

Curriculum Vita

Jieling Zhang

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EDUCATION

10/2025 – now: PhD student of Electroanalytical Chemistry

-Chimie ParisTech-PSL (Paris, France)

-Supervisor: Prof. Sophie GRIVEAU, Dr. Cyrine SLIM, Dr. Yvette TRAN

09/2022 – 07/2025: M.S. of Inorganic Chemistry

-Shaanxi Normal University, (Xi'an, China)

-Thesis: Design, Preparation, and Electrocatalytic Oxygen Reduction Performance Study of Metal-Loaded Helical Carbon-Based Nanomaterials

09/2018 – 07/2022: B.S. of Chemistry

-Shanxi Datong University, (Datong, China)

RESEARCH

Facing the challenge of widespread and complex detection of emerging pollutants like diclofenac (DCF) in environmental water, this research is dedicated to developing a novel electrochemical biosensor based on hydrogel-modified screen-printed carbon electrodes (SPCEs). The aim is to achieve real-time, highly sensitive, and low-cost on-site detection.

1. Synthesize an ene-functionalized poly(acrylic acid) hydrogel (ene-PAA) suitable for cross linking and grafting (CLAG).
2. Construct a covalently grafted poly(acrylic acid) (PAA) hydrogel network on the electrode surface, providing an ideal interface for the high-density, covalent, and oriented immobilization of biomolecules.
3. Prepare a biosensor capable of detecting DCF by covalently immobilizing DCL-specific aptamers onto the aforementioned hydrogel network.

PUBLICATION

1. **J. Zhang**, Y. Mou, W. Suo, S. Yang, J. Shen, H. Xu, Z. Zeng, R. Zhang, Z. Liang,* Y. Wang,* H. Zheng,* J. Cao*, R. Cao*, Single-Atomic Co-N-C Sites Anchored on Helical Carbonaceous Nanotubes for the Oxygen Reduction Reaction. *Adv. Funct. Mater.*, 2025, 35, 2417621.
2. **J. Zhang**, W. Suo, Y. Han, Y. Cao, Y. Xu, M. Wang, Y. Wang, Z. Liang,* H. Zheng,* R. Cao,* Co nanoparticles encapsulated into N-doped carbon nanotube materials derived from new metal-organic frameworks for oxygen electrocatalysis. *J. Mater. Chem. A*, 2025, 13, 669-679.
3. **J. Zhang**, Z. Liang*, Z. Li, S. Qu, Y. Cao, H. Zheng*, R. Cao*. Recent Progress in Curved Materials for Oxygen Electrocatalysis. *Sustain. Energy Fuels*, 2025, 9, 3152-3181.
4. Z. Liang,[‡] **J. Zhang**,[‡] W. Suo,[‡] H. Zheng, Y. Wang,* R. Cao*, Hollow nanoparticles doped hierarchical hexagonal star shaped cobalt-based phosphosulfides for water splitting. *J. Alloys Compd.* 2024, 971, 172775.
5. Z. Liang,[‡] **J. Zhang**,[‡] H. Zheng,* R. Cao*, Hierarchically porous aggregates of Co–N–C nanoparticles for oxygen electrocatalysis. *Chem. Commun.* 2024, 60, 2216-2219.