

导师简介：高贝贝，女，博士，硕士生导师，

主要从事电极材料设计与水处理工艺研究工作。曾参与了自然科学基金面上项目、湖南省自然科学基金优秀青年基金项目等课题研究，并发表 SCI 论文 9 余篇，申请专利 4 项。



研究方向：电化学高级氧化水处理技术，基于机器学习的低碳催化材料逆向设计

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近年来参与的主要科研项目：

1. 国家自然科学基金面上项目，“连续自驱动光电催化协同破络与铈还原碳基阴极材料构建及性能与机制研究”（编号 52170083，参与）
2. 湖南省自然科学基金优秀青年基金项目，“含铈污水光电催化资源化处理”（编号 2021JJ20007，参与）

代表性成果：

1. **Beibei Gao**, Jing Tan, Qingyi Zeng*, Intensive investigation of the synergistic effects between electrocatalysis and peroxymonosulfate activation for efficient organic elimination. Journal of Hazardous Materials. 2024, 479, 135719. (2024, IF=12.2, Q1, 中科院一区)
2. **Beibei Gao**, Jing Tan, Qingyi Zeng*, Solar-driven Wastewater Treatment Coupled with Hydrogen and Electricity Production via a Bismuth-doped TiO₂ Nanorod Array. Journal of Environmental Chemical Engineering. 2023, 13, 110287. (2023, IF=7.4, Q1, 中科院二区)
3. **Beibei Gao**, Rongzhong Wang, Qingyi Zeng*. KOH-etched carbon fibre cathode exhibiting enhanced U(VI) and organic pollutants removal in a solar wastewater resourceization system via surface modification. Process Safety and Environmental Protection. 195 (2025) 106776. (2025, IF=6.9, Q1, 中科院二区)
4. Qingyi Zeng*, **Beibei Gao**, Jing Tan, Highly active and stable CuAlO_x/WO₃ photoanode for simultaneous pollutant degradation, hydrogen and electricity

generation. *Journal of Environmental Chemical Engineering*. 2023, 11, 109353. (2023, IF=7.4, Q1, 中科院二区)

5. **Beibei Gao**, Ping Cao, Qingyi Zeng*, [001] Faceted BiOI nanosheets in a Self-Sustaining Solar Photoelectrocatalytic Platform for Radioactive Wastewater Treatment. *Journal of Colloid and Interface Science* (Revision Submitted, 中科院一区)
6. Qingyi Zeng, Jing Tan, **Beibei Gao**, Embedding Co in perovskite MoO_3 for superior catalytic oxidation of refractory organic pollutants with peroxydisulfate. *Chemosphere*. 2023, 314, 137726. (2023, IF=8.9, Q1, 中科院二区)
7. Qingyi Zeng, Yuhao Cao, **Beibei Gao**, Peroxydisulfate activation by Co@TiO_2 for high-efficiency organic removals. *Colloids and Surfaces A: Physicochemical and Engineering Aspects*. 2023, 675, 132021. (2023, IF=5.2, Q2, 中科院二区)
8. Minjie Wang, Tao Cai, **Beibei Gao**, Linsen Li*, Qingyi Zeng*, Resourceful treatment of radioactive wastewater by a self-driven photoelectrochemical system with SnO_2 nanorod decorated carbon fiber cathode. *Applied Catalysis B-Environment and Energy*. 379 (2025) 125704. (2025, IF=22.1, Q1, 中科院一区)
9. Qingming Zeng, Yanjun Wen, **Beibei Gao**, Qingyi Zeng*, Self-driven photoelectrocatalytic systems with carbon-felt-loaded carboxylated carbon nanotube cathodes: Reduction of uranyl, oxidation of organics, and power generation. *Chinese Chemical Letters*. 2025, 36, 110673. (2024, IF=8.9, Q1, 中科院一区)
10. 曾庆意, 高贝贝, 章清松, 谭晶。一种太阳光驱动资源化水处理并发电装置。专利号: ZL202221745724.5
11. 曾庆意, 高贝贝, 章清松, 刘益林。一种自驱动水质远程监控及水体净化装置。专利号: ZL202221685768.3
12. 曾庆意, 高贝贝。一种二氧化钛电极在光电催化中的应用。专利号: ZL202210936181.3
13. 曾庆意, 高贝贝, 王荣忠。一种刻蚀碳材料及其制备方法和应用。申请号: 2023116569933