

分析化学

CHINESE JOURNAL OF ANALYTICAL CHEMISTRY

VOL.49 NO.4

2021

科学出版社

CODEN FHHHDT

ISSN 0253-3820

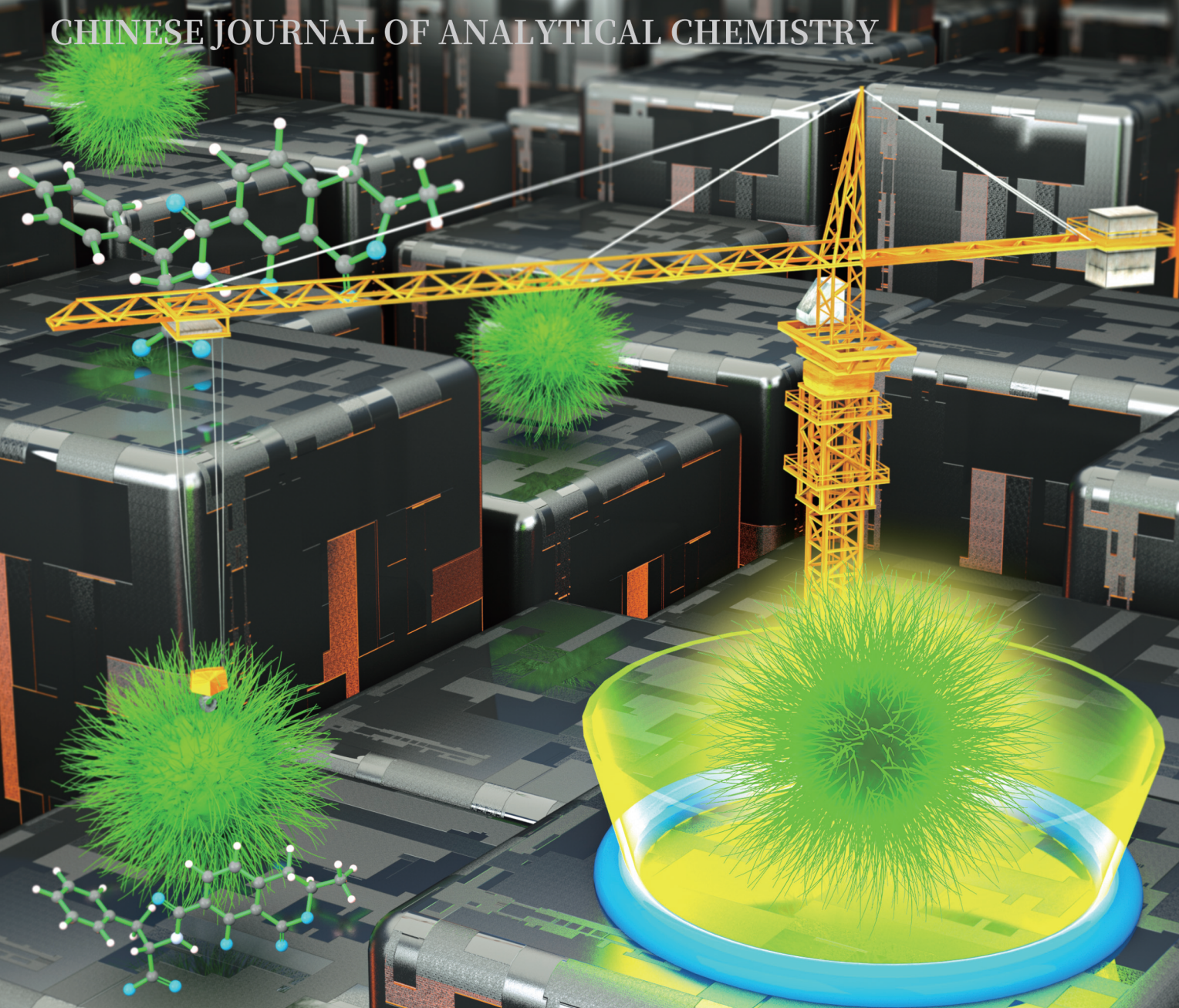
CN 22-1125/O6

分析化学

No.4 Vol.49

2021.4

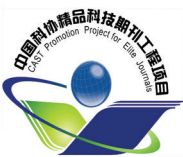
CHINESE JOURNAL OF ANALYTICAL CHEMISTRY



中国科学院长春应用化学研究所
中 国 科 学 化 学 社 出版

主办
出版

方数据



分析化学

第 49 卷 第 4 期 2021 年 4 月

目 次

青年分析测试专栏

- ★新型循环肿瘤细胞富集及精准分析方法的研究进展
..... 申聪聪 吴呈珂 陈粤华 王建秀 阳明辉* 仇华* (483)
- ★激活式复合功能核酸化学发光传感器检测葡萄酒中的赭曲霉毒素 A
..... 杨成* 张亚旗 林黛琴* 刘洋 孙冰冰 (496)
- 高效液相色谱法测定面粉及面粉处理剂中新型非法添加剂
..... 国振 周霞 赵博 赵光亮 李先江 李秀琴* 张庆合 (504)
- 高效液相色谱串联高分辨多级质谱应用于亚麻籽环肽氧化监测 朱莉莉 陈大勇 童文骏* (512)
- ★在线固相萃取-高效液相色谱-电感耦合等离子体质谱法同时测定
血清中多溴二苯醚及其羟基代谢产物 金津 宋善军* 彭子娟 郭峰* 李彭辉 (520)
- 超高效液相色谱-高分辨质谱法同时测定鱼肉中 16 种全氟烷基化合物
..... 涂祥婷 杨鸿波* 郭峰* 曾士宜 滕春丽 孙晓红 何锦林 林绍霞 (528)
- 纳米颗粒跟踪分析仪用于二氧化钛纳米颗粒分散及检测 王静如 巢静波* 陆达伟 李秀城 (538)
- 高准确度液相色谱-同位素稀释质谱定值技术测定玉米粉中多种真菌毒素
..... 刘栓 冯梦雨 李晓敏 唐光诗* 张庆合 李秀琴* (546)
- 莱克多巴胺标准物质中的有机杂质鉴定分析 段磐辉 孟珂 张宜文 高慧 马康* (554)
- 高分辨质谱测定氘标记化合物同位素分布与丰度的方法研究
..... 田甜 刘书好* 李双青 李秀琴* 张庆合 (563)
- 加速溶剂萃取-固相萃取-层析柱净化法同时测定沉积物中多氯联苯、多溴二苯醚和有机磷阻燃剂
..... 张玮庭 宋善军* 卢柏灵 彭子娟 李彭辉* (571)

评 述 与 进 展

- ★纳米酶及其在生物医学检测领域的研究进展 尉枫 韩晓军* (581)
- ★多元光学计算与下一代光谱仪 段潮舒 蔡文生 邵学广* (593)

研 究 报 告

- 光图案化纳米孔薄膜集成微流控芯片的适配体亲和电泳研究
..... 熊孟 任金芝 胡善文 徐静娟* 陈洪渊 (602)
- 云母表面纳米水层中 A β 16-22 自组装的研究
..... 陈文勇 王建华 杨甜甜 霍庚阳 徐薇 李宾 周星飞* (611)

超高效液相色谱-质谱联用技术分析中波紫外线辐射致抑郁模型

大鼠口服 20(S)-人参皂苷 Rg3 的药代动力学行为	王恩鹏 杜连云 朱爽 韩燕燕 刘淑莹 陈长宝* 李平亚*	(618)
磁性分子印迹微球的制备及其对熊果酸的选择性分离	张鑫* 李彦松 汤波 张浩 焦朋飞 韦宇平 王鹏	(628)
双波长-导数-同步荧光法同时测定溶解态 1-甲基萘及其代谢产物	陈晶晶 郭帅 朱亚先 张勇*	(636)
罗丹明 B-钆基金属有机框架复合材料高选择性荧光检测铁离子	陈阳 赵杰 张嘉惠 李静 杜佩瑶* 卢小泉*	(642)

企业消息

安捷伦荣获多项 2020 年度科学家选择奖(537)、赛默飞与中国分析测试协会高校分析测试分会达成战略合作(545)、沃特世推出新版肽段水平多属性方法,促进原研药和生物类似药开发和商业化(627)

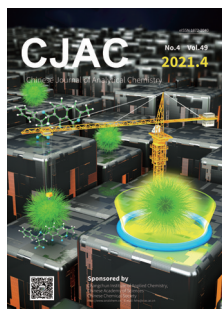
广 告

广告目次

瑞士万通中国有限公司(封二) 岛津国际贸易(上海)有限公司(文前 1) 岛津国际贸易(上海)有限公司(文前 2)
钢研纳克检测技术股份有限公司(文前 3) 青岛盛瀚色谱技术有限公司(文前 4) 北京莱伯泰科科技有限公司(文前 5)
德国耶拿分析仪器有限公司(文前 6) 北京普析通用仪器有限责任公司(文前 7) 普发真空技术(上海)有限公司(目录对)
北京海光仪器公司(封三) 永华化学股份有限公司(封底)

(本期责任编辑:于桂红 编排:张煜华)

* 通讯联系人
★ 该文章的英文电子版由 Elsevier 出版社在 ScienceDirect 上出版 (<http://www. sciencedirect. com/journal/chinese-journal-of-anlaytical-chemistry>)



On page 496 – 503, Yang et al. prepared a chemiluminescence sensor using Ochratoxin A (OTA) aptamer as the activation switch of the split DNAzyme for high-sensitivity detection of OTA in wine. With this method, the detection limit of OTA was as low as 0.10 nmol/L, showing high sensitivity and selectivity.

CONTENTS

Vol. 49 No. 4 (483-651) April 2021

Analysis and Testing Column

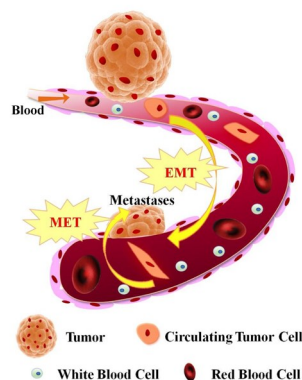
★ Advance in Novel Methods for Enrichment and Precise Analysis of Circulating Tumor Cells

SHEN Cong-Cong, WU Cheng-Ke,

CHEN Yue-Hua, WANG Jian-Xiu,

YANG Ming-Hui*, ZHANG Hua*

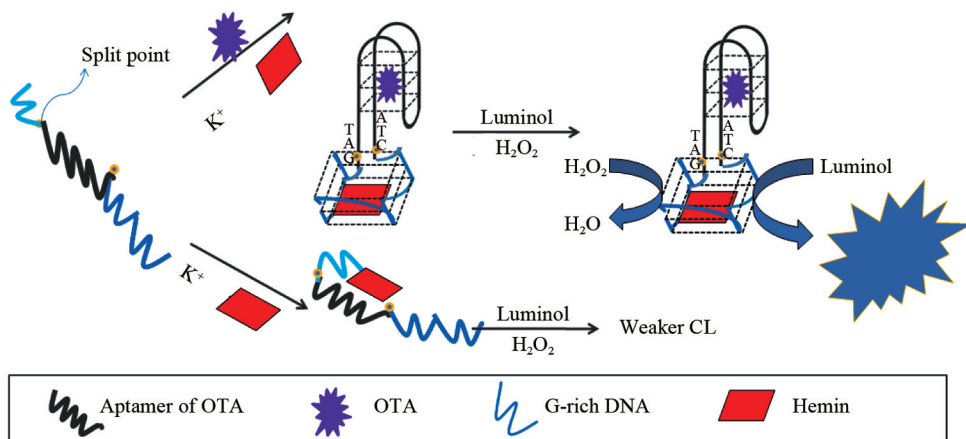
Chinese J. Anal. Chem., 2021, 49(4): 483-495



★ Chemiluminescence Sensor Based on Composite Functional Nucleic Acid for Detection of Ochratoxin A in Wine

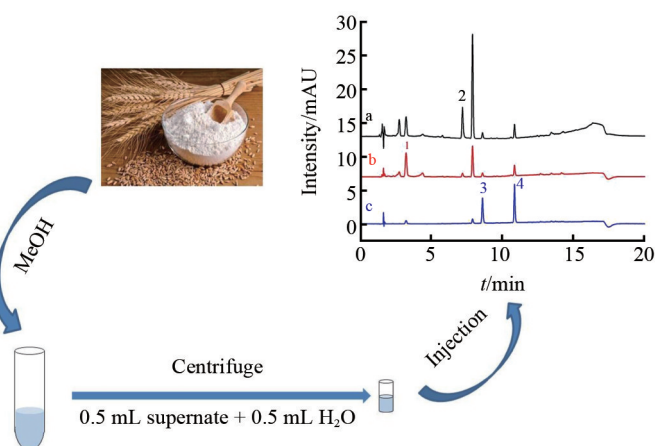
YANG Cheng*, ZHANG Ya-Qi, LIN Dai-Qin*, LIU Yang, SUN Bing-Bing

Chinese J. Anal. Chem., 2021, 49(4): 496-503



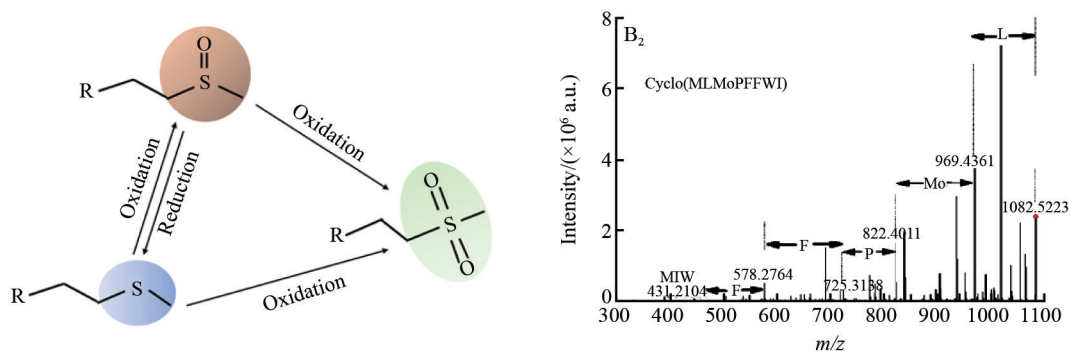
Determination of New Illegal Additives in Wheat Flour and Flour Treatment Agent by High Performance Liquid Chromatography

GUO Zhen, ZHOU Xia, ZHAO Bo, ZHAO Guang-Liang, LI Xian-Jiang, LI Xiu-Qin^{*}, ZHANG Qing-He
Chinese J. Anal. Chem., **2021**, 49(4): 504-511



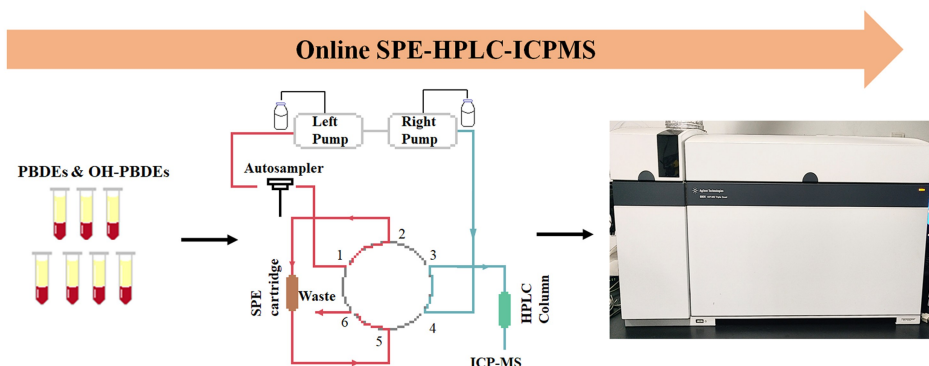
Oxidation Monitoring of Cyclolinopeptide in Flaxseed by High Performance Liquid Chromatography-Tandem Mass Spectrometry

ZHU Li-Li, CHEN Da-Yong, TONG Wen-Jun^{*}
Chinese J. Anal. Chem., **2021**, 49(4): 512-519



Determination of Polybrominated Diphenyl Ethers and Hydroxylated Analogues in Serum Using High Performance Liquid Chromatography-Inductively Coupled Plasma Mass Spectrometry with Online Solid Phase Extraction

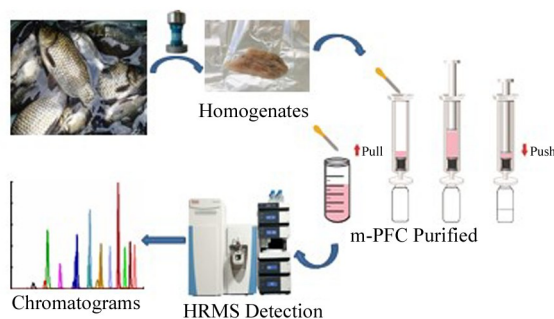
JIN Jin, SONG Shan-Jun^{*}, PENG Zi-Juan, GUO Feng^{*}, LI Peng-Hui
Chinese J. Anal. Chem., **2021**, 49(4): 520-527



Simultaneous Determination of 16 Kinds of Perfluoroalkyl Substances in Fish Muscle by Ultra High Performance Liquid Chromatography-High Resolution Mass Spectrometry

TU Xiang-Ting, YANG Hong-Bo*,
GUO Feng*, ZENG Shi-Yi, TENG Chun-Li,
SUN Xiao-Hong,
HE Jin-Lin, LIN Shao-Xia

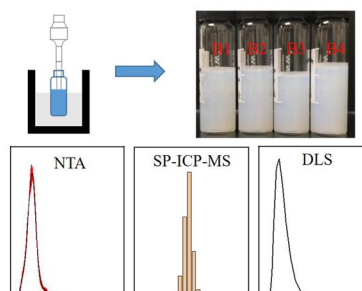
Chinese J. Anal. Chem., **2021**, 49(4): 528-537



Dispersion and Detection of Titanium Dioxide Nanoparticles Based on Nanoparticle Tracking Analysis

WANG Jing-Ru, CHAO Jing-Bo*,
LU Da-Wei, LI Xiu-Cheng

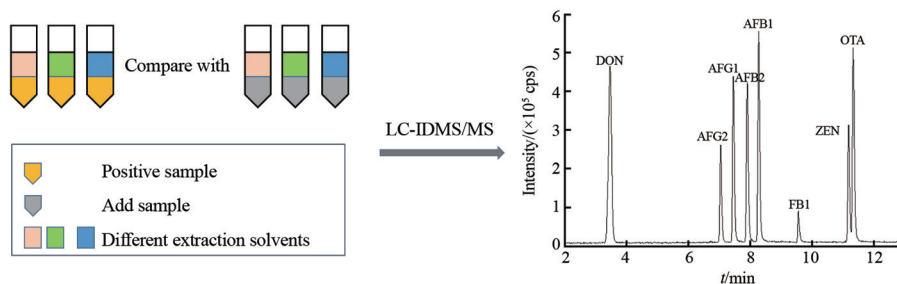
Chinese J. Anal. Chem., **2021**, 49(4): 538-545



High Accuracy Liquid Chromatography-Isotopic Dilution Mass Spectrometry Method for Determination of Multi-mycotoxins in Maize

LIU Shuan, FENG Meng-Yu, LI Xiao-Min, TANG Guang-Shi*, ZHANG Qing-He, LI Xiu-Qin*

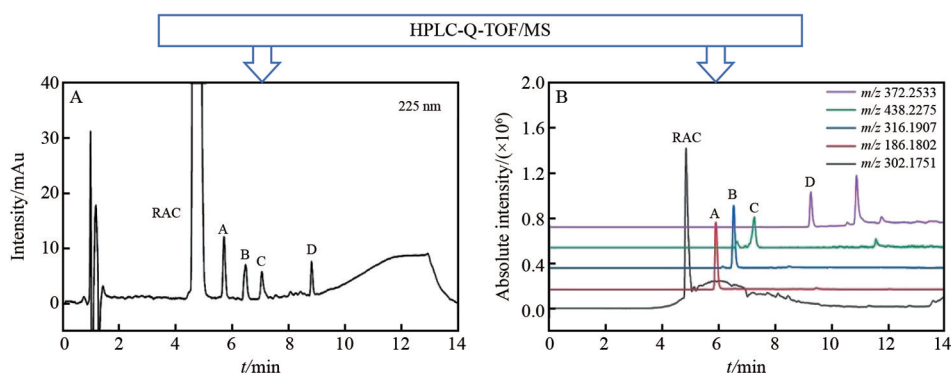
Chinese J. Anal. Chem., **2021**, 49(4): 546-553



Identification of Organic Impurities in Ractopamine Reference Material

DUAN Pan-Hui, MENG Ke, ZHANG Yi-Wen, GAO Hui, MA Kang*

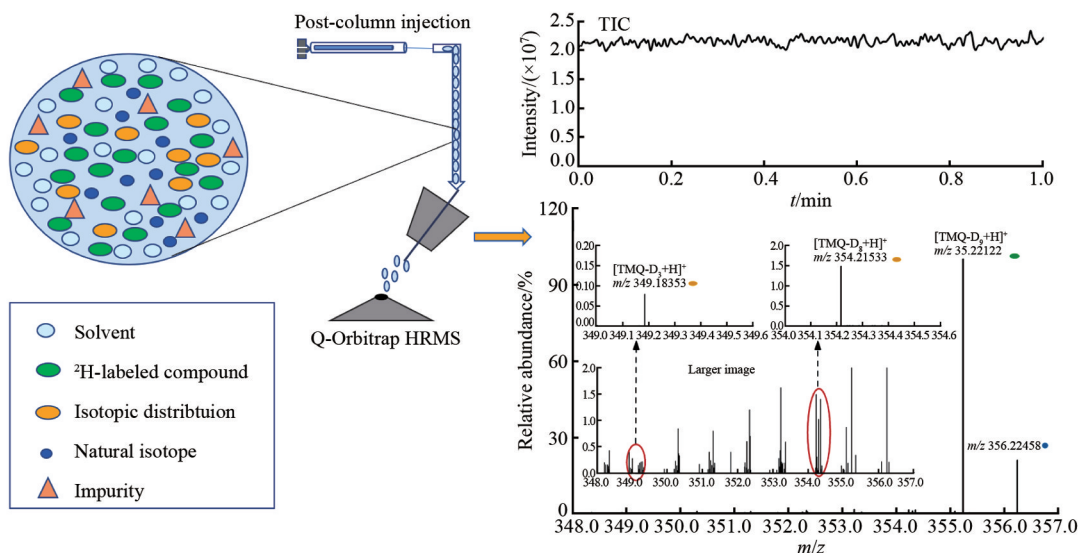
Chinese J. Anal. Chem., **2021**, 49(4): 554-562



Determination of Isotope Distribution and Abundance of Deuterium Labeled Compounds by High Resolution Mass Spectrometry

TIAN Tian, LIU Shu-Yu *, LI Shuang-Qing, LI Xiu-Qin *, ZHANG Qing-He

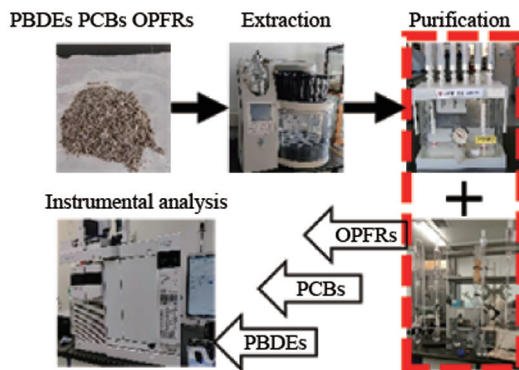
Chinese J. Anal. Chem., 2021, 49(4): 563-570



Simultaneous Determination of Polychlorinated Biphenyls, Polybrominated Diphenyl Ethers and Organophosphate Flame Retardants in Sediments Using Accelerated Solvent Extraction-Column Purification-Solid Phase Extraction Method

ZHANG Wei-Ting, SONG Shan-Jun *, LU Bo-Ling, PENG Zi-Juan, LI Peng-Hui *

Chinese J. Anal. Chem., 2021, 49(4): 571-580

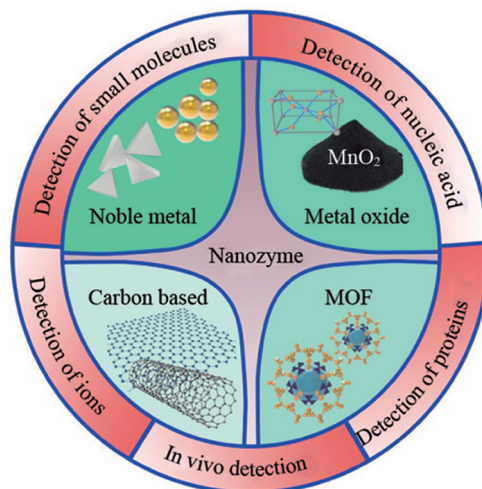


Review and Progress

★ Nanozymes and Their Application Progress in Biomedical Detection

WEI Feng, HAN Xiao-Jun *

Chinese J. Anal. Chem., 2021, 49(4): 581-592

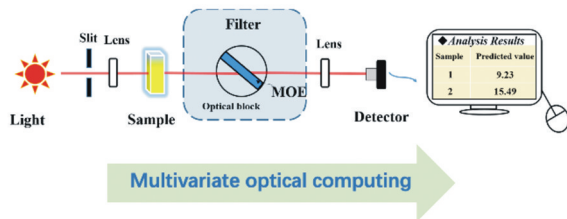


★ Multivariate Optical Computing and Next-generation Spectrometer

DUAN Chao-Shu, CAI Wen-Sheng,

SHAO Xue-Guang*

Chinese J. Anal. Chem., **2021**, 49(4): 593-601



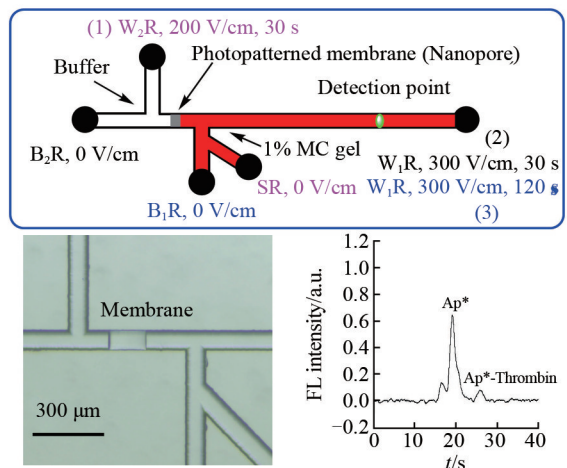
Scientific Papers

Integrated Microfluidic Chip for Aptamer Affinity Probe Electrophoresis Assay Using in Situ Photopatterned Nanoporous Membrane

XIONG Meng, REN Jin-Zhi, HU Shan-Wen,

XU Jing-Juan*, CHEN Hong-Yuan

Chinese J. Anal. Chem., **2021**, 49(4): 602-610



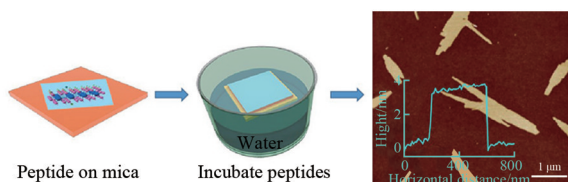
Self-assembly of Aβ16-22 in Water Nanofilm on Mica Surface

CHEN Wen-Yong, WANG Jian-Hua,

YANG Tian-Tian, HUO Geng-Yang, XU Wei,

LI Bin, ZHOU Xing-Fei*

Chinese J. Anal. Chem., **2021**, 49(4): 611-617

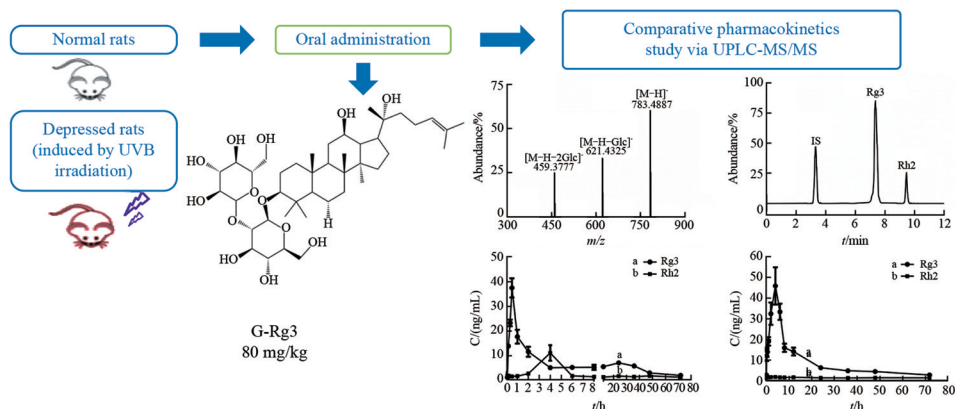


Investigation of Pharmacokinetic Behavior of Depression Rats Caused by UVB Radiation after Oral Administration of 20(S)-Ginsenoside Rg3 by Ultra High Performance Liquid Chromatography-Tandem Mass Spectrometry

WANG En-Peng, DU Lian-Yun, ZHU Shuang, HAN Yan-Yan, LIU Shu-Ying, CHEN Chang-Bao*,

LI Ping-Ya*

Chinese J. Anal. Chem., **2021**, 49(4): 618-627



Preparation of Magnetic Molecularly Imprinted Microspheres for Selective Separation of Ursolic Acid

ZHANG Xin^{*}, LI Yan-Song, TANG Bo,
ZHANG Hao, JIAO Peng-Fei, WEI Yu-Ping,
WANG Peng

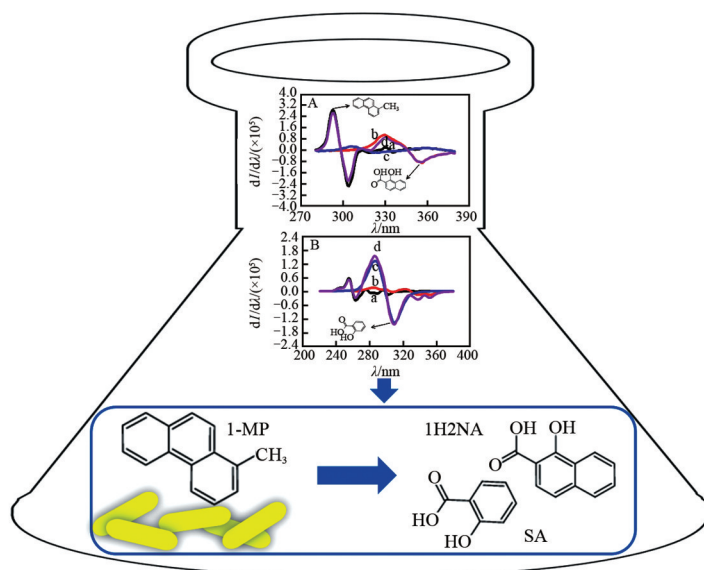
Chinese J. Anal. Chem., **2021**, 49(4): 628-635



Simultaneous Determination of Dissolved 1-Methylphenanthrene and Its Metabolites by Derivative Synchronous Fluorescence Spectrometry with Double Scans Method

CHEN Jing-Jing, GUO Shuai, ZHU Ya-Xian, ZHANG Yong^{*}

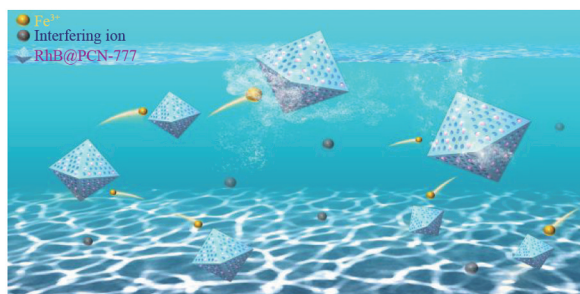
Chinese J. Anal. Chem., **2021**, 49(4): 636-641



Integration of Rhodamine B into Zirconium-based Metal-Organic Framework for Selective Detection of Ferric Ion

CHEN Yang, ZHAO Jie, ZHANG Jia-Hui,
LI Jing, DU Pei-Yao^{*}, LU Xiao-Quan^{*}

Chinese J. Anal. Chem., **2021**, 49(4): 642-651



^{*} The author to whom the correspondence should be addressed

★ The English electronic version of the article is published by Elsevier on ScienceDirect (<http://www.sciencedirect.com/journal/chinese-journal-of-analytical-chemistry>)