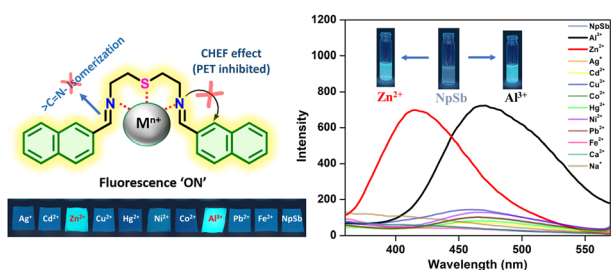
6015

Capsulation of EBTAC into ZIF-8 for the development of a signal-on fluorescent biosensor to detect alkaline phosphatase

Shanshan Liu, Nian Wang, Li Li* and Yi Liu*



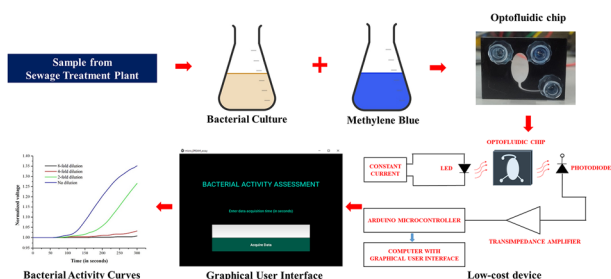
6021



Turn-on detection of Al³⁺ and Zn²⁺ ions by a NSN donor probe: reversibility, logic gates and DFT calculations

Sudhanshu Naithani, Nidhi Goswami, Sain Singh, Vikas Yadav, Sanjay Kumar, Pramod Kumar, Amit Kumar,* Tapas Goswami* and Sushil Kumar*

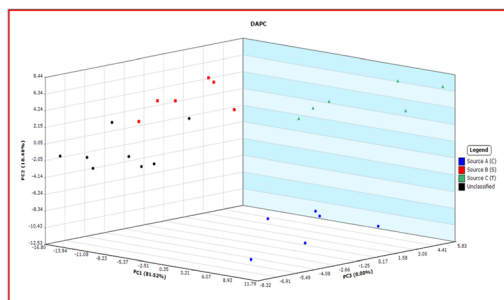
6031



A low-cost optofluidic platform for the colorimetric assessment of bacterial activity in domestic wastewater

Prajal Chettri,* Kalathur Mohan Ganesh, Sahashransu Satyajeet Mahapatra, A. S. Vishwanathan and Shailesh Srivastava

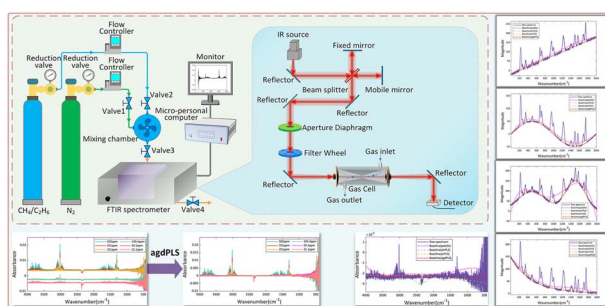
6040



Method development for forensic oil identification by direct analysis in real time time-of-flight mass spectrometry

Krishnaja Tikkisetty, Taylor Filewood, Jeffrey Yan, Honoria Kwok, Pamela Brunswick, Robert Cody and Dayue Shang*

6048



An adaptive extended Gaussian peak derivative reweighted penalised least squares method for baseline correction

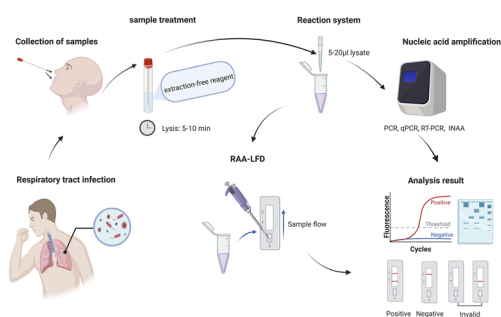
Xiaoshan Li, Xiaojun Tang,* Bin Wang, Youshui Lu and Houqing Chen



6061

Development and application of a universal extraction-free reagent based on an algal glycolipid

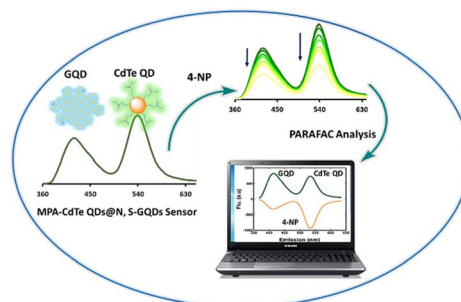
Qingqing Liu, Ningning Wang, Minli Qiu, Jun Cheng, Huajun Zhou, Feihu Che, Yan Hu, Yinghui He, Yuzhu Dai* and Yingjie Zhang*



6073

A dually emissive MPA-CdTe QDs@N, S-GQD nanosensor for sensitive and selective detection of 4-nitrophenol using two turn-off signals

Zahra Mamipour, Mohsen Kompany-Zareh* and Ali Nematollahzadeh



6082

On site separation of inorganic forms of thallium and arsenic in sea water systems followed by ICP-MS determination

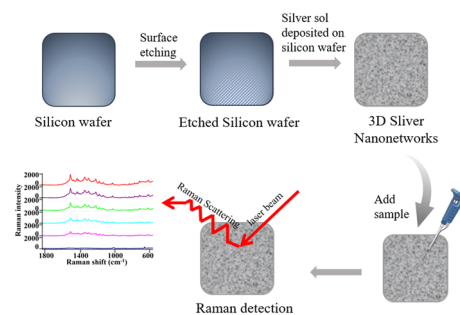
Joanna Kowalska, Alicja Drwal, Klaudia Tutaj, Lidiia Kovshun and Beata Krasnodębska-Ostręga*



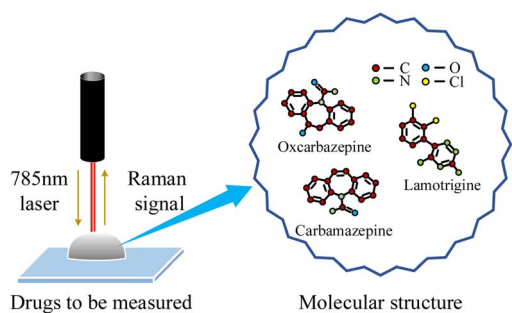
6088

Constructing a 3D interconnected network of Ag nanostructures for high-performance SERS detection of food coloring agents

Pei Zeng, Huan Zhang, Qi Guan, Qianqian Zhang, Xianzai Yan, Lili Yu, Luying Duan and Chunrong Wang*



6097



Antiepileptic drug concentration detection based on Raman spectroscopy and an improved snake optimization-convolutional neural network algorithm

Xinghu Fu,* Xiqing Cao, Zizhen Fu, Zhexu Huang, Wa Jin, Guangwei Fu and Weihong Bi

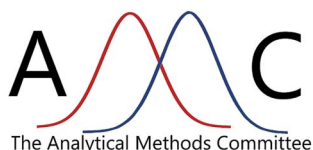
AMC TECHNICAL BRIEF

6105

AMC Technical Briefs

are produced by the Analytical Methods Committee (AMC) - the branch of the Analytical Division that handles matters of technical importance to the analytical science community.

Find out more at: www.rsc.org/amc



Avoiding some common mistakes in straight line regression. Part 1

Analytical Methods Committee, AMCTB No. 113

