Hongni Jin

OBJECTIVE
A position for 2020 fall PhD project

CONTACT
neon.jin77@gmail.com

EDUCATION

01/09/2016–Present Bachelor of Science in Chemistry
Central China Normal University (CCNU), Wuhan, China
GPA:3.11/4.00

19/07/2018–20/06/2019 Exchange Program
The University of Newcastle (UoN), New South Wales, Australia
GPA:3.67/4.00

Standard Tests
GRE: Verbal-158; Quantitative-168; Analytical writing-3.5

TOEFL: Reading-27; Listening-27; Speaking-22; Writing-27; Total-103

Research Experiences

Design novel amphiphilic fluorosurfactants for anti-corrosion Jul 2019-present

Mentor: Prof. Aidong Zhang **Institute**: College of Chemistry, CCNU

- 1-Hexanesulfonyl fluoride and 1-Methylpiperazie were used as starting materials to prepare a series of fluorosurfactants containing nitrogen heterocycle
- Employed ^{1}H and ^{19}F NMR and MS techniques to determine the structure of products
- Measured the surface activity of the already-synthesized surfactants
- Currently, continue to synthesize more targeted fluorosurfactants

Ru(Ⅲ) polyethyleneimine (PEI) complexes for bifunctional ammonia production and biomass upgrading (DOI: 10.1039/C9TA10267A) Feb 2019-Jun 2019

Mentor: Dr. Tianyi Ma **Institute**: Discipline of Chemistry, UoN

- Ru(Ⅲ) and PEI were prepared together as a co-catalyst covered on carbon cloth
- Employed a three-electrode system to catalyse the N_2 reduction reaction (NRR) under different potentials with an electrochemical workstation
- Characterized the catalyst samples using SEM and XRD
- Measured ammonia yield and calculated the Faradaic efficiency (FE)

Studies on electrochemical reduction of N2 using transition metals Jul 2018-Jan 2019

Mentor: Dr. Tianyi Ma **Institute**: Discipline of Chemistry, UoN

- Prepared elements of Fe and Ru by reducing their respective chlorides with $NaBH_4$
- Employed electrochemical techniques, including CV, LSV and EIS to help to investigate NRR
- Compared the catalytic efficiency between transition metals and Ru-C_3N_4 complex

Professional skills

- Techniques required for organic synthesis and purification, including distillation, extraction, recrystallization, TLC and column chromatography
- Techniques for sample characterization and structure analysis, including SEM, NMR and MS
- Techniques for the synthesis of nanomaterials like centrifugation, coating and fixation;
- Techniques for electrochemistry, including the design of three-electrode system and operation of electrochemical workstation, like CV, LSV and EIS.
- Skill for information retrieval, including SciFinder, Reaxys and Web of Science
- Programming Language: Python

Social Service

The 10th Chinese National Conference on Chemical Biology (CNCCB) 23/09/2017-26/09/2017

4 full-time days, roles include miss etiquette, usher and waiter

Volunteer teaching in CCNU **Apr 2017-May 2017**

5 hours each week, teach retired professors in CCNU how to use mobile phones

Honours and Awards

2018-2019 Scholarship, China Scholarship Council (CSC) (the only one among more than 1000 students in Chemistry, CCNU)

2017 Experimental Skills Competition, Excellent Group Award, CCNU

2017,2016 Dangui Awards, CCNU (top 5% in CCNU)

2016 Learning activists, CCNU (top 8% in CCNU)

2016 Certificate of summer camp from Tsinghua University-Peking University Center for Life Sciences (CLS)