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### Cover

See Ronghan Wei,  
Qidong Zhang *et al.*,  
pp. 3724–3729.

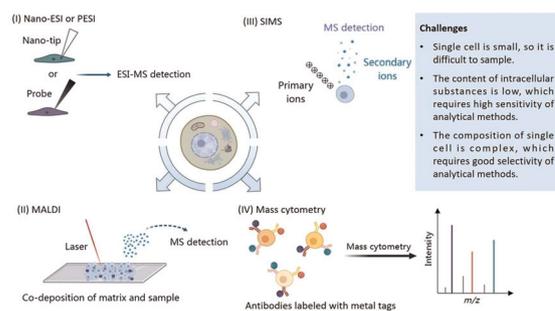
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### Mass spectrometry-based techniques for single-cell analysis

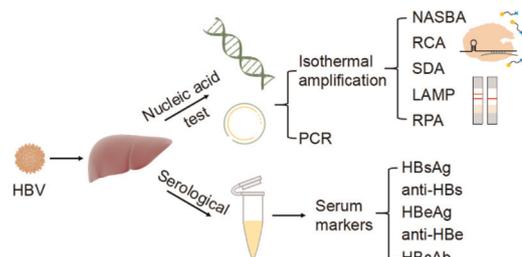
Xiangyi Xu, Xuanxi Jiang, Meiyun Shi\* and Lei Yin\*



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### Advances in isothermal nucleic acid amplification methods for hepatitis B virus detection

Huilin Li, Wenjun Song, Hongying Li, Jiaqi Cui,  
Yuchen Xie, Bo Wu\* and Rong Chen\*



Schematic diagram of main methods for hepatitis B detection



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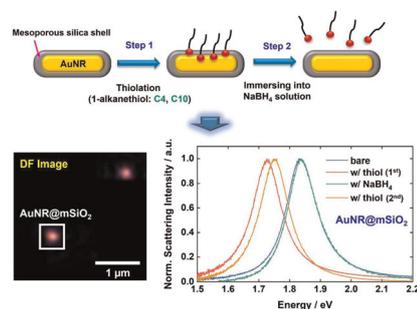


## COMMUNICATION

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***In situ* reversible tuning of chemical interface damping in mesoporous silica-coated gold nanorods via direct adsorption and removal of thiol**

Yun A. Hong and Ji Won Ha\*

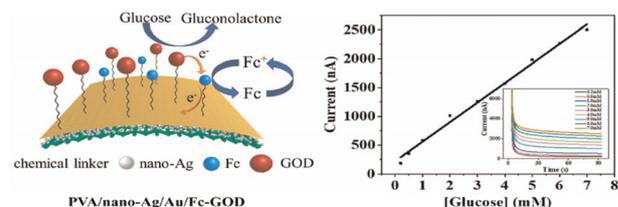


## PAPERS

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**A flexible electrochemical glucose sensing platform based on an electrospun PVA mat covered with *in situ* grown silver nanoparticles and a mixed self-assembled monolayer of glucose oxidase and ferrocene**

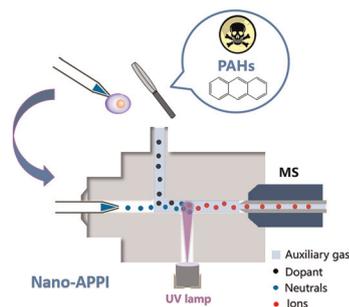
Yu Wang, Qiyan Wang, Guobi Chai, Wu Fan, Qingzhao Shi, Wenfen Zhang, Jian Mao, Jianping Xie, Ronghan Wei\* and Qidong Zhang\*



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**Nanoliter atmospheric pressure photoionization-mass spectrometry for direct bioanalysis of polycyclic aromatic hydrocarbons**

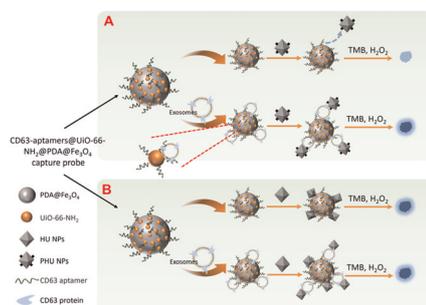
Siyuan Tan,\* Xinchu Yin, Lulu Feng, Juduo Wang, Zhichao Xue, You Jiang, Xinhua Dai, Xiaoyun Gong\* and Xiang Fang\*



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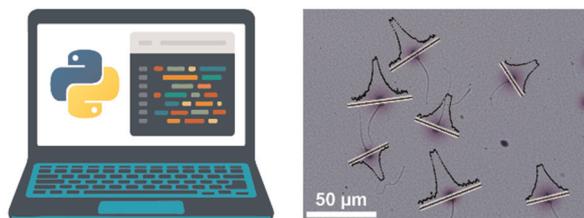
**Aptasensors with palladium nanoparticle-modified hemin-containing metal-organic frameworks as the signal marker for detection of exosomes**

Wei Li, Huili Wang, Xinxin Ying, Zhen Liang, Jianna Li,\* Xiangjuan Chen, Lei Su\* and Xueji Zhang\*



## PAPERS

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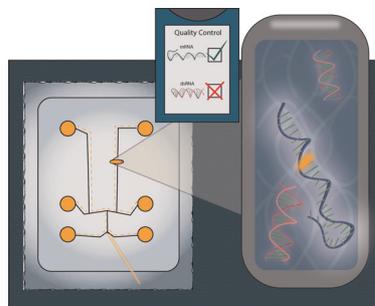


Automated DNA analysis of thousands of sperm cells

**High-throughput sperm DNA analysis at the single-cell and population levels**

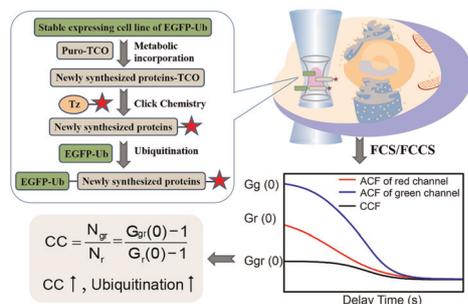
Mohammad Simchi, Jason Riordon, Yihe Wang, Christopher McCallum, Jae Bem You, Keith Jarvi, Reza Nosrati\* and David Sinton\*

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**A microfluidic electrophoretic dual dynamic staining method for the identification and relative quantitation of dsRNA contaminants in mRNA vaccines**

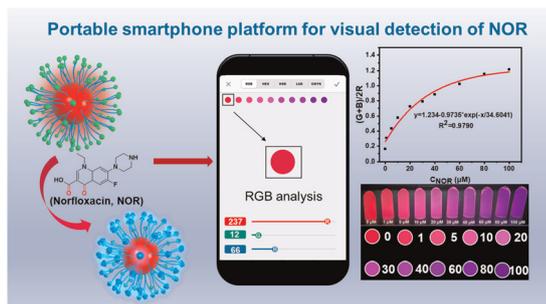
Adriana Coll De Peña, Nina Li, Matei Vaduva, Lloyd Bwanali and Anubhav Tripathi\*

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**In vivo monitoring of the ubiquitination of newly synthesized proteins in living cells by combining a click reaction with fluorescence cross-correlation spectroscopy (FCCS)**

Yaoqi Liu, Chaoqing Dong\* and Jicun Ren\*

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 **$\text{Y}^{3+}$ @CdTe quantum dot nanoprobe as a fluorescence signal enhancement sensing platform for the visualization of norfloxacin**

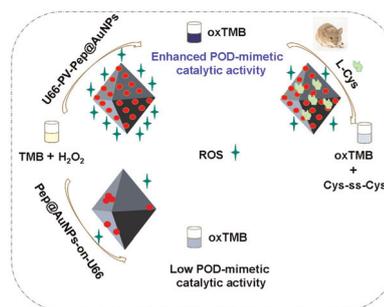
Xiong Chen, Yuanhang Jiang, Ying Liu and Cheng Yao\*



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### Enhancing the catalytic performance of MOF-polymer@AuNP-based nanozymes for colorimetric detection of serum L-cysteine

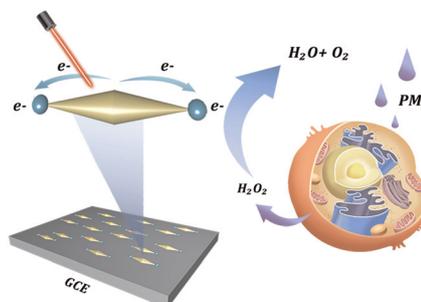
Lin Tian, Cheng Cheng, Zhenwen Zhao, Wei Liu and Li Qi\*



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### Sensitive detection of extracellular hydrogen peroxide using plasmon-enhanced electrochemical activity on Pd-tipped Au nanobipyramids

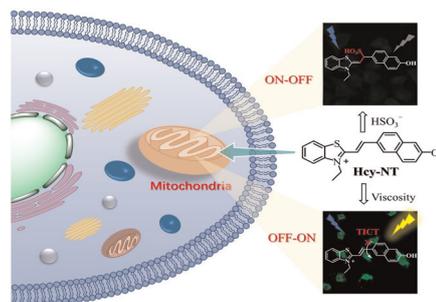
Wenli Jiang, Die Sun, Chenxin Cai and Hui Zhang\*



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### "One stone, two birds": a mitochondria-targeted fluorescent probe for the detection of viscosity and HSO<sub>3</sub><sup>-</sup> in living cells

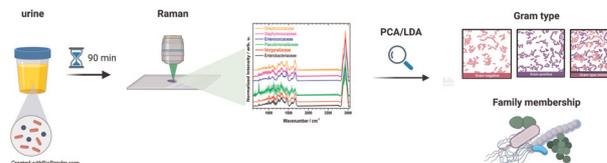
Buyue Zhang, Lei Shi,\* Xiaoying Ma, Dawei Yang, Hongxia Sun, Yalin Tang and Xiufeng Zhang\*



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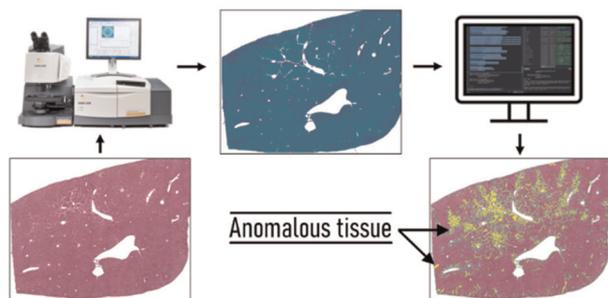
### Identification of bacteria in mixed infection from urinary tract of patient's samples using Raman analysis of dried droplets

Kateřina Aubrechtov Dragounov, Oleg Ryabchykov, Daniel Steinbach, Vincent Recla, Nora Lindig, Mara Jose Gonzalez Vazquez, Susan Foller, Michael Bauer, Thomas W. Bocklitz, Jurgen Popp, Jurgen Rodel and Ute Neugebauer\*



## PAPERS

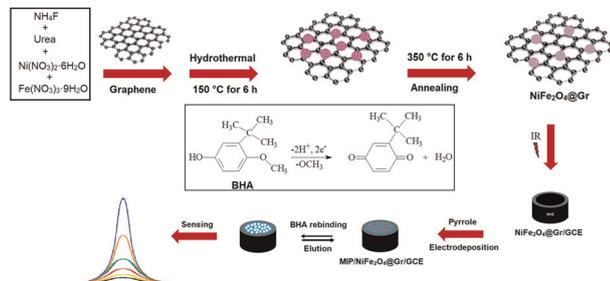
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### Weakly supervised anomaly detection coupled with Fourier transform infrared (FT-IR) spectroscopy for the identification of non-normal tissue

Dougal Ferguson,\* Alex Henderson,  
Elizabeth F. McInnes and Peter Gardner

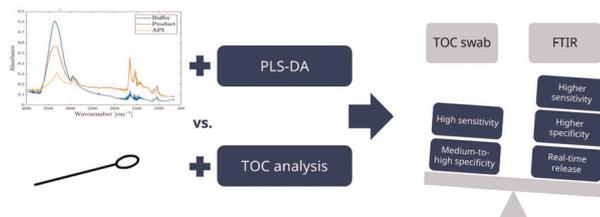
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### A novel electrochemical detection method for butylated hydroxyanisole (BHA) as an antioxidant: a BHA imprinted polymer based on a nickel ferrite@graphene nanocomposite and its application

Bahar Bankoğlu Yola, Sena Bekerecioğlu, İlknur Polat,  
Necip Atar and Mehmet Lütfi Yola\*

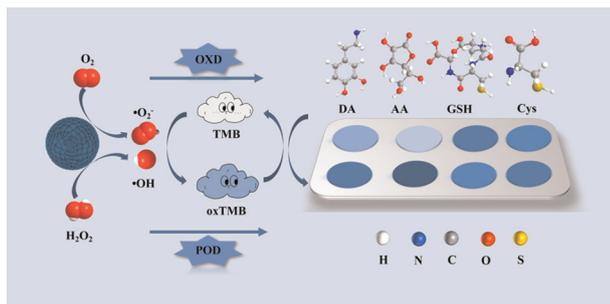
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### Handheld FTIR outperforms total organic carbon swab in pharmaceutical cleaning validation

Isabella Jul-Jørgensen,\* Krist V. Gernaey and  
Christian A. Hundahl

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### Colorimetric sensor arrays for antioxidant recognition based on Co<sub>3</sub>O<sub>4</sub> dual-enzyme activities

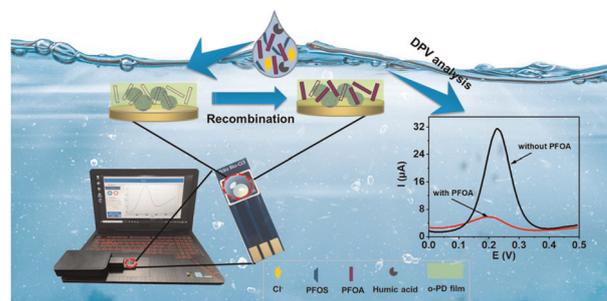
Pingping Hao, Zhenchao Liu, Zhiwei Wang, Min Xie\*  
and Qingyun Liu\*



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### A portable molecularly imprinted polymer-modified microchip sensor for the rapid detection of perfluorooctanoic acid

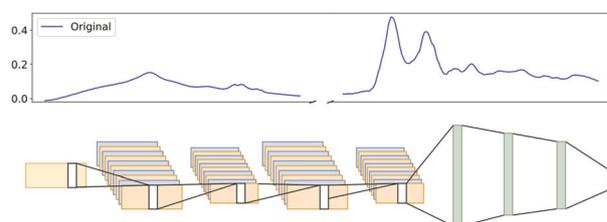
Yingmei Wei, Hongjie Liu, Shaopeng Wang, Kefu Yu\* and Liwei Wang\*



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### Augmentation of FTIR spectral datasets using Wasserstein generative adversarial networks for cancer liquid biopsies

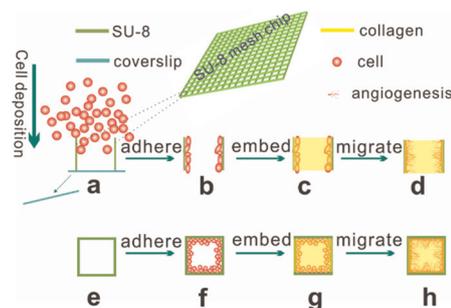
Rose G. McHardy, Georgios Antoniou, Justin J. A. Conn, Matthew J. Baker and David S. Palmer\*



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### On-chip-angiogenesis based on a high-throughput biomimetic three-dimensional cell spheroid culture system

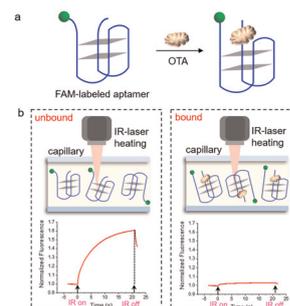
Yachao Wang, Xuemei Zeng, Peng Chen, Wei Du, Yumei Pei,\* Guoping Wang\* and Bi-Feng Liu



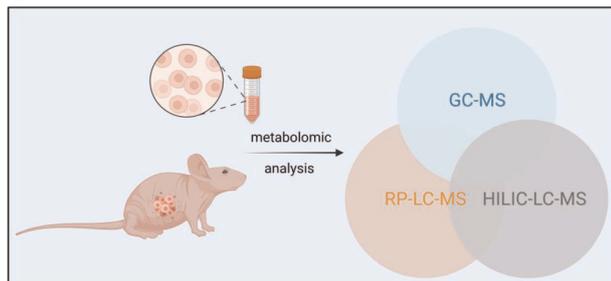
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### Sensitive microscale thermophoresis assay for rapid ochratoxin A detection with fluorescently labeled engineered aptamer

Hao Yu and Qiang Zhao\*



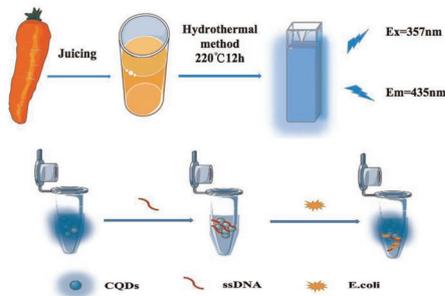
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### A multiplatform metabolomics approach for comprehensive analysis of GIST xenografts with various *KIT* mutations

Szymon Macioszek, Danuta Dudzik, Margot Biesemans, Agnieszka Wozniak, Patrick Schöffski and Michał J. Markuszewski\*

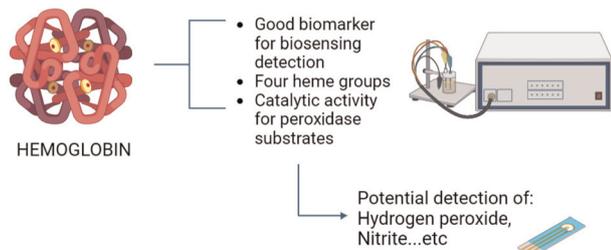
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### A fluorescent biosensor based on carbon quantum dots and single-stranded DNA for the detection of *Escherichia coli*

Xiaolian Bai, Lu Ga and Jun Ai\*

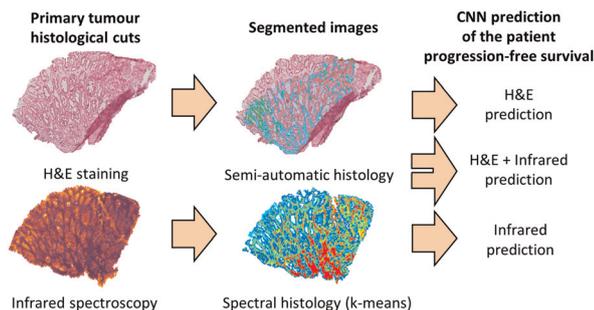
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### Design of a label-free aptasensor for electrochemical determination of hemoglobin: investigation of the peroxidase-like activity of hemoglobin for the sensing of different substrates

Ahlem Teniou, Amina Rhouati,\* Selma Rabai, Gaëlle Catanante and Jean-Louis Marty

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### Deep learning for the prediction of the chemotherapy response of metastatic colorectal cancer: comparing and combining H&E staining histopathology and infrared spectral histopathology

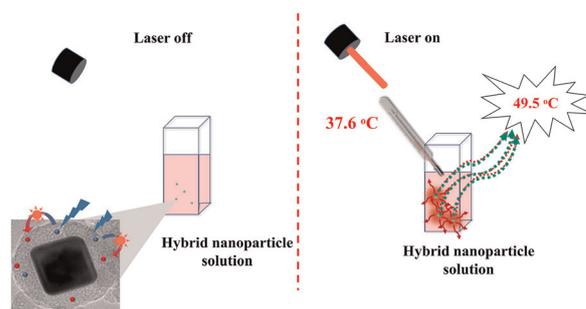
Benjamin Brunel, Pierre Prada, Florian Slimano, Camille Boulagnon-Rombi, Olivier Bouché and Olivier Piot\*



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### A plasmonic fluorescent ratiometric temperature sensor for self-limiting hyperthermic applications utilizing FRET enhancement in the plasmonic field

Sharon George and Shajesh Palantavida\*



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### The colorimetry and smartphone determination of perfluorooctane sulfonate based on cytidine 5'-monophosphate-capped gold nanoclusters with peroxidase-like activity

Tian-Yuan Guo, Hong-Wei Li, Chun-Xia Zhang and Yuqing Wu\*

