



Cui Hengxin

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Applied Chemistry
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EDUCATION

- Nankai University, College of Chemistry** *Sep.2021-June.2025*
Applied Chemistry Percentage: 91.85(Rank: 1/35)
- Nankai University, School of Economics** *Sep.2021-June.2025*
International Economics and Trade Percentage: 90.54
Language: CET-4: 569; CET-6: 579
Coursework:
 - * Organic Chemistry 2-2: 93; Structural Chemistry: 93; Analytical Chemistry: 98; Calculus 2-2: 100;
 - * Linear Algebra: 94; Applied Chemical Analysis: 97; General Physics: 97.5; Advanced Organic Chemistry: 90Will Study in **Peking University**, China

EXPERIENCE

- Exploring the structure and mechanism of bimetallic OER catalysts** *Nov.2023-Now*
Principal Dr. Ke Yang
 - Studying bimetallic catalysts and calculating the energy spectrum of S_0 species by DFT. It is found that the energy of hydroxide bridged structures is lower.
 - Seeking the possible spin states of catalytic species and antiferromagnetic coupling S_0 is preferred.
 - Exploring the influence of different functionals on the energy and structure of catalytic species. The first coordination shell of S_0 is insensitive to functionals.
- The systematic error in Ubbelohde-viscosimeter from Poissuille's equation** *Oct.2023-Dec.2023*
Principal Dr. Xiaoqi Yan
 - Discovering the undeclared error analysis of Ubbelohde viscosimeter from kinetic and energy analyses
 - Writing a paper to elucidate the macro and micro physical process of Ubbelohde viscosimeter (remained to be accepted)
- Innovation of a kind of herbicide** *Sep.2023-Dec.2023*
Leader Dr. Huabin Li
 - An optimised and simplified synthesis approach of herbicides aiming at PPO enzyme.
 - Extending products and synthesing more than 10 possible herbicides.
 - Exploring the influence of different substrates on the activity of epoxy ring opening.
- Synthesis and Biological Application of D- π -A Type-Based NIR-II Probe** *June.2023-July.2023*
Leader Dr. Hao Chen
 - Research Training at SIMM, CAS, Shanghai
 - Synthesis of the probe donor and formation of π bridge between the donor and acceptor.
 - Characterization of probe structure and its optical properties.

SKILLS

Coding and Scripting: Markdown, Python, Bash

Computational Software: VMD, GView; Gaussian; Chemdraw; Multiwfn

Writing and Plotting: L^AT_EX, Matplotlib, Origin, gnuplot

Experiments:

- Fundamental Organic Synthesis: TLC, Recrystallization, Vacuum Distillation, Column Chromatography;
- Molecular Biological Experiments: PCR, SDS-PAGE

ACHIEVEMENTS

- National Scholarship** First Grade of Comprehensive Scholarship(1/35) *Sep.2024*
- First Prize in the 15th National College Student Mathematics Competition** *Nov.2023*
- First Prize in the 8th Tianjin College Student Chemistry Competition** *Oct.2023*
- National Scholarship** First Grade of Comprehensive Scholarship(4/114) *Sep.2023*
- Special Prize in 2023 Tianjin University Physics Competition** Bronze Medal Winner *Apr.2023*

TEACHING EXPERIENCE

- **Teaching Assistant for** Mechanics and Electromagnetics *Feb.2023-June.2023*
- **Teaching Assistant for** Mechanics and Electromagnetics *Feb.2024-June.2024*
- **Teaching Assistant for** Electromagnetics, Quantum Mechanics and Optics *Sep.2024-Dec.2024*

EXPERIENCES IN SCHOOL

- **Grade Monitor,** Grade 2021 in Chemistry *Sep.2023-June.2025*
- **Commissary in Charge of Studies,** Class of Applied Chemistry *Sep.2023-June.2025*