

## Curriculum Vitae

Name: **Limiao SHI**  
Address: LCPO-Université de Bordeaux, 16 Avenue Pey-Berland 33607 Pessac Cedex, France  
mail: [limiao.shi@bordeaux-inp.fr](mailto:limiao.shi@bordeaux-inp.fr) and [lmshi09@yahoo.com](mailto:lmshi09@yahoo.com)

### Personal

Sex: Male  
Date of Birth: February 22<sup>th</sup>, 1990  
Marital Status: Married, spouse: Mrs. Junyan CHEN (1 child Louis)  
Nationality: Chinese  
Health: Excellent

Photo:



### Education

- 09/2023---(02/2025) **Post-doctorants 2**, Laboratoire de Chimie des Polymères Organiques (LCPO), CNRS-University of Bordeaux, Bordeaux, France  
Project: Oil-free and degradable polymers by catalytic polymerization from supramolecular chiral helices  
Supervised by Prof. Dr. Daniel Taton
- 02/2020---07/2023 **Post-doctorants 1**, Laboratoire Hétérochimie Fondamentale et Appliquée (LHFA), CNRS-Université Paul Sabatier, Toulouse, France  
Project 1: Development of new catalysts for ROP of cyclic oligosiloxanes  
Project 2: Isolable carbon stabilized by sulfur ligand  
Supervised by Dr. Tsuyoshi KATO and Dr. Antoine BACEIREDO
- 10/2016---12/2019 **Ph.D. Candidate**, Institut des Sciences Chimiques de Rennes, INSA de Rennes and Université de Rennes 1, Rennes, France  
Organic and Organometallic Porphyrins for Optics  
Supervised by Dr. Christine PAUL-ROTH and co-supervised by Dr. Olivier MONGIN
- 09/2013---06/2016 **Master Candidate**, Institute of Molecular Engineering and Applied Chemistry, Anhui University of Technology; Maanshan, Anhui, China  
Synthesis and Characterization of Ruthenium Complexes with Immobilizable Organosilicone Groups  
Supervised by Prof. Qian-Feng ZHANG and Dr. Ai-Quan JIA
- 09/2009---06/2013 **Undergraduate Student**, Department of Chemical Engineering, Jiangsu Ocean University (known as HuaiHai Institute of Technology); Lianyungang, Jiangsu, China.  
Research of Soybean Phosphatide HLB Value Determination Method  
Supervised by Prof. Hong AN

### Key Words of Current Research Interests

Ring-Opening Polymerization, Degradable Polymers, Silicones, NHCs, Ylide, Porphyrin Chemistry, Two-Photon Photodynamic Therapy, Dendrimers, Organometallics Molecules, NLO-Phores

### Skills

Standard Schlenk manipulate, glove box, column-chromatography techniques  
Instrumental Skills: NMR, UV, IR, GPC, GC-MS  
Software: Chem Office, Cambridge Crystallographic Database, SHELXL program packages, Origin, AutoCAD, Diamond, MestReNova

### Publications

- Ring opening polymerization of cyclic oligosiloxanes without producing cyclic oligomers  
**Limiao Shi**, Aurelie Boulegue-Mondiere, Delphine Blanc, Antoine Baceiredo, Vicen çBranchadell, Tsuyoshi Kato\*  
**Science, 2023, Accepted.**
- New Fluorescent Porphyrins with High Two-Photon Absorption Cross-sections designed for Oxygen-Sensitization: Impact of changing the Connectors in the Peripheral Arms  
**Limiao Shi**, Zhipeng Sun, Nicolas Richy, Olivier Mongin, Mireille Blanchard-Desce, Frédéric Paul, Christine Odile

Paul-Roth\*

*Photochem*, **2023**, 3, 336-359.

**3. Imine-Stabilized Silylium Ions: Synthesis, Structure and Application in Catalysis**

Aymeric Dajnak, **Limiao Shi**, Gül Altınbaş Özpınar, Romaric Lenk, Nathalie Saffon-Merceron, Antoine Baceiredo, Tsuyoshi Kato, Thomas Müller, Eddy Maerten\*

*Dalton Trans.*, **2023**, 52, 3052-3058.

**4. Encapsulation of hydrophobic porphyrins into biocompatible nanoparticles: an easy way to benefit of their two-photon phototherapeutic effect without hydrophilic functionalization**

**Limiao Shi**, Christophe Nguyen, Morgane Daurat, Nicolas Richy, Corentin Gauthier, Estelle Rebecq, Magali Gary-Bobo, Sandrine Cammas-Marion\*, Olivier Mongin, Christine O. Paul-Roth\*, Frédéric Paul\*

*Cancers*, **2022**, 14(10), 2358.

**5. Nonlinear optical properties of meso-tetra(fluorenyl)porphyrins peripherally functionalized with one to four ruthenium alkynyl substituents**

Xu Zhang, **Limiao Shi**, Mark A. Fox, Adam Barlow, Mahbod Morshedi, Marie P. Cifuentes, Mark G. Humphrey, Olivier Mongin, Frédéric Paul, Christine O. Paul Roth\*

*Dyes and Pigments*, **2021**, 188, 109155.

**6. New fluorescent tetraphenylporphyrin-based dendrimers with alkene-linked fluorenyl antennae designed for oxygen sensitization**

Dandan Yao, **Limiao Shi**, Zhipeng Sun, Mireille Blanchard-Desce, Olivier Mongin, Frédéric Paul, Christine O. Paul-Roth\*

*Comptes Rendus. Chimie*, **2021**, 24, 1-14.

**7. Syntheses, structures, and immobilization of ruthenium(II) complexes with alkoxysilane groups functionalized N, N'-diamine and phosphine ligands**

Jiao Ji, **Limiao Shi**, Fule Wu, Zhifeng Xin, Aiquan Jia, Qianfeng Zhang\*

*Journal of Coordination Chemistry*. **2020**, 73, 1314-1324.

**8. Biocompatible Conjugated Fluorenylporphyrins for Two-photon Photodynamic Therapy and Fluorescence Imaging**

**Limiao Shi**, Christophe Nguyen, Morgane Daurat, Abdelhamid Chiheb Dhieb, Wajda Smirani, Mireille-Blanchard-Desce, Magali Gary-Bobo\*, Olivier Mongin\*, Christine Paul-Roth\*, Frédéric Paul.

*Chemical Communications*, **2019**, 55, 12231-12234.

**9. Fluorenylporphyrins functionalized by electrochromic ruthenium units as redox-triggered fluorescence switches.**

Xu Zhang, Seifallah Abid, **Limiao Shi**, J. A. Gareth Williams, Mark A. Fox\*, Fabien Miomandre, Clarisse Tourbillon, Jean-Frédéric Audibert, Olivier Mongin, Frédéric Paul\*, Christine O. Paul-Roth\*

*Dalton Trans.*, **2019**, 48, 11897-11911.

**10. Syntheses, structures and immobilization of arene-ruthenium complexes bearing phosphine ligands with methoxysilyl groups**

Jiao Ji, Fule Wu, **Limiao Shi**, Aiquan Jia, Qianfeng Zhang\*

*Journal of Organometallic Chemistry*. **2019**, 885, 1-6.

**11. Syntheses, structures and immobilization of ruthenium complexes bearing N,O-Schiff-base or N,N'-diamine ligands functionalized with alkoxysilyl groups**

Aiquan Jia, **Limiao Shi**, Fule Wu, Zhifeng Xin, Qianfeng Zhang\*

*Journal of Organometallic Chemistry*. **2018**, 855, 33-43.

**12. New conjugated meso-tetrathienylporphyrin-cored derivatives as two-photon photosensitizers for singlet oxygen generation**

Xu Zhang, Seifallah Abid, **Limiao Shi**, Zhipeng Sun, Olivier Mongin, Mireille Blanchard-Desce, Frédéric Paul, Christine O. Paul-Roth\*

*Dyes and Pigments*, **2018**, 153, 248-255.

**13. New porphyrin-based dendrimers with alkene linked fluorenyl antennae for optics**

Dandan Yao, Xu Zhang, Seifallah Abid, **Limiao Shi**, Mireille Blanchard-Desce, Olivier Mongin, Frédéric Paul, Christine O. Paul-Roth\*

*New J. Chem.*, **2018**, 42, 395-401.

**14. Synthesis and characterization of mononuclear ruthenium complexes with carboxylato, chlorido and phosphine ligands. Crystal structures of  $[\text{RuCl}_2\{\kappa^2\text{-O,O-O}_2\text{CCCH}_2(\text{CH}_3)\}(\text{PPh}_3)_2]$ ,  $[\text{RuCl}_2(\kappa^2\text{-O,O-O}_2\text{CC}_6\text{H}_4\text{-2-Cl})(\text{PPh}_3)_2]$ , and**

[Et<sub>3</sub>NH][RuCl(SO<sub>2</sub>)(κ<sup>2</sup>-C,O-C<sub>6</sub>H<sub>4</sub>-2-CO<sub>2</sub>)(PPh<sub>3</sub>)<sub>2</sub>]  
Jiling Gu, **Limiao Shi**, Xiufang Ma, Aiquan Jia, Qianfeng Zhang\*  
*Inorganica Chimica Acta*. **2017**, 466, 382-388.

**15.** Ruthenium(III)-carbonyl and ruthenium(II)-nitrosyl complexes of nitrogen- containing ligands with ethoxysilane groups

**Limiao Shi**, Xinxin Wang, Xiufang Ma, Aiquan Jia, Qianfeng Zhang\*  
*Journal of Coordination Chemistry*. **2016**, 69, 2630-2636.

**16.** Synthesis, characterization, and reactivity of self-assembled tetranuclear arene ruthenium metalla-rectangles  
Aiquan Jia\*, Min Chen, **Limiao Shi**, Huatian Shi, Qianfeng Zhang\*

*Journal of Coordination Chemistry*. **2014**, 67, 3565-3577.

## **Patents**

**1.** Proc é d é de polym é risation par ouverture de cycle ou par polycondensation

**Limiao SHI**, Tsuyoshi KATO, Antoine BACEIREDO, Aur é die BOULEGUE MONDIERE, Delphine BLANC  
Brevet fran çais n °FR2307270 date de d é p ô t : 07/07/2023.

**2.** Proc é d é de polym é risation par ouverture de cycle ou par polycondensation

**Limiao SHI**, Tsuyoshi KATO, Antoine BACEIREDO, Aur é die BOULEGUE MONDIERE, Delphine BLANC  
Brevet fran çais n °FR 2305832 date de d é p ô t : 09/06/2023.

**3.** Mé thode de polym é risation par ouverture de cycle

**Limiao SHI**, Tsuyoshi KATO, Antoine BACEIREDO, Aur é die BOULEGUE MONDIERE, Delphine BLANC  
Brevet fran çais n °FR2302798 date de d é p ô t : 24/03/2023.

## **Conference Presentations**

### **Oral Presentations**

**1/**“New Fluorenyl Porphyrins for TPE-PDT Applications”. French-Australian Scientific Day2019, 29 April 2019, Rennes, France.

**2/**“Double Bond Porphyrins for Optics”. Journ é es Scientifiques SCF-BPL 2019, 1-3 April 2019, Tr é gatel, France.

**3/**“Optical Properties of New Fluorenyl Porphyrins”. Congress Soci é t é Chimique de France 2018, 2-4 July 2018, Montpellier, France.

**4/**Journ é e de l'Ecole Doctorale 3M Nantes 2019-Au c œ ur de la mati è re, 27 June 2019, Nantes, France.

**5/**Journ é e des Doctorants de l'Institut des Sciences Chimiques de Rennes, 28 June 2018, Rennes, France.

### **Poster Presentations**

**1/**“Conjugated Porphyrins Dendrimers as Fluorescent Two-photon Photosensitizers for Singlet Oxygen Generation”. Les Journ é es Chimie de Coordination de la Soci é t é Chimique de France (JCC-2018) de 2018, 8-9 February 2018, Brest, France.

**2/**19th International Symposium on Silicon Chemistry (ISOS-2021), 2-7 July 2021, Toulouse, France. (online)

**3/**“Ring-Opening Polymerization of Cyclic Oligodimethylsiloxanes using Phosphonium Alkoxide initiators”. 10th European Silicon Days, 10-12 July 2023, Montpellier, France.