

2026 年度中国分析测试协会分析测试科学奖公示材料

一、项目名称：复杂水样中痕量污染物的现场快速检测关键技术及应用

二、主要完成人：赵艳、杨媛、张国麒、苏宇彬、熊杰、简龙骥、吴燕、赵云芝、马兰

三、完成单位：西华大学、西南交通大学、四川省生态环境监测总站、四川清河科技有限公司

四、代表性论文、专利、标准

(一) 代表性论文：

1. Lin Lv, Hongmei Liu, Lei Wang, Sikai Wang, Yue Li, Guoqi Zhang*, Yan Zhao*, Metal-organic framework UiO-66-NH₂ functionalized polydopamine-modified magnetic multi-walled carbon nanotubes for convenient magnetic solid-phase extraction of sixteen quinolones. Food Chemistry, 2025, 486, 144604.

2. Hong-mei Liu, Yue Li, Sikai Wang, Sisi Zhang, Guoqi Zhang, Yan Zhao*, Zeolitic imidazolate framework functionalized magnetic multiwalled carbon nanotubes as efficient adsorbents for rapid extraction of fluoroquinolones. Food Chemistry, 2025, 464, 141619.

3. Hongmei Liu, Yue Li, Sikai Wang, Xinxin Jiang, Sisi Zhang, Guoqi Zhang, Yan Zhao*, Magnetic solid-phase extraction of tetracyclines from milk using metal-organic framework MIL-101(Cr)-NH₂ functionalised hydrophilic magnetic nanoparticles. Food Chemistry, 2024, 452, 139579.

4. YuBin Su, Yao Lin, Chengbin Zheng*, Determination of cadmium in high-salt-containing samples by high-throughput solid phase microextraction coupled with microplasma-induced vapor generation atomic fluorescence spectrometry, Journal of Hazardous Materials, 2026, 500, 140379.

5. YuBin Su, Yao Lin, Tian Ren, YuanYuan Li, YuRong Deng, ChengBin Zheng*, Solid phase photothermo-induced chemical vapor generation: a new desorption method for mercury analysis by high-throughput 20-fiber direct immersion solid phase microextraction, Analytical Chemistry, 2023, 95, 14036–14042.

6. Yuan Yang, Hanshuang Li, Yue Wang, Zhouyu Wang, Yuanyuan Zhang*, Yurong Deng*, Chengbin Zheng*, A portable chemical vapor generation purge-and-trap point discharge optical emission spectrometer for field selective analysis of Se(IV) in water, Sensors and Actuators B: Chemical, 2026, 446, 138668.

7. Yuan Yang, Xiaoli Wu, Qiuyi Yan, Hongling Zhou, Yurong Deng*, Chengbin Zheng*, Point discharge molecular emission spectrometer as a highly sensitive GC detector for the analysis of furans in food products, Food Chemistry 2025, 492, 145572.

8. Yuan Yang, Yue Wang, Xi Wang, Xiaoli Wu, Qiuyi Yan, Hongling Zhou, Yurong Deng*, Chengbin Zheng*, High-throughput miniaturized purge-and-trap device integrating semiconductor refrigeration storage for on-site extraction and long-term preservation of VOCs in water, Chinese Chemical Letters, 2025, 36, 111395.

9. Yuan Yang, Xiaoli Wu, Hanshuang Li, Yurong Deng*, Chengbin Zheng*, Determination of selenite and organoselenium in water using GC coupled with a 3D-printed point discharge atomic emission detector and HS-SPME, Chinese Chemical Letters, 2025, 37, 112298.

10. Wencai Jiang, Xiaomei Li, Jiahao Cheng, Liyao Xu, Riza He, Guilin Zou, Zhibo Hou*, Yan Zhao*, Guoqi Zhang*, Machine learning-assisted sensor array based on enhanced dual enzyme-like activities of Fe SAzymes modulated via Pluronic surfactant for multi-category perfluoroalkyl intelligent recognition and quantification. Chemical Engineering Journal, 2026, 527, 171812.

(二) 代表性专利:

1. 杨媛, 一种集成半导体冷藏储存的吹扫捕集现场采样装置, ZL202422502935.1, 中国实用新型专利证书, 2025.08.15

2. 马兰, 张李云, 万艳, 王腾, 蒋珍菊, 张桂兰, 李歆艳, 可见光驱动自清洁的氮化碳异质结油水分离膜、制备方法、应用, ZL202210705043.4, 中国发明专利, 2023.06.30

3. 向文良, 李建, 黄元松, 简龙骥, 宋菲菲, 刘学阳, 郑进, 一种环境污水流量检测装置及污水流量检测方法, ZL202111149834.7, 中国发明专利, 2022.02.11

4. 简龙骥, 向文良, 李建, 黄元松, 宋菲菲, 刘学阳, 郑进, 一种水质检测组件、组合式水质监测系统及监测方法, ZL202111291774.0, 中国发明专利, 2022.01.04

5. 向文良, 李建, 梁华忠, 宋菲菲, 王跃筠, 黄元松, 简龙骥, 刘学阳, 一种用于快速检测除藻效果的装置, ZL202011227805.1, 中国发明专利, 2022.01.28

(三) 标准:

1. HJ 1395—2024 水质 17 种杂环类农药的测定 高效液相色谱法, 中华人民共和国国家生态环境标准, 颁布时间 2024 年 12 月 25 日

2. HJ 1470—2026 水质 六价铬的测定 柱后衍生-离子色谱法, 中华人民共和国国家生态环境标准, 颁布时间 2026 年 5 月 15 日