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Cover

See Shilun Feng, Bei Li *et al.*, pp. 1939–1947.

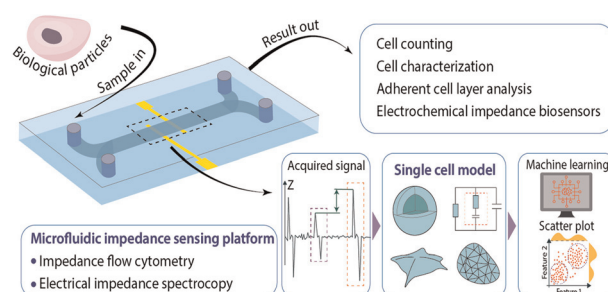
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CRITICAL REVIEW

1912

Concepts, electrode configuration, characterization, and data analytics of electric and electrochemical microfluidic platforms: a review

Thu Hang Nguyen, Hung Anh Nguyen,* Y-Van Tran Thi, Donna Hoang Tran, Hung Cao, Trinh Chu Duc, Tung Thanh Bui and Loc Do Quang*

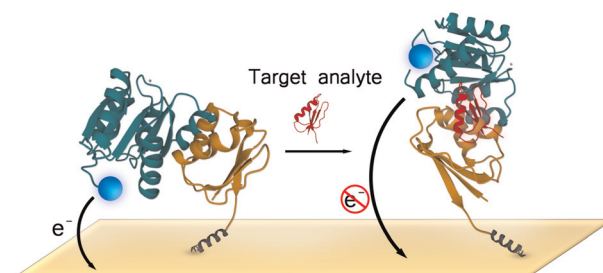


TUTORIAL REVIEW

1930

Reagentless protein-based electrochemical biosensors

Saimon M. Silva,* Miaosi Li, Alexandre Xavier Mendes and Simon E. Moulton



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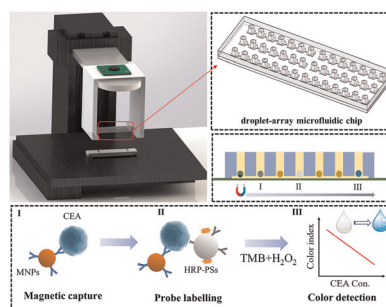


PAPERS

1939

A microfluidic immunosensor for automatic detection of carcinoembryonic antigen based on immunomagnetic separation and droplet arrays

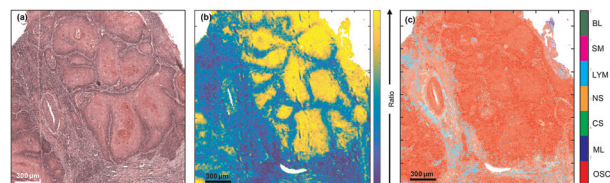
Haoran Hu, Gaozhe Cai, Zehang Gao, Cheng Liang, Fengna Yang, Xiaohui Dou, Chunping Jia, Jianlong Zhao, Shilun Feng* and Bei Li*



1948

Metric-based analysis of FTIR data to discriminate tissue types in oral cancer

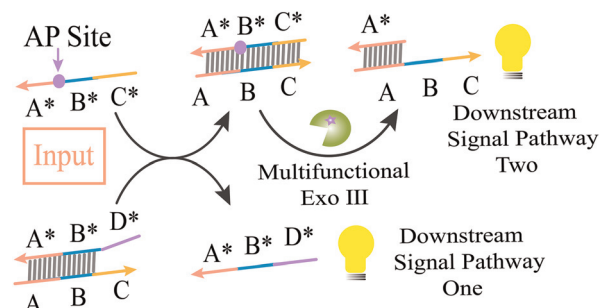
Barnaby G. Ellis, James Ingham, Conor A. Whitley, Safaa Al Jedani, Philip J. Gunning, Peter Gardner, Richard J. Shaw, Steve D. Barrett, Asterios Triantafyllou, Janet M. Risk, Caroline I. Smith and Peter Weightman*



1954

Multifunctional Exo III-assisted scalability strategy for constructing DNA molecular logic circuits

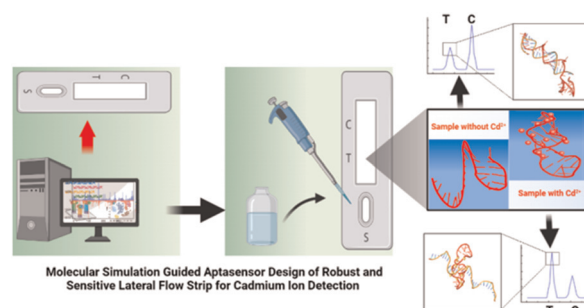
Chenyi Zeng, Xin Liu, Bin Wang, Rui Qin and Qiang Zhang*



1961

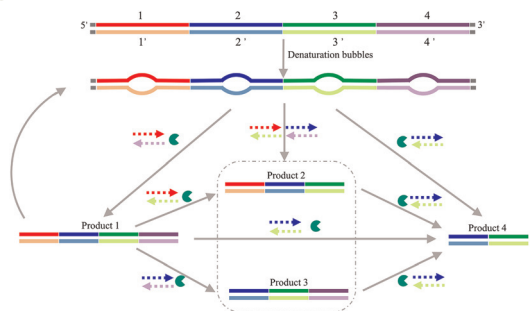
Molecular simulation-guided aptasensor design of robust and sensitive lateral flow strip for cadmium ion detection

Muhammad Irfan, Ghulam Murtaza, Shangnan Fu, Ailiang Chen,* Feng Qu* and Xin Su*



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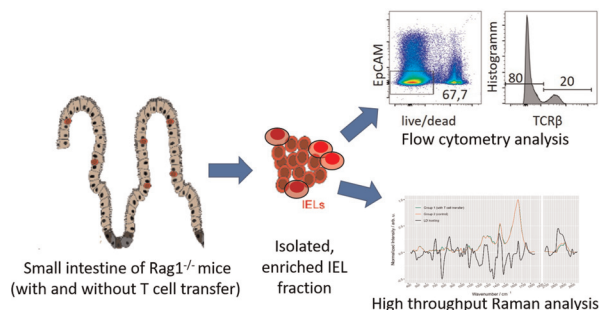
1970



Rapid and sensitive detection of *Staphylococcus aureus* via an all-in-one staggered strand exchange amplification platform

Jian Zhang, Xiangning Han, Ye Wang, Xiaofeng Mu, Chao Shi, Yong Li* and Cuiping Ma*

1978



High-throughput Raman spectroscopy allows *ex vivo* characterization of murine small intestinal intra-epithelial lymphocytes (IEL)

Rustam R. Guliev, Tina Vogler, Natalie Arend, Simone Eiserloh, Alexander Wiede, Timo Kunert, Martin Dinkel, Jürgen Popp, Iwan W. Schie, Kai Hildner and Ute Neugebauer*

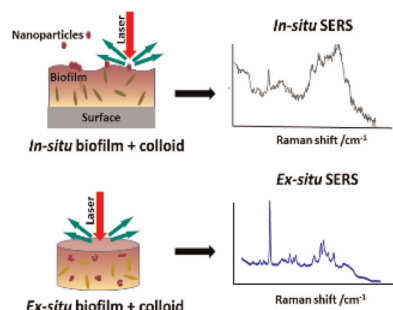
1991



A clinical Raman spectroscopy imaging system and safety requirements for *in situ* intraoperative tissue characterization

François Daoust, Hugo Tavera, Frédérick Dallaire, Patrick Orsini, Keven Savard, Jacques Bismuth, Philippe Mckoy, Israel Veilleux, Kevin Petrecca and Frédéric Leblond*

2002



Probing the interaction of *ex situ* biofilms with plasmonic metal nanoparticles using surface-enhanced Raman spectroscopy

Wafaa Aljuhani, Yingrui Zhang, Matthew P. Wylie, Yikai Xu, Colin P. McCoy and Steven E. J. Bell*

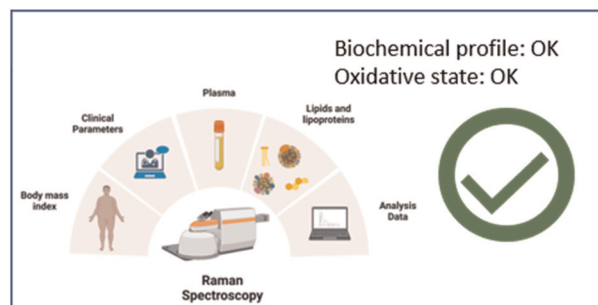


PAPERS

2012

Determination of the quality of lipoproteins by Raman spectroscopy in obese and healthy subjects

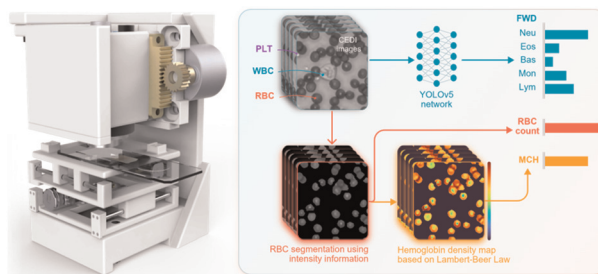
Arianna Bonizzi, Flavia Magri, Serena Mazzucchelli, Marta Truffi, Andrea Rizzi, Fabio Corsi, Roberta Cazzola and Carlo Morasso*



2021

Multiparameter mobile blood analysis for complete blood count using contrast-enhanced defocusing imaging and machine vision

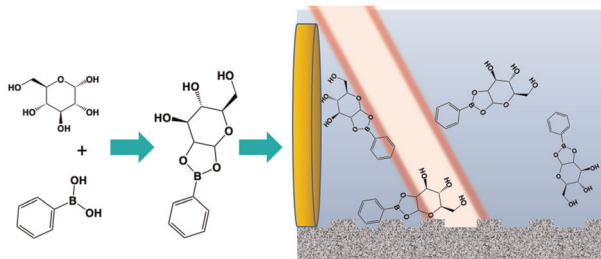
Duan Chen, Ning Li, Shaoqun Zeng, Xiaohua Lv, Li Chen, Xiuli Liu* and Qinglei Hu*



2035

Chemical conjugation to differentiate monosaccharides by Raman and surface enhanced Raman spectroscopy

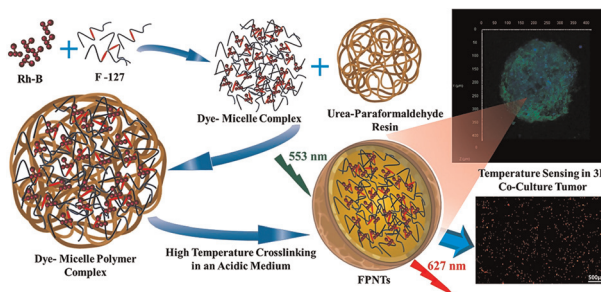
Hannah C. Schorr and Zachary D. Schultz*



2045

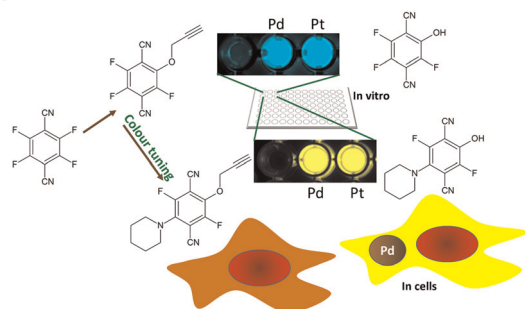
Synthesis and characterization of a fluorescent polymeric nano-thermometer: dynamic monitoring of 3D temperature distribution in co-cultured tumor spheroids

Ashish Kumar, Venkanagouda S. Goudar, Kiran Kaladharan, Tuhin Subhra Santra and Fan-Gang Tseng*



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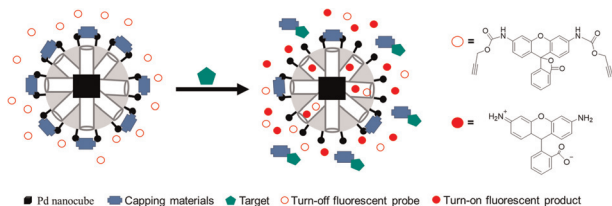
2058



A color-tunable single-benzene fluorophore-based sensor for sensitive detection of palladium in solution and living cells

Paulina Takacsova, Marie Kudlickova Peskova, Pavel Svec, Zbynek Heger* and Vladimir Pekarik*

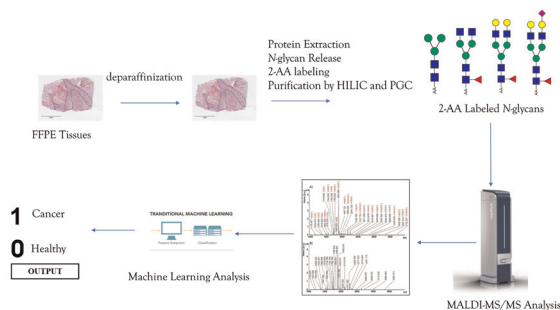
2064



Palladium encapsulated mesoporous silica nanoparticles for the rapid detection of analytes

Tianwei Jia, Ying Luo, Xiaolin Sheng, Jieqiong Fang, Didier Merlin and Suri S. Iyer*

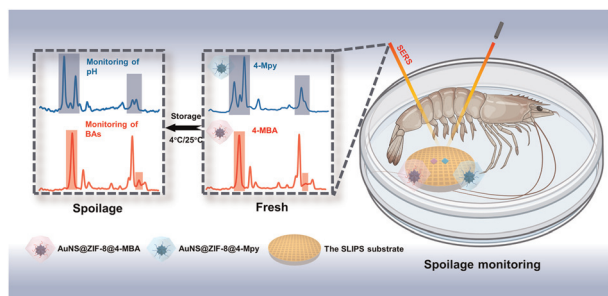
2073



Prediction of gastric cancer by machine learning integrated with mass spectrometry-based N-glycomics

Deniz Baran Demirhan, Hakan Yilmaz, Harun Erol, Hacı Mehmet Kayili* and Bekir Salih*

2081



Sensitive and reproducible gold nanostar@metal-organic framework-based SERS membranes for the online monitoring of the freshness of shrimps

Hanlin Guo, Yu Li and Fuwei Pi*

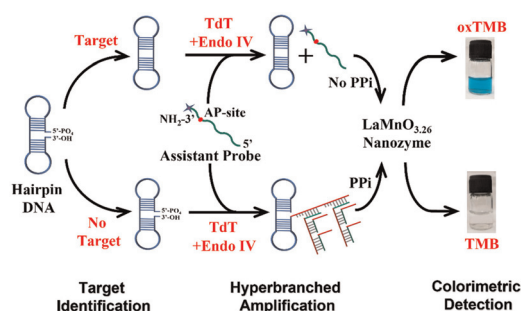


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2092

Sensitive colorimetric assay of T4 DNA ligase by the oxidase nanozyme of $\text{LaMnO}_{3.26}$ coupled with a hyperbranched amplification reaction

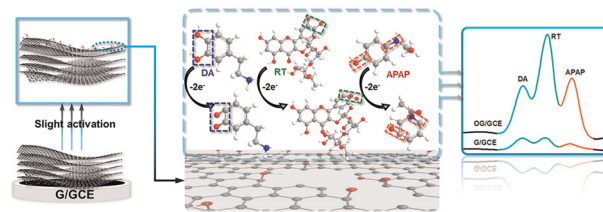
Aohuan Guo, Jie Sun, Menghua Yan and Guang-Li Wang*



2100

The facile activation of graphite for the improved determination of dopamine, rutin and acetamidophenol

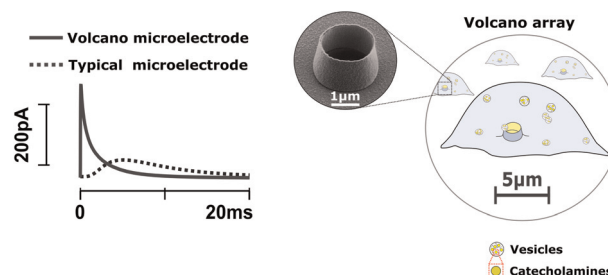
Yanxue Xu, Guihua Chen, Yunting Qin and Dan Xiao*



2110

Rapid exocytosis kinetics measured by amperometry within volcano microelectrodes

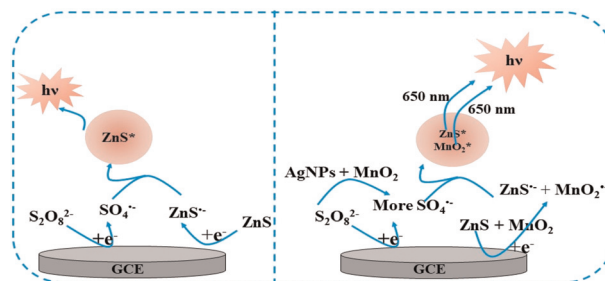
Nicolas Maïno,* Arnaud Bertsch and Philippe Renaud



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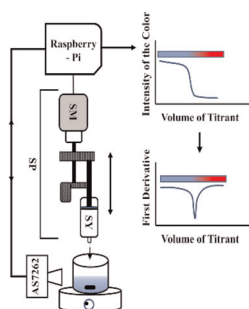
A dual-emitting immunosensor based on manganese dioxide nanoflowers and zinc sulfide quantum dots with enhanced electrochemiluminescence performance for the ultrasensitive detection of procalcitonin

Na Wang, Juan Yang, Zhi Luo, Dongmiao Qin, Yusheng Wu and Biyang Deng*



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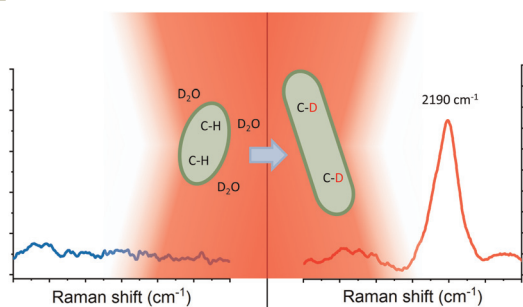
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A low-cost automated titration system for colorimetric endpoint detection

Naga P. D. Boppana, Robyn Snow, Paul S. Simone, Gary L. Emmert and Michael A. Brown*

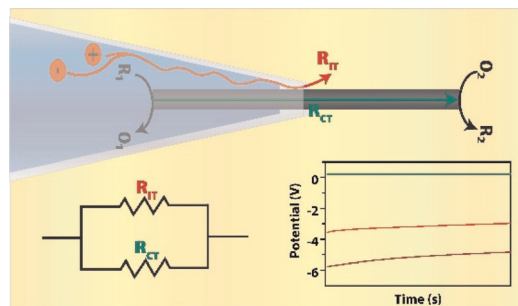
2141



Monitoring bacterial spore metabolic activity using heavy water-induced Raman peak evolution

Rasmus Öberg, Tobias Dahlberg, Dmitry Malyshev* and Magnus Andersson*

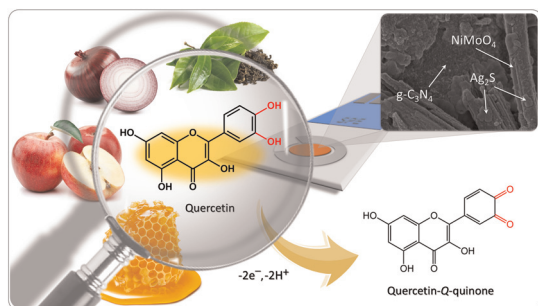
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On the mechanism of the bipolar reference electrode

Nicole L. Walker and Jeffrey E. Dick*

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A new sensing platform based on a ternary nanocomposite of graphitic carbon nitride–silver sulfide–nickel molybdate for quercetin determination

Khadija Valiyeva, Salih Zeki Bas,* Keziban Atacan, Adem Sarilmaz, Faruk Ozel and Mustafa Ozmen

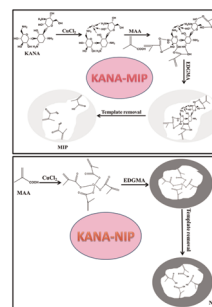


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A molecularly imprinted electrochemical sensor for specific and ultrasensitive determination of an aminoglycoside drug: the role of copper ions in the determination

Alanazi A. Z., Khalid Alhazzani, Ali M. Alaseem, Abdullah R. Alanzi, Saeed Abdullah Al Awadh, Fahaad S. Alenazi, Ahmad J. Obaidullah and Mohamed M. El-Wakil*



2180

Ultrasensitive electrochemical sensing platform for miRNA-21 detection based on manganese dioxide-gold nanoparticle nanoconjugates coupled with hybridization chain reaction and horseradish peroxidase signal amplification

Mengyao Li, Tingting Zhang and Yuzhong Zhang*

