TIELIANG GAN Curriculum Vitae

State Key Laboratory of Bio-organic
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EDUCATION

Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences (SIOC)
Sept 2021 – Jun 2024 Master of Science (Chemical Biology)

Swiss Federal Institute of Technology Lausanne (EPFL)
Jan 2020 – Jul 2020 Exchange Program (Chemistry)

University of Chinese Academy of Sciences (UCAS)
Sept 2017 – Jun 2021 Bachelor of Science (Chemistry)
GPA: 3.77/4.00 Ranking: 8/30

PROJECTS AND RESEARCH EXPERIENCES

Expression and Purification of Autophagy Initiation Complex ULKC1 in Mammalian Cells
Mar 2023 – Present

- INSTITUTION
  State Key Laboratory of Bio-organic Chemistry and Natural Products Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences
- SUPERVISOR
  Lifeng Pan
- SUMMARY
  ULKC1 is an autophagy initiation protein complex which consists of FIP200, ULK1, ATG13 and ATG101. Existing purification processes of this complex by insect cells are very time-consuming. So, I explore to use mammalian cells to make the whole process easier.

The Potential Autophagic Role of Caspase 6, Caspase 8 and Caspase 14
Feb 2023 – Present

- INSTITUTION
  State Key Laboratory of Bio-organic Chemistry and Natural Products Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences
- SUPERVISOR
  Lifeng Pan
- SUMMARY
  Biochemical, cell biological and structural biological characterization of interactions and localizations of the 3 caspases to reveal its other biological role

Characterization of the Potential Autophagy Receptor Protein 53BP1
Sept 2022 – Present

- INSTITUTION
  State Key Laboratory of Bio-organic Chemistry and Natural Products Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences
- SUPERVISOR
  Lifeng Pan
- SUMMARY
  Biochemical, cell biological and structural biological characterization of interactions and localizations of the protein 53BP1 and its potential role as a novel autophagy receptor. During the study, a potential novel Liquid-Liquid Phase Separation Phenomenon is found.

The Cytotoxicity of a *trans*-platinum Complex in Combination with PDS on HeLa Cells
Sep 2020 – Mar 2021

- INSTITUTION
  Key Laboratory of Analytical Chemistry for Living Biosystems, Institute of Chemistry, Chinese Academy of Sciences
- SUPERVISOR
  Fuyi Wang
- SUMMARY
  Synthesis of the *trans*-platinum complex and cytotoxicity assay on different conditions in combination with DNA G-quadraplex inducer/stabilizer pyridostatin (PDS)
- RESULT
  The G-quadraplex inducer/stabilizer compound PDS can promote the cytotoxicity of the *trans*-platinum complex by targeting *SUB*1

Characterization of Different Human Body Fluids
Jun 2019 – Jan 2021

- INSTITUTION
  Key Laboratory of Analytical Chemistry for Living Biosystems, Institute of Chemistry, Chinese Academy of Sciences
- SUPERVISOR
  Fuyi Wang
- SUMMARY
  Collecting sample of saliva, menstrual blood, peripheral blood, semen, urine and sweat from volunteers and using UPLC-MS to characterize these body fluids. Expected goal is to reveal the specific indicator of these body fluids for the purpose of forensic use.
- RESULT
  Primary data had been collected and analyzed. Several candidates were assessed and then this project was passed to another student due to time limit.

The Assessment of the Quality of Drinking Water on Different Sources in UCAS
Sep 2018 – Dec 2018

- INSTITUTION

Key Laboratory of Analytical Chemistry for Living Biosystems, Institute of Chemistry, Chinese Academy of Sciences

- SUPERVISOR
  Fuyi Wang, Qun Zheng
- SUMMARY
  Collecting sample of drinking water from different sources and then using different approaches to assess the quality (including concentration of metallic ions, total organic carbon (TOC), total bacterial population and total coliform group). My part was to use ICP-MS to detect the concentration of different metallic ions.
- RESULT
  All sources of water in the campus are safe to drink overall. Nevertheless, it is not recommended to drink the barreled water if it is opened for a long time. The quality from the cold drinkable water is the best.

PUBLICATIONS

Yinzhu Hou, Tieliang Gan *et al*. G-quadruplex inducer/stabilizer pyridostatin targets *SUB*1 to promote cytotoxicity of a transplatinum complex. *Nucleic Acids Research* **50***,* 3070-3082, (2022)

HONORS AND REWARDS

Excellent Newcomers of Students' Union	March 22nd, 2018
University-level Excellent League Member	June, 2019
Academic Scholarship	Nov, 2019

SKILLS AND CERTIFICATES

GRE 324 (V155, Q169)	TEST DATE: Jun 13th, 2020
DELF B2 (French)	TEST DATE: Nov 20th, 2021
TOEFL: 104 (R28, L26, S25, W25)	TEST DATE: Jan 18th, 2023

INFORMATICS SKILLS

Python Programming Language, R, Linux Server Operation and Maintenance, Machine Learning, Algorithms, etc.

EXPERIMENTAL SKILLS

ÄKTA Instrument, Analytical Ultra-Centrifuge (AUC), Isothermal Titration Calorimetry (ITC), Size Exclusion Chromatography with Multi-angle Light Scattering (SEC-MALS), Dynamic Light Scattering (DLS), Fast Protein Liquid Chromatography (FPLC), Immunofluorescence Co-localization, Crystal Screening, X-ray Diffraction and Structure Determination, etc.