

# Xiao Zhang

Tel: 1-305-457-4653

Email: xxz702@miami.edu

Address: 514 SW 22nd Ave, APT 305, Miami, Florida, USA



## EDUCATION

---

2020.1 – Present

### **Postdoctoral Associate**

Department of Biochemistry and Molecular Biology, Millar School of Medicine, University of Miami, FL, U.S.

Supervisor: Dr Shanta Dhar

2018.11 – 2019.11:

### **Postdoctoral Associate**

Department of Chemistry, University of Miami, FL, U.S.

Supervisor: Prof. Francisco Raymo

2013. 9 – 2018. 6:

### **Ph. D in Applied Chemistry**

East China University of Science and Technology (ECUST), Shanghai, China

Supervisor: Prof. Jianli Hua in He Tian`s group

2009. 9 – 2013. 6:

### **Bachelor in Applied Chemistry (Fine Chemicals)**

East China University of Science and Technology, Shanghai, China



## Research Directions

---

- Develop mitochondrial-targeted nanoparticles for drug delivery and research their biological mechanism in cancer cells.
- Develop supramolecular delivery strategies for bioimaging and therapeutics.
- Design and synthesize organic fluorescent probes for bioimaging and chemoselective detection of specific biomolecules.
- Measure the optical responses of fluorescent probes towards specific biological analytes.



## Publications

---

Authored **12** publications (**4** first author papers) and **1** patent; Sum of Times Cited: **252**

1. **X. Zhang**, H. Tan, Y. Yan, Y. Hang, F. Yu, X. Qu and J. Hua. Targetable *N*-annulated perylene-based colorimetric and ratiometric near-infrared fluorescent probes for the selective detection of hydrogen sulfide in mitochondria, lysosomes, and serum. **Journal of Materials Chemistry B**, 2017, 5, 2172–2180. (IF: 6.331)
2. **X. Zhang**, Y. Yan, Y. Hang, J. Wang, J. Hua and H. Tian. A phenazine-barbituric acid-based colorimetric and ratiometric near-infrared fluorescent probe for sensitively differentiating biothiols and its application in TiO<sub>2</sub> sensor devices. **Chemical Communications**, 2017, 53, 5760–5763. (IF: 6.222)
3. **X. Zhang**, Y. Yan, Q. Peng, J. Wang, Y. Hang and J. Hua. A pH-sensitive multifunctional fluorescent probe based on *N*-annulated perylene for the sensitive and selective detection of hypochlorous acid. **Materials Chemistry Frontiers**, 2017, 1, 2292–2298. (IF: 6.482)
4. **X. Zhang**, Y. Hang, W. Qu, Y. Yan, P. Zhao and J. Hua. Diketopyrrolopyrrole-based ratiometric fluorescent probe for the sensitive and selective detection of cysteine over homocysteine and glutathione in living cells. **RSC Advances**, 2016, 6, 20014–20020. (IF: 3.361)
5. **X. Zhang**, Y. Yan, H. Tan, X. Qu, J. Hua and H. Tian, *N*-annulated perylene-based fluorescent probes for hydrogen sulfide and their applications in colorimetric TiO<sub>2</sub> sensor devices. **Biosensors and Bioelectronics**. To be submitted.
6. Y. Qu, **X. Zhang**, L. Wang, H. Yang, L. Yang, J. Cao and J. Hua, A phenazine-based near-infrared (NIR) chemodosimeter for cysteine obtained via a carbonyl-assisted cycloaddition process, **RSC Advances**, 2016, 6, 22389–22394. (IF: 3.361)
7. L. Yang, W. Qu, **X. Zhang**, Y. Hang and J. Hua, Constructing a FRET-based molecular chemodosimeter for cysteine over homocysteine and glutathione by naphthalimide and phenazine derivatives, **Analyst**, 2015, 140, 182–189. (IF: 4.616)
8. Y. Yan, J. Chen, Z. Yang, **X. Zhang**, Z. Liu, J. Hua, NIR organic dyes based on phenazine-cyanine for photoacoustic imaging-guided photothermal therapy. **Journal of Materials Chemistry B**, 2018, 6, 7420–7426. (IF: 6.331)
9. X. Xie, J. Wang, Y. Yan, **X. Zhang**, C. Liu, J. Yang and J. Hua, A new mitochondria-targeted

radiometric fluorescent probe based on diketopyrrolopyrrole for imaging endogenous HOCl in living cells. **Analyst**, 2018, 143, 5736–5743. (IF: 4.616)

10. W. Qu, L. Yang, Y. Hang, **X. Zhang**, Y. Qu and J. Hua, Photostable red turn-on fluorescent diketopyrrolopyrrole chemodosimeters for the detection of cysteine in living cells. **Sensors and Actuators B: Chemical**, 2015, 211, 275–282. (IF: 7.460)
11. C. Liu, Y. Hang, T. Jiang, J. Yang, **X. Zhang** and J. Hua, A light-up fluorescent probe for citrate detection based on bispyridinium amides with aggregation-induced emission feature. **Talanta**, 2018, 178, 847–853. (IF: 6.057)
12. L. Yang, X. Li, Y. Qu, W. Qu, **X. Zhang**, Y. Hang, H. Agren and J. Hua, Red turn-on fluorescent phenazine-cyanine chemodosimeters for cyanide anion in aqueous solution and its application for cell imaging. **Sensors and Actuators B: Chemical**, 2014, 203, 833–847. (IF: 7.460)
13. J. Yang, X. Liu, H. Wang, H. Tan, X. Xie, **X. Zhang**, C. Liu, X. Qu and J. Hua, A turn-on near-infrared fluorescence probe with aggregation-induced emission based on dibenzo [a,c]phenazine for detection of superoxide anions and its application in cell imaging. **Analyst**, 2018, 143, 1242–1249. (IF: 4.616)
14. J. Hua, **X. Zhang**, Y. Yan and H. Tian, N-annulated perylene derivatives and their applications, China patent, CN107556228A, 2017



## AWARDS

---

- 2018 Outstanding Graduates of ECUST
- 2017 Excellent Students of ECUST; Huayi Enterprise Scholarship
- 2016 High Level Journal Scholarship
- 2013 Full Scholarship for Entering ECUST; Excellent Students of Science and Technology



## SKILLS

---

Design and synthesis of organic functional compounds and supramolecular materials

Characterization of compound properties with conventional techniques such as NMR, MS, UV-Vis, Fluorescence, HPLC, GPC, DLS, etc.

Basic cell experiment skills for physiological research