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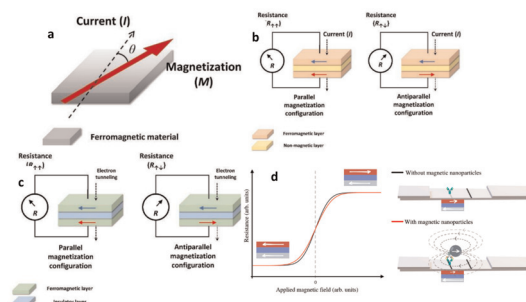
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CRITICAL REVIEWS

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Magnetic nanoprobe-enabled lateral flow assays: recent advances

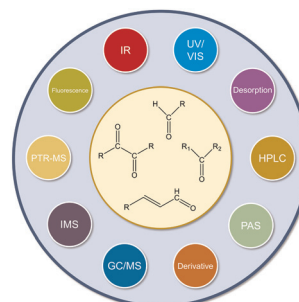
Ying Zhao, Jingwei Sang,* Yusheng Fu, Jiuchuan Guo
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Tunga Salthammer



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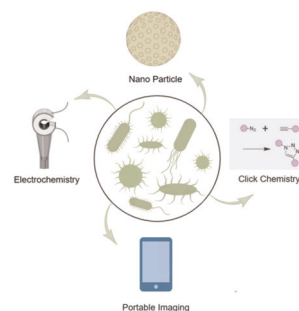


TUTORIAL REVIEW

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Application of ATP-based bioluminescence technology in bacterial detection: a review

Shitong Liu, Jinbin Zhao, Yulan Guo, Xueer Ma, Chunmeng Sun, Ming Cai, Yuyang Chi and Kun Xu*

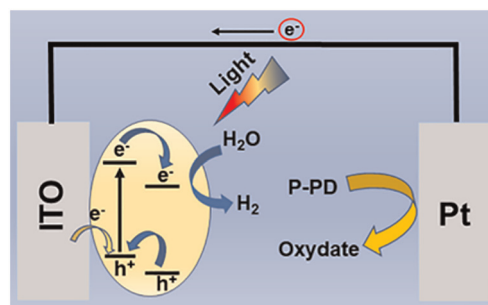


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Employing bulk-heterostructure conductive polymer PFO/PFBT for the photoelectrochemical analysis of *p*-phenylenediamine

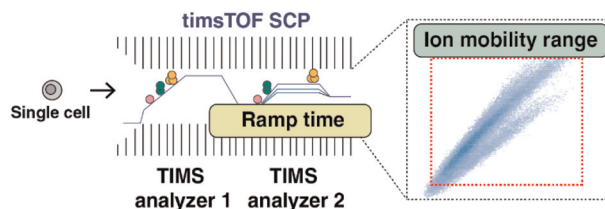
Kangdi Guan, Ziwei Zhang, Pinghua Ling* and Feng Gao*



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Optimizing single cell proteomics using trapped ion mobility spectrometry for label-free experiments

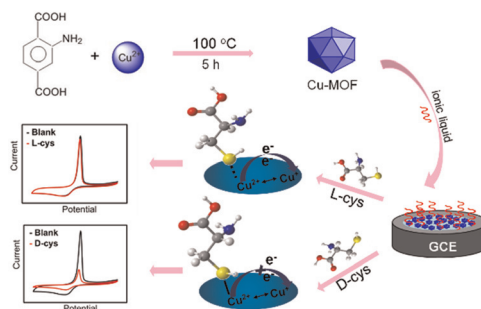
Dong-Gi Mun, Firdous A. Bhat, Husheng Ding, Benjamin J. Madden, Sekar Natesampillai, Andrew D. Badley, Kenneth L. Johnson, Ryan T. Kelly and Akhilesh Pandey*



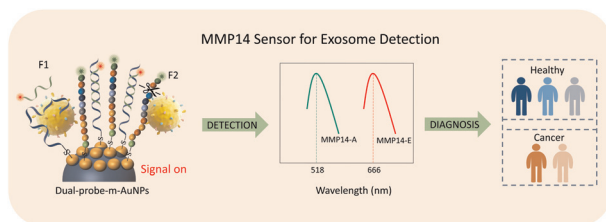
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Integration of a copper-based metal-organic framework with an ionic liquid for electrochemically discriminating cysteine enantiomers

Qian-xiu Pan, Chen-yu Zhu, Jie Dong, Baogang Zhang,* Lin Cui* and Chun-yang Zhang*



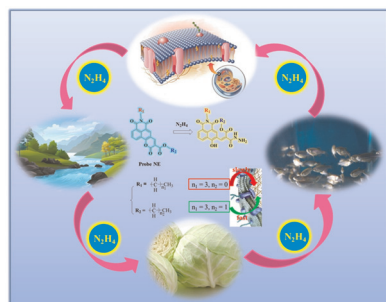
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Simultaneous quantification of exosomal MMP14 expression and proteolysis activity on a spherical dual-probe-based fluorescent nanosensor

Shuo Yin, Aipeng Chen, Xiaoni Fang,* Peng Zhang* and Chaoyong Yang*

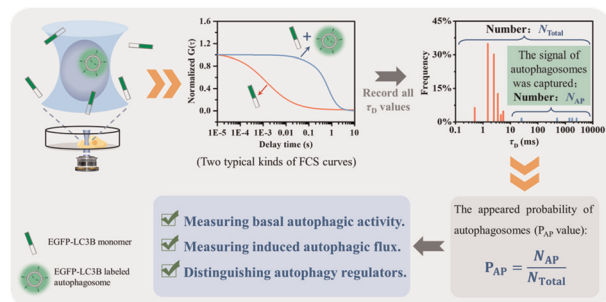
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A nucleophilic addition–elimination based ratiometric fluorescent probe for monitoring N_2H_4 in biological systems and actual samples

Yan Shi, Fangjun Huo and Caixia Yin*

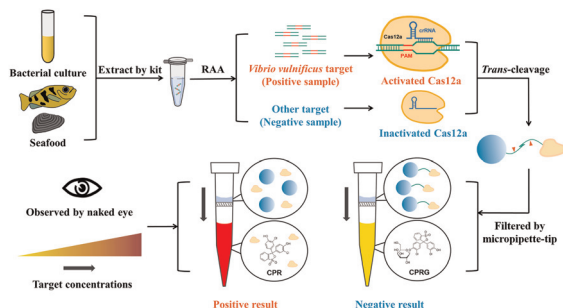
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In vivo measurement of autophagic flux by fluorescence correlation spectroscopy

Haohan Song, Chaoqing Dong* and Jicun Ren*

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Integration of a CRISPR Cas12a-assisted multicolor biosensor and a micropipette tip enables visible point-of-care testing of foodborne *Vibrio vulnificus*

Ziyi Wang, Chutian Xu, Chengkai Yu, Zhenjun Si, Di Huang,* Peijie Shen, Mengjun Fang and Zhinan Xu*

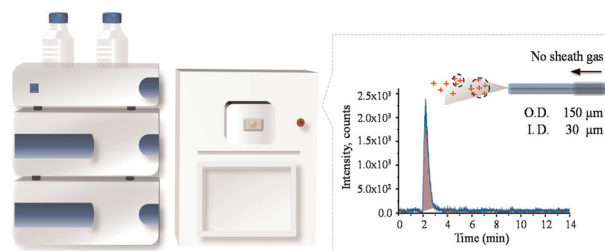


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A liquid chromatography-miniature mass spectrometry (LC-Mini MS) method for quantitative analysis of risperidone and 9-hydroxyrisperidone in plasma

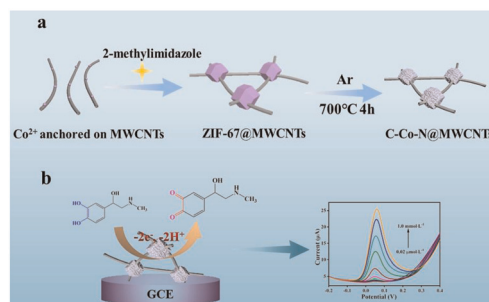
Hao Gu,* Guoxin Dai, Zhongqiu Teng, Lina Geng and Wei Xu



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3D C–Co–N-anchored MWCNTs derived from metal–organic frameworks as high-performance electrochemical sensing platforms for the sensitive detection of adrenaline

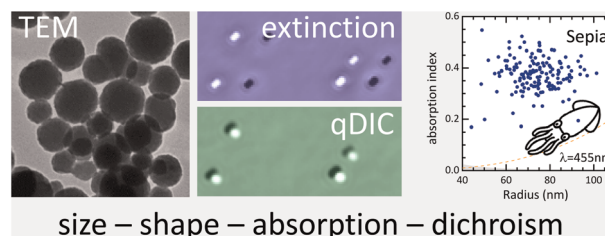
Wei Huang, Fengping Liu,* Gang Xiang, Zhenfa Zhang, Qing Huang, Zhenjie Pan, Wenfeng Zhuge and Jinyun Peng*



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Optical absorption and dichroism of single melanin nanoparticles

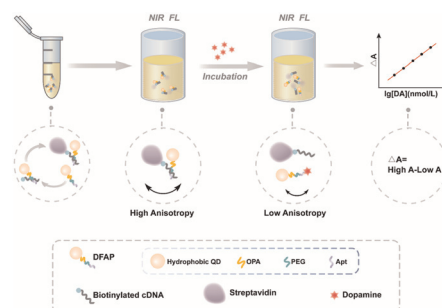
David Regan, Alexandra Mavridi-Printezi, Lukas Payne, Marco Montalti, Paola Borri and Wolfgang Langbein*



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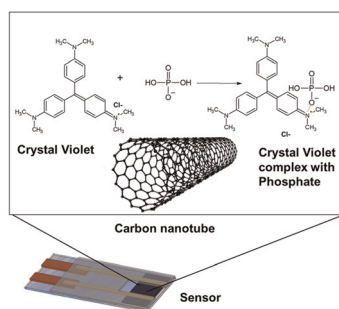
NIR quantum dot construction of a fluorescence anisotropy signal amplification biosensor for sensitive, rapid and separation-free detection of dopamine in serum

Jing Liu, Ming Chen, Zhi-Ling Zhang, Xuechuan Hong, Zi-Li Yu* and Zhi-Quan Tian*



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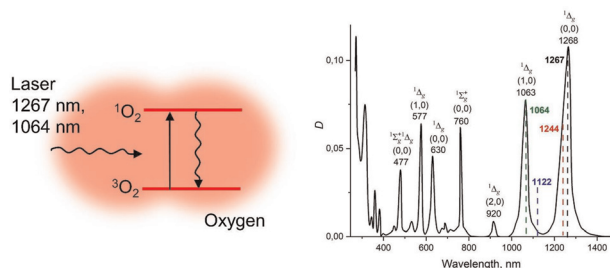
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A reagent-free phosphate chemiresistive sensor using carbon nanotubes functionalized with crystal violet

Vinay Patel, Md Ali Akbar, Peter Kruse and P. Ravi Selvaganapathy*

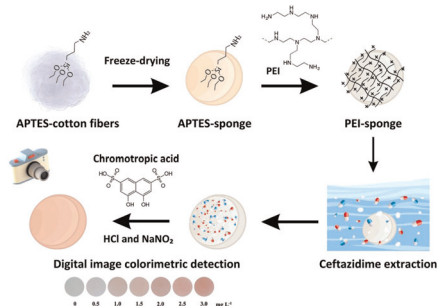
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Efficiency of direct photoinduced generation of singlet oxygen at different wavelengths, power density and exposure time of laser irradiation

Irina Makovik, Andrey Vinokurov, Andrey Dunaev, Edik Rafailov and Viktor Dremmin*

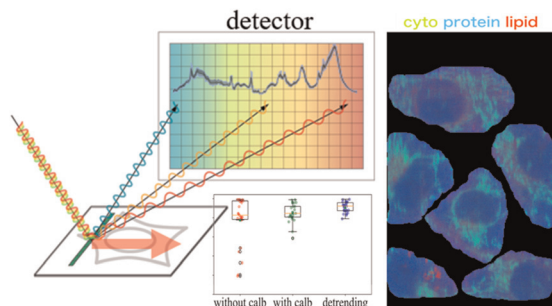
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Digital image colorimetric detection of ceftazidime based on azo compound formation on a polyethyleneimine-modified cotton sponge

Lalitphan Hongtanee, Pajaree Donkhampa, Narong Praphairaksit and Fuangfa Unob*

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Differentiability of cell types enhanced by detrending a non-homogeneous pattern in a line-illumination Raman microscope

Abdul Halim Bhuiyan, Jean-Emmanuel Clément, Zannatul Ferdous, Kentaro Mochizuki, Koji Tabata, James Nicholas Taylor, Yasuaki Kumamoto, Yoshinori Harada, Thomas Bocklitz, Katsumasa Fujita and Tamiki Komatsuzaki*

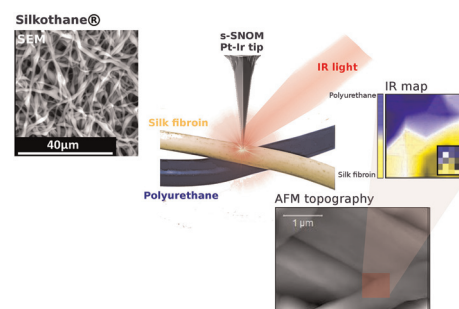


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Infrared nanospectroscopy depth-dependent study of modern materials: morpho-chemical analysis of polyurethane/fibroin binary meshes

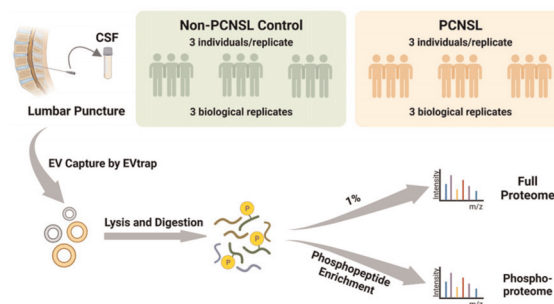
Alice Caldiroli, Sara Cappelletti, Giovanni Birarda, Alberto Redaelli, Stefania Adele Riboldi, Chiaramaria Stani, Lisa Vaccari and Federica Piccirilli*



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Phosphoproteome analysis of cerebrospinal fluid extracellular vesicles in primary central nervous system lymphoma

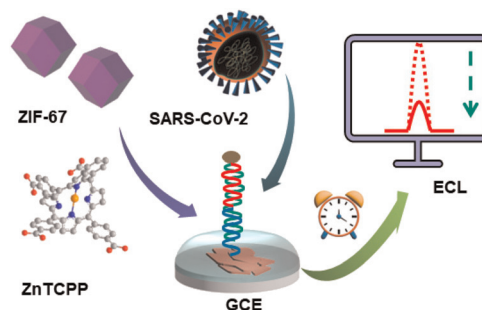
Yuanyuan Deng, Qing Li, Jie Sun, Leyao Ma, Yajie Ding, Yuhang Cai, Anton Iliuk, Bobin Chen, Zhuoying Xie* and W. Andy Tao*



3603

Post-synthetic modification-driven ZIF reconstruction and functionalization for efficient SARS-CoV-2 ECL detection

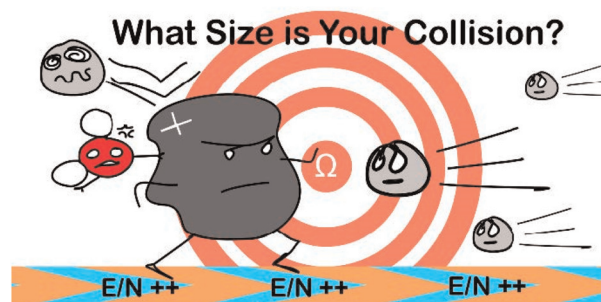
Ju-Zheng Wang, Yi-Xuan Li, Qiaoting Yang, Junji Li,* Jérôme Chauvin, Xue-Ji Zhang, Serge Cosnier, Robert S. Marks and Dan Shan*



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The dependence of reduced mobility, ion-neutral collisional cross sections, and alpha values on reduced electric field strengths in ion mobility

Cameron N. Naylor, Christoph Schaefer and Stefan Zimmermann*



The diagram illustrates a two-step transcription process for RNA detection. It begins with a DNA template containing three regions: a 0 gene, a 6 gene, and a 9 gene, flanked by 3ARS-CaV2 whole genome sequences. A fragment template complementary to the 6 gene (containing 20 nt 5' and 20 nt 3' regions) is ligated to the 6 gene. The ligation sites are marked by black asterisks (*). The process then proceeds to 1st transcription, producing 1st transcribed RNA. This is followed by 2nd transcription, which produces 2nd transcribed RNA. The 2nd transcribed RNA is then hybridized with FAM, Cytosine triphosphate (CTP), and Cytosine triphosphate (CTP) to form a complex. This complex is then subjected to fluorescence detection, which shows a quenching turned OFF state.

Tasnima Alam Asa and Young Jun Seo*

Tasnima Alam Asa and Young Jun Seo*

The schematic diagram illustrates the proposed colorimetric assay for Kana detection. The process involves two cycles, Cycle I and Cycle II. In Cycle I, Kana (represented by a blue star) binds to a probe (represented by a blue circle), which then binds to a target (represented by a red circle). In Cycle II, the target binds to a probe, which then binds to a target. The final step shows the target binding to a probe, which then binds to a target, leading to a color change from red to blue. The color change is monitored by a colorimetric assay, showing a shift in the absorption peak from 520 nm to 620 nm.

Xinyue Yuwen, Yingzhao Zeng, Shilong Ruan, Xin Li and
Guosong Lai*

Xinyue Yuwen, Yingzhao Zeng, Shilong Ruan, Xin Li and
Guosong Lai*

Ngoc Mai Duong, Angéline Noclain, Victoria E. Reichel,
Pierre de Cordovez, Jean-Marc Di Meglio,
Pascal Hersen and Gaëlle Charron*

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Pierre de Cordovez, Jean-Marc Di Meglio,
Pascal Hersen and Gaëlle Charron*

The diagram illustrates the assay for HPO_3^{2-} using the enzyme PTDH and the fluorophore Resorufin. The chemical structures of H_2PO_4^- and HPO_4^{2-} are shown at the top. The reaction scheme indicates that NAD^+ is converted to NADH by the enzyme PTDH, which is coupled with the conversion of H_2PO_4^- to HPO_4^{2-} . The chemical structure of Resorufin is shown at the bottom left. The fluorescence spectrum at the bottom right shows multiple curves, and a standard addition plot (red line) is inset, showing the linear relationship between fluorescence intensity and $[\text{HPO}_3^{2-}]$.

Clara A. Bailey and Brandon L. Greene*

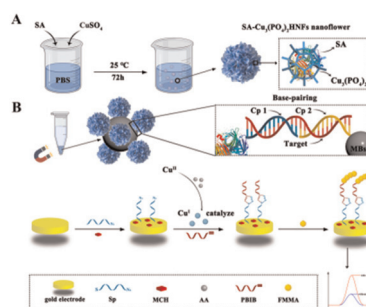
Clara A. Bailey and Brandon L. Greene*

PAPERS

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Electrochemical detection of SARS-CoV-2 based on copper nanoflower-triggered *in situ* growth of electroactive polymers

Ji Lu, Xiaotian Zhou, Yi Li, Min Yu, Siyuan Fu, Zhiling Qu, Yanling Li, Jinfeng Miao and Yuanyuan Xu*



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Molecularly imprinted polymer coating-assisted CsPbBr₃ perovskite quantum dots/TiO₂ inverse opal heterojunctions for the photoelectrochemical detection of cholesterol

Xuan Wang, Fankai Lin, Xiaoyu Zhou, Yunfei Miao, Dongwei Feng, Peng Huang, Mingxing Ren, Lina Geng,* Aiqin Luo* and Yulin Deng*

