

王振光个人简历

一、个人简介

王振光, 男, 1987年5月, 香港城市大学博士。现为河北大学教授, 博士生导师。河北省自然科学基金杰出青年基金获得者、河北省“百人计划”省级特聘专家、河北省新世纪“三三三人才工程”第三层次人选。本人立足于化学测量学的发展需求, 以实现环境污染物、生物分子的灵敏、特异性、快速检测为研究目标, 借助发光材料表面功能化修饰、界面性质与结构微环境调控, 创建了若干污染物和生物分子的分析新方法, 为复杂样品的高灵敏和高选择性分析提供了新策略和新途径。以第一作者/通讯作者发表SCI收录论文40余篇, 包括 *Angew Chem Int Ed*、*Energy Environ. Sci.*、*Adv Funct Mater*、*Biosens. Bioelectron.*、*Chem Commun* 等, 先后主持了国家自然科学基金青年、面上项目, 河北省自然科学基金杰出青年基金、河北省高层次人才资助项目等6项课题。

二、教育及工作经历

教育经历

2006.09 – 2010.06, 河北大学, 化学与环境科学学院, 学士

2010.09 – 2013.06, 山东大学, 化学与化工学院, 硕士

2014.09 – 2017.10, 香港城市大学, 物理与材料科学系, 博士

工作经历

2013.07 – 2014.07, 淄博市疾病预防控制中心, 卫生检验中心, 科员

2017.12 – 2018.03, 香港科技大学, 化学系, 研究助理

2018.04 – 至今 河北大学, 化学与环境科学学院, 先后晋升讲师、副教授、教授

三、主讲课程及研究方向

1. 主讲课程: 无机及分析化学、无机及分析化学实验、基础化学实验、大学化学
2. 研究方向: 光谱分析、环境污染物与生物分子检测

四、科研项目

1. 硫量子点发光性能调控及白光 LED 应用研究 (项目批准号: 22175052), 国家自然科学基金面上项目(2022-2025 年, 60 万元, 主持人)
2. 功能化铜纳米团簇/二维纳米材料荧光检测平台的构建及其在胆碱酯酶检测中的应用 (项目批准号: 21804030), 国家自然科学基金青年项目(2019-2021 年, 25 万元, 主持人)
3. 高效硫量子点发光二极管的制备及关键问题研究(项目批准号: B2020201060), 河北自然科学基金杰青项目(2020-2022 年, 50 万元, 主持人)
4. 发光纳米材料合成及其应用研究 (项目批准号: E2019050011), 河北省“百人计划”资助项目(2020-2022 年, 50 万元, 主持人)
5. 基于硫量子点的胆碱酯酶检测方法研究 (项目批准号: BJ2020033), 河北省教育厅青年拔尖人才项目 (2020-2022 年, 9 万元, 主持人)

五、获奖与荣誉称号

1. 河北省“百人计划”省级特聘专家
2. 河北省新世纪“三三三人才工程”第三层次人选
3. 河北省化学会“青年学术英才”

六、代表性论文

1. Zhenguang Wang*; Chuanchuan Zhang; Henggang Wang; Yuan Xiong; Xinjian Yang; Yu-e Shi; Andrey L. Rogach*, Two-Step Oxidation Synthesis of Sulfur with a Red Aggregation-Induced Emission. *Angew. Chem. Int. Ed.* 2020, 59, 9997.
2. Henggang Wang; Zhenguang Wang*; Yuan Xiong; Stephen V. Kershaw; Tianzi Li; Yue Wang; Yongqing Zhai; Andrey L. Rogach*, Hydrogen Peroxide Assisted Synthesis of Highly Luminescent Sulfur Quantum Dots. *Angew. Chem. Int. Ed.* 2019, 58, 7040.
3. Zhenguang Wang; Yu-e Shi; Xuming Yang; Yuan Xiong; Yanxiu Li; Bingkun Chen; Wing-Fu Lai*; Andrey L. Rogach*, Water-Soluble Biocompatible Copolymer Hypromellose Grafted Chitosan Able to Load Exogenous Agents and Copper Nanoclusters with Aggregation-Induced Emission. *Adv. Funct. Mater.* 2018, 28, 1802848.
4. Minshen Zhu; Zhenguang Wang; Hongfei Li; Yuan Xiong; Zhuoxin Liu; Zijie Tang; Yang Huang; Andrey L. Rogach*; Chunyi Zhi*, Light-permeable, photoluminescent microbatteries embedded in the color filter of a screen. *Energy Environ. Sci.* 2018, 11,

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5. Zhenguang Wang; Bingkun Chen; Andrei S. Susha; Weihua Wang; Claas J. Reckmeier; Rui Chen; Haizheng Zhong; Andrey L. Rogach*, All-Copper Nanocluster Based Down-Conversion White Light-Emitting Devices. *Adv. Sci.* 2016, 3, 1600182.
6. Zhenguang Wang; Yuan Xiong; Stephen V. Kershaw; Bingkun Chen; Xuming Yang; Nirmal Goswami; Wing-Fu Lai; Jianping Xie; Andrey L. Rogach*, In Situ Fabrication of Flexible, Thermally Stable, Large-Area, Strongly Luminescent Copper Nanocluster/Polymer Composite Films. *Chem. Mater.* 2017, 29, 10206.
7. Chuanchuan Zhang, Henggang Wang, Xingwang Lan, Yu-e Shi, Zhenguang Wang*, Modulating Emission of Nonconventional Luminophores from Nonemissive to Fluorescence and Room-Temperature Phosphorescence via Dehydration-Induced Through-Space Conjugation. *J. Phys. Chem. Lett.* 2021, 12, 1413.
8. Yu-e Shi; Jinzhu Ma; Anrui Feng; Zhenguang Wang*; Andrey L. Rogach*, Aggregation-induced emission of copper nanoclusters. *Aggregate* 2021, 2, e112.
9. Zhen Zhang; Yu-e Shi*; Yibo Liu; Yifei Xing; Ding Yi; Zhenguang Wang*; Dongpeng Yan*, Highly efficient and stable deep-blue room temperature phosphorescence via through-space conjugation. *Chem. Eng. J.* 2022, 442, 136179.
10. Wei Li; Yuchen Rong; Jingyi Wang; Tianzi Li; Zhenguang Wang*, MnO₂ switch-bridged DNA walker for ultrasensitive sensing of cholinesterase activity and organophosphorus pesticides. *Biosens. Bioelectron.* 2020, 169, 112605.
11. Jinzhu Ma; Zhangdi Lu; Chenmin Li; Yingjian Luo; Yu-e Shi*; Parvej Alam; Jacky W. Y. Lam; Zhenguang Wang*; Ben Zhong Tang*, Fluorescence ratiometric assay for discriminating GSH and Cys based on the composites of UiO-66-NH₂ and Cu nanoclusters. *Biosens. Bioelectron.* 2022, 114582.
12. Donghui Wang; Zhangdi Lu; Xiaoman Qin; Zhen Zhang; Yu-e Shi*; Jacky W. Y. Lam; Zhenguang Wang*; Ben Zhong Tang*, Boric Acid-Activated Room-Temperature Phosphorescence and Thermally Activated Delayed Fluorescence for Efficient Solid-State Photoluminescence Materials. *Adv. Optical Mater.* 2022, 2200629.
13. Zhenguang Wang; Bingkun Chen; Andrey L. Rogach, Synthesis, optical properties and applications of light-emitting copper nanoclusters. *Nanoscale Horiz.*, 2017, 2, 135.
14. Siyu Gou; Yu-e Shi; Pan Li; Henggang Wang; Tianzi Li; Xuming Zhuang; Wei Li;

Zhenguang Wang*, Stimuli-Responsive Luminescent Copper Nanoclusters in Alginate and Their Sensing Ability for Glucose. *ACS Appl. Mater. Interfaces* 2019, 11, 6561.

15. Zhenguang Wang; Minshen Zhu; Siyu Gou; Zhou Pang; Yue Wang; Yibo Su; Yang Huang; Qunhong Weng; Oliver G. Schmidt; Jianzhong Xu, Pairing of Luminescent Switch with Electrochromism for Quasi-Solid-State Dual-Function Smart Windows. *ACS Appl. Mater. Interfaces* 2018, 10, 31697.

16. Zhenguang Wang; Bingkun Chen; Minshen Zhu; Stephen V. Kershaw; Chunyi Zhi; Haizheng Zhong; Andrey L. Rogach, Stretchable and Thermally Stable Dual Emission Composite Films of On-Purpose Aggregated Copper Nanoclusters in Carboxylated Polyurethane for Remote White Light-Emitting Devices. *ACS Appl. Mater. Interfaces* 2016, 8, 33993.

17. Zhenguang Wang; Andrei S. Susha; Bingkun Chen; Claas Reckmeier; Ondrej Tomanec; Radek Zboril; Haizheng Zhong; Andrey L. Rogach*, Poly(vinylpyrrolidone) supported copper nanoclusters: glutathione enhanced blue photoluminescence for application in phosphor converted light emitting devices. *Nanoscale* 2016, 8, 7197.

18. Li Fu; Aiwu Wang; Kefeng Xie; Jiangwei Zhu; Fei Chen; Henggang Wang; Huaiwei Zhang; Weitao Su; Zhenguang Wang*; Cangtao Zhou; Shuangchen Ruan, Electrochemical detection of silver ions by using sulfur quantum dots modified gold electrode. *Sens. Actuators, B* 2020, 304, 127390.

19. Tianzi Li; Zhenguang Wang*; Dafeng Jiang; Henggang Wang; Wing-Fu Lai; Yunkai Lv; Yongqing Zhai*, A FRET biosensor based on MnO₂ nanosphere/copper nanocluster complex: From photoluminescence quenching to recovery and magnification. *Sens. Actuators, B* 2019, 290, 535.

20. Yu-e Shi; Peng Zhang; Daqing Yang; Zhenguang Wang*, Synthesis, photoluminescence properties and sensing applications of luminescent sulfur nanodots. *Chem. Commun.* 2020, 56, 10982.

21. Zhenguang Wang; Qingwang Xue; Wenzhi Tian; Lei Wang; Wei Jiang, Quantitative detection of single DNA molecules on DNA tetrahedron decorated substrates. *Chem. Commun.* 2012, 48, 9661.

22. Chuanchuan Zhang; Peng Zhang; Xiaojing Ji; Henggang Wang; Haizhu Kuang; Weiling Cao; Mingyue Pan; Yu-e Shi; Zhenguang Wang*, Ultrasonication-promoted

synthesis of luminescent sulfur nano-dots for cellular imaging applications. *Chem. Commun.* 2019, 55, 13004.

23. Xuming Zhuang; Xueqing Gao; Chunyuan Tian; Deliang Cui; Feng Luan; Zhenguang Wang*; Yuan Xiong; Lingxin Chen, Synthesis of europium(iii)-doped copper nanoclusters for electrochemiluminescence bioanalysis. *Chem. Commun.* 2020, 56, 5755.

24. Tianzi Li; Yetong Gao; Huiya Li; Chenyang Zhang; Yifei Xing; Meng Jiao; Yu-e Shi; Wei Li; Yongqing Zhai; Zhenguang Wang*, Ultrasensitive detection of butyrylcholinesterase activity based on the inner filter effect of MnO₂ nanosheets on sulfur nanodots. *Analyst* 2020, 145, 5206.

25. Huitao Liu; Xueqing Gao; Xuming Zhuang; Chunyuan Tian; Zhenguang Wang*; Yanxiu Li; Andrey L. Rogach, A specific electrochemiluminescence sensor for selective and ultra-sensitive mercury(ii) detection based on dithiothreitol functionalized copper nanocluster/carbon nitride nanocomposites. *Analyst* 2019, 144, 4425.

26. Yu-e Shi; Fei Han; Luoyuan Xie; Chuanchuan Zhang; Tianzi Li; Henggang Wang; Wing-Fu Lai; Shaojuan Luo; Wei Wei; Zhenguang Wang*; Yang Huang*, A MXene of type Ti₃C₂T_x functionalized with copper nanoclusters for the fluorometric determination of glutathione. *Microchim. Acta* 2019, 187, 38.

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29. Zerui Ma; Lili Cao; Yifei Xing; Anrui Feng; Peng Zhang; Wei Li; Hailiang Nie; Yu-e Shi*; Zhenguang Wang*, Sensitive detection of butyrylcholinesterase activity based on a separation-free photothermal assay. *Microchem. J.* 2021, 166, 106220.

30. Zhenguang Wang; Rui Chen; Yuan Xiong; Klara Cepe; Julian Schneider; Radek Zboril; Chun-Sing Lee; Andrey L. Rogach*, Incorporating Copper Nanoclusters into Metal-Organic Frameworks: Confinement-Assisted Emission Enhancement and

- Application for Trinitrotoluene Detection. *Part. Part. Syst. Charact.* 2017, 34, 1700029.
31. Yu-e Shi; Xuming Zhuang; Lili Cao; Siyu Gou; Yuan Xiong; Wing-Fu Lai; Zhenguang Wang*; Andrey L. Rogach, Copper-Nanocluster-Based Transparent Ultraviolet-Shielding Polymer Films. *ChemNanoMat* 2019, 5, 110.
32. Mengyu Chen; Jingdan Zhang; Jianyu Chang; Huiya Li; Yongqing Zhai; Zhenguang Wang*, Ultrasensitive detection of butyrylcholinesterase activity based on self-polymerization modulated fluorescence of sulfur quantum dots. *Spectrochim. Acta, Part A* 2021, 120756.
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34. Zhenguang Wang; Tam Dick Yan; Andrei S. Susa; Miu Shan Chan; Stephen V. Kershaw; Pik Kwan Lo; Andrey L. Rogach, Aggregation-free DNA nanocage/Quantum Dot complexes based on electrostatic adsorption. *Colloids Surf., A* 2016, 495, 62.
35. Yue Wang; Yu-e Shi*; Tianzi Li; Henggang Wang; Yanxiu Li; Yuan Xiong; Shan Peng; Zhenguang Wang*, Ligand-assisted reduction and reprecipitation synthesis of highly luminescent metal nanoclusters. *Nanoscale Adv.* 2019, 1, 834.
36. Shuo Liu; Henggang Wang; Anrui Feng; Jianyu Chang; Chuanchuan Zhang; Yu-e Shi*; Yongqing Zhai; Vasudevanpillai Biju*; Zhenguang Wang*, Photoluminescence investigations of sulfur quantum dots synthesized by a bubbling-assisted strategy. *Nanoscale Adv.*, 2021, 3, 4271.
37. Chen-Feng Wang; Zhen-guang Wang*; Xin-Yue Sun; Meng-Jiao Chen; Yun-Kai Lv, An ultrasensitive fluorescent aptasensor for detection of cancer marker proteins based on graphene oxide–ssDNA. *RSC Adv.* 2018, 8, 41143.
38. Henggang Wang; Zhen Zhang; Qinqin Yan; Chenyang Zhang; Yifei Xing; Yuan Xiong; Feng Zhang; Zhenguang Wang*, Highly Luminescent Solid-State Carbon Dots Embedded in a Boric Acid Matrix. *ChemistrySelect* 2020, 5, 13969.
39. 马金珠; 张淼; 史玉娥; 杨大清; 李伟; 王振光*, 发光硫纳米点的合成、光学性质与应用研究进展. *发光学报* 2020, 41 (12), 1627-1637. (庆祝发光学报创刊 40 周年, 特约综述文章)

