



State Key Laboratory of Quality Research in Chinese  
Medicine, Macau Institute for Applied Research in Medicine and  
Health

Deputy director of Laboratory of Natural Products and  
Bioorganic and Medicinal Chemistry

[lpbai@must.edu.mo](mailto:lpbai@must.edu.mo)

(853) 8897 2403

(853) 2888 0091

H838b

Room 838b, Block H, Macau University of  
Science and Technology, Avenida Wai Long, Taipa, Macau

Prof. Bai received her Bachelor and Mphil degrees from Liaoning University of Traditional Chinese Medicine in 2001 and 2004, respectively. In 2008, she obtained her PhD degree from Hong Kong Baptist University. She has been in The Institute of Scientific and Industrial Research (SANKEN), Osaka University, Japan, as a visiting research scholar carrying out the G-quadruplex DNA-binding study of benzophenanthridine alkaloids from October 2006 to January 2007. After graduation, she joined School of Chinese Medicine, Hong Kong Baptist University as a research assistant in 2008, senior research assistant in 2009 and research associate in 2010. In September 2011, she moved to State Key Laboratory of Quality Research in Chinese Medicine, Macau University of Science and Technology as an assistant professor. In 2015, she achieved an accelerated promotion to an associate professor. In 2023, she was promoted to a full professor.

Prof. Bai's research fields include bioorganic chemistry, medicinal chemistry and natural medicinal chemistry. Her research focuses on bioactive ingredients in traditional Chinese medicines (TCMs), design and synthesis of bioactive small organic molecules, and their pharmacodynamic evaluations as anticancer agents, viral entry inhibitors against SARS-CoV-2 and molecules inhibiting pulmonary fibrosis. Recently, Prof. Bai has a strong interest in designing and synthesizing

innovative cationic sphingolipids (Chinese Patent No. ZL202210358677.7) in constructing lipid nanoparticles (LNPs) that can effectively deliver RNA, including siRNA and mRNA, for both cancer therapy and vaccine development. Additionally, she also focuses on discovery of medicinal molecules or TCMs-derived active components against pulmonary fibrosis.

. She had also been engaged in the project of Authentication of the 31 Species of Toxic and Potent Chinese Materia Medica by Microscopic Technique in Hong Kong.

She has published more than 100 research articles in SCI journals including

, , , and . She has obtained 24 patent approvals (including 5 U.S. patent approval), and 1 Chinese invention patent has achieved technology transfer to HEC Cordyceps Co., Ltd. Hengqin Zhuhai. Since 2013, Prof. Bai achieved the Bank of China Excellent Research Award (2013), Excellent Teaching Award of Macau University of Science and Technology (2019), and Third Natural Science Award in Macao (2020). Her research was financially supported by Macao Science and Technology Development Fund, and The Macao Foundation. As a principal investigator, she has obtained more than research grants including

(PI of the first subprojects on both “Intelligent Identification of Chinese Medicinal Materials Using Computer Vision Technology” and “In-depth analysis and sample library establishment of triterpene saponins from edible traditional Chinese medicines”),

, and . As a co-investigator, she also participated in research projects of “Guangdong-Hong Kong-Macao Joint Laboratory of Respiratory Infectious Diseases (2020-2022)” financially supported by Department of Science and Technology of Guangdong Province, “Class C Program of the Science and Technology of Shenzhen Guangdong-Hong Kong-Macao Greater Bay Area (2022)” funded by Shenzhen Municipal Committee of Science and Technology Innovation, and various projects supported by National Natural Science Foundation of China, and Natural Science Foundation of Guangdong Province. In addition, she also serves as an editorial board member of JOURNAL OF ANALYSIS AND TESTING.

### ***Research Areas and Research Interests***

Research Area: Bioorganic and Medicinal Chemistry, Natural Medicinal Chemistry

Research Interest (2020-2025):

- 1) Novel Sphingolipids' Synthesis and Application in Drug Delivery Systems (LNPs) for RNA Therapy
- 2) Research and Development of TCMs-derived or Synthetic Medicinal Molecules for the Treatment of Pulmonary Fibrosis;
- 3) Design, Synthesis and Pharmacodynamic Study of Anticancer Medicinal Molecules
- 4) New Product Development of Active Ingredients Derived from Edible Traditional Chinese Medicines
- 5) Analysis of TCMs by TOF-SIMS
- 6) Development of Android Platform App for Identification of Chinese Medicinal Materials Using Artificial Intelligence (Collaboration with Prof. CAI Zhanchuan's Team)

### ***Teaching Subjects***

- 1) Postgraduates course: Prospect and Progress in Chinese Medicine Research (Coordinator), Selected Topics of Chemistry of Chinese Materia Medica (Coordinator), Experimental Techniques in Chemistry of Chinese Materia Medica (Coordinator), etc.
- 2) Undergraduates course: Chemistry of Chinese Materia Medica, Experiments of Chemistry of CMM (Coordinator), Honor Projects (Coordinator).

### ***Academic Qualifications***

- |        |  |
|--------|--|
| 2008.9 | Ph.D., Hong Kong Baptist University, Hong Kong                               |
| 2004.7 | M. Sc., Liaoning University of Traditional Chinese Medicine, Shenyang, China |
| 2001.7 | B. Sc., Liaoning University of Traditional Chinese Medicine, Shenyang, China |

### ***Work Experience***

2023.7-present

- 11) 2023.01-2023.12, Structural Modification of Components from Traditional Chinese Medicine and Their Antitumor Effects, Open fund project of State Key Laboratory of Oncology Chemogenomics Jointly-established by Ministry and Commission, Tsinghua Shenzhen International Graduate School, (grant number: SKLCO202210), , PI
- 10) 2022.02-2025.02, A cardiac glycoside, its synthesis method and application, Chinese mainland invention patent application project of Macao Science and Technology Development Fund, (grant number: 0011/2021/APT), , PI
- 9) 2021.03-2023.03, Improvement of Quality Standard and Clinical Research of the new Chinese Patent Medicine “Jade Butterfly Freckle Removal Cream”, FDCT-GDST Joint Fund (FDCT project number 0043/2020/AGJ), , PI
- 8) 2022.08-2025.08, Design, synthesis and antitumor activity of novel VEGFR-2/ Aurora A dual-target inhibitors, Wuyi University-Hong Kong-Macau Joint R & D Fund Project (2021WGALH08), , PI of Macau
- 7) 2020.09-2023.09, Innovative drug research of novel S1P1 modulator for the treatment of idiopathic pulmonary fibrosis, FDCT-MOST Joint Fund (FDCT project number 0074/2019/AMJ), , PI
- 6) 2020.04-2021.04, Research and development of specially-effective Chinese medicines against novel coronavirus pneumonia, Macao Science and Technology Development Fund (FDCT project number 0064/2020/A), , PI
- 5) 2020.01-2023.01, Study on multi-dimensional quality control of six Chinese herbal medicines by combining artificial intelligence and multi-omics technologies, FDCT Key R & D research project (FDCT project number 0023/2019/AKP), , Co-PI. (PI of the first subproject on “Intelligent Identification of Chinese Medicinal Materials Using Computer Vision Technology”)

- 4) 2019.06-2022.06, Construction of Alkaline Sphingomyelin-based Cationic Liposome and Application in Co-delivery of siRNA and Chemotherapy Drug, Macao Science and Technology Development Fund (FDCT project number 0004/2019/A1), , Principal Investigator
- 3) 2014.01-2018.01, Chemical Studies on Cardenolides in Plants and Evaluation of Their Hypoxia Inducible Factor-1 (HIF-1) Inhibitory Activity, Macao Science and Technology Development Fund (FDCT project number 056/2013/A2), , Principal Investigator
- 2) 2012.06-2014.11, GSH-guided isolation of IKK -modifying Epoxides from Chinese medicinal herbs and evaluation of their anti-inflammatory activities, Macao Science and Technology Development Fund (FDCT project number 063/2011/A3), , Principal Investigator
- 1) 2012.01-2012.12, Comparative study of flavanols and flavonols binding to amyloid beta peptide by ESI-TOF-MS and MALDI-TOF-MS techniques, Macao Foundation (#0205), , Principal Investigator

**Representative Publications** (\*: Corresponding authors; #: Co-first authors)

- 1) Fu, Lu; Wang, Can-Can; Tian, Wenyue; Liu, Zhiyan; Bao, Meng-Yu; Liu, Jiazheng; Zhang, Wei; \*, Jiang, Zhi-Hong\*; Zhu, Guo-Yuan\*. NMR-guided isolation of anti-inflammatory carabranolides from the fruits of L. , , 1786-1797.
- 2) Liu, Jiazheng; Xu, Ting; Ding, Jianjun; Wen, Haoyue; Meng, Jieru; Liu Qing; Liu, Xiaomei; Zhang, Wei; Zhu, Guo-Yuan; Jiang, Zhi-Hong\*; Gao, Jing\*; \*. Discovery of Anti-melanogenic Components in Persimmon ( ) Leaf Using LC-MS/MS-MN, AlphaFold2-enabled Virtual Screening and Biological Validation. , , , 139814.
- 3) Fu, Lu; Tian, Wenyue; Bao, Meng-Yu; Liu, Zhiyan; Ren, Wen-Jing; Liu, Jiazheng; Zhang, Wei; Zhang, Zhifeng; Gao, Jing; \*, Jiang, Zhi-Hong\*; Zhu, Guo-Yuan\*. Cevanine-type alkaloids from the bulbs of

in vitro. , , , 114018.

- 4) Chen, Jian-Li; Jia, Xiao-Hui; Wu, Xuan; Yuan, Ming-Heng; Xia, Xinyue; Yin, Dan; Chen, Xu; Gu, Ze-Yun; Liu, Jia-Zheng; ; Luo, Kathy Qian; Wang, Jianfang; Zhu, Xiao-Ming\*. Kidney-targeted antioxidant salvianolic acid B nanoparticles restoring lysosome homeostasis for acute kidney injury therapy. , , , 151811.
- 5) Lin, Zhi-Rong; Bao, Meng-Yu; Xiong, Hao-Ming; Cao, Dai; ; Zhang, Wei; Chen, Cheng-Yu; Jiang, Zhi-Hong\*; Zhu, Guo-Yuan\*. Boswellianols A–I, Structurally Diverse Diterpenoids from the Oleo-gum Resin of *Boswellia carterii* and Their TGF- Inhibition Activity. , , , 1074.
- 6) Lyu, Peilun; Liu, Jiazheng; Zhang, Yuhan; Ye, Ben; Lan, Ting; ; Cai, Zhanchuan\*; Jiang, Zhi-Hong\*. A Novel Feature Fusion Framework for Industrial Automation Single-Multiple Object Detection. , , , DOI:10.1109/TII.2024.3353814.
- 7) Chen, Fei-Long; Liu, Dong-Li; Ren, Wen-Jing; Xiong, Hao-Ming; ; Zhang, Wei; Hon, Chitin; Jiang, Zhi-Hong\*; Zhu, Guo-Yuan\*. Atrachinenins D-S, Novel Meroterpenoids with Geranyl Hydroquinone Moiety from *Atractylodes chinensis* by the LC/MS-based Molecular Decoy and Targeted Isolation. , , , 107111.
- 8) Wu, Yanqi; Guan, Yuhong; Huang, Peilin; Chen, Hui; ; Jiang, Zhi-Hong\*. Preparation of Norovirus GII Loop Mediated Isothermal Amplification Freeze-Drying Microsphere Reagents and Its Application in An On-Site Integrated Rapid Detection Platform. , , , 109308.
- 9) Zhou, Mingyue; Yang, Ziwei; Yin, Tianpeng; Zhao, Yunfeng; Wang, Cai-Yun; Zhu, Guo-Yuan; ; Jiang, Zhi-Hong\*; Zhang, Wei\*. Functionalized Fe-Doped Carbon Dots Exhibiting Dual Glutathione Consumption to Amplify Ferroptosis for Enhanced Cancer Therapy. , , , 53228-53241.
- 10) Wang, Yue; Yu, Fei; Liu, Qinhua; Wang, Caiyun; Zhu, Guo-Yuan; ; Shi, Shuai; Zhao, Yunfeng; Jiang, Zhi-Hong\*; Zhang, Wei\*. A novel and sensitive dual signaling ratiometric electrochemical aptasensor based on nanoporous gold for determination of Ochratoxin A. , , , 137192.





- 19) Zhang, Hui-Xia<sup>#</sup>; Qin, Jian-Feng<sup>#</sup>; Sun, Jian-Feng; Pan, Yu; Yan, Tongmeng; Wang, Cai-Yun; ; Zhu, Guo-Yuan; Jiang, Zhi-Hong\*; Zhang, Wei\*. Selective chemical labeling strategy for oligonucleotides determination: a first application to full-range profiling of transfer RNA modifications. , , , 686-694.
- 20) Liu, Jiazheng<sup>#</sup>; Meng, Jieru<sup>#</sup>; Li, Runfeng<sup>#</sup>; Jiang, Haiming; Fu, Lu; Xu, Ting; Zhu, Guo-Yuan; Zhang, Wei; Gao, Jin; Jiang, Zhi-Hong\*; Yang, Zi-Feng\*; \*. Integrated Network Pharmacology Analysis, Molecular Docking, LC-MS Analysis and Bioassays Revealed the Potential Active Ingredients and Underlying Mechanism of for COVID-19. , , 988655.
- 21) Zheng, Zhiyuan<sup>#</sup>; Xu, Ting<sup>#</sup>; Liu, Zhiyang; Tian, Wenyue; Jiang, Zhi-Hong; Zhu, Guo-Yuan; Li, Ting; Gao, Jin; \*. Cryptolepine suppresses breast adenocarcinoma inhibition of HIF-1 mediated glycolysis. , , , 113319.

- 26) Shen, Rong-Sheng; Cao, Dai; Chen, Fei-Long; Wu, Xu-Jia; Gao, Jin; ; Zhang, Wei; Jiang, Zhi-Hong\*; Zhu, Guo-Yuan\*. New monoterpene-conjugated phenolic constituents from nutmeg and their autophagy modulating activities. , (31), 9684-9693.
- 27) Chen, Fei-Long; Liu, Dong-Li; Fu, Jing; Fu, Lu; Gao, Jin; , Zhang, Wei, Jiang, Zhi-Hong\*; Zhu, Guo-Yuan\*. Atrachinenynes A–D, four diacetylenic derivatives with unprecedented skeletons from the rhizomes of . , Doi:10.1039/D2NJ02149H.
- 28) Kong, Lingkai<sup>#</sup>; Tian, Wenyue<sup>#</sup>; Liu, Zhiyan, Xu, Ting; Wen, Haoyue; Chen, Zihan; Gao, Jin; \*. TfOH-Catalyzed Cascade C-H/N-H Chemo-regioselective Annulation of Indole-2-carboxamides with Benzoquinones for the Construction of Anticancer Tetracyclic Indolo[2,3- ]quinolinones. , , 7955-7967.
- 29) Yin, Tianpeng; Yu, Yi; Liu, Qinghua; Mingyue Zhou; Zhu, Guo-Yuan; ; Zhang, Wei\*; Jiang, Zhi-Hong\*. 2D NMR-based MatchNat Dereplication Enables Explosive Discovery of Novel Diterpenoid Alkaloids. , , 2169-2178.
- 30) Xu, Ting<sup>#</sup>; Meng, Jieru<sup>#</sup>; Cheng, Wanqing; Liu, Jiazheng; Chu, Junyan; Zhang, Qian; Ma, Nannan; \*; Guo, Yong\*. Discovery of honokiol thioethers containing 1,3,4-oxadiazole moieties as potential -glucosidase and SARS-CoV-2 entry inhibitors. , , 116838.
- 31) Liu, Qian-Bao<sup>#</sup>; Lu, Jing-Guang<sup>#</sup>; Jiang, Zhi-Hong\*; Zhang, Wei; Li, Wen-Jia; Qian, Zheng-Ming; \*. In situ chemical Profiling and imaging of cultured and natural by TOF-SIMS. , , 862007.
- 32) Xiao, Riping<sup>#</sup>; Lei, Kaiwai<sup>#</sup>; Kuok, Hioha<sup>#</sup>; Deng, Wende; Zhuang, Yuxing; Tang, Yanqing; Guo, Zhengyang; Qin, Hongyan\*; \*; Li, Ting\*. Synthesis and identification of lithocholic acid 3- , , 835-843.
- 33) Wang, Yue; Wu, Xuan; Sun, Jianfeng; Wang, Caiyuan; Zhu, Guoyuan; ; Jiang, Zhi-Hong\*; Zhang, Wei\*. Stripping voltammetric determination of cadmium and lead ions based on a bismuth oxide surface-decorated nanoporous bismuth electrode.

, , 107233.

- 34) Kong, Lingkai; Hu, Xueping; . \*. TBAI-Catalyzed Oxidative Coupling of Benzyl Ketones to Synthesize 2,3-Diary-1,4-Diketones in Water. , , 2337-2343.
- 35) Kong, Lingkai; Meng, Jieru; Tian, Wenyue; Liu, Jiazheng; Hu, Xueping; Jiang, Zhi-Hong; Zhang, Wei; Li, Yanzhong\*; . \*. I<sub>2</sub>-Catalyzed Carbonylation of -Methylene Ketones to Synthesize 1,2-Diaryl Diketones and Antiviral Quinoxalines in One Pot. , , 1380-1394.
- 36) Chen, Fei-Long; Liu, Dong-Li; Fu, Jing; Yang, Ji; ; Zhang, Wei; Jiang, Zhi-Hong\*; Zhu Guo-Yuan\*. (±)-Atrachinenins A–C, three pairs of caged C<sub>27</sub> meroterpenoids from the rhizomes of . , , 460-466.
- 37) Guo, Yong<sup>#</sup>; Meng, Jieru<sup>#</sup>; Liu, Jiazheng; Xu, Ting; Zheng, Zhiyuan; Jiang, Zhi-Hong; . \*. Synthesis and biological evaluation of honokiol derivatives bearing 3-((5-phenyl-1,3,4-oxadiazol-2-yl)methyl)oxazol-2(3H)-ones as potential viral entry inhibitors against SARS-CoV-2. , , 885.
- 38) Guo, Yong; Enhua, Hou; Tingyu, Wen; Xiaoting, Yan; Meiyue, Han; ; Xiangjing, Fu; Jifeng, Liu\*; Shangshang, Qin\*. Development of Membrane-Active Honokiol/Magnolol Amphiphiles as Potent Antibacterial Agents against Methicillin-Resistant *Staphylococcus aureus* (MRSA). , , 12903-12916.
- 39) Hu, Chun-Mei; Wang, Wen-Jing; Ye, Yuan-Na; Kang, Yu; Lin, Jing; Wu, Pan-Pan; Li, Dong-Li; ; Xu, Xue-Tao; Li, Bao-Qiong; Zhang, Kun. Novel cinnamic acid moganol derivatives as potent -glucosidase and -amylase inhibitors: Synthesis, in vitro and in silico studies. , , 105291.
- 40) Xu, Ting; Tian Wenyue; Zhang, Qian; Liu Jiazheng; Liu, Zhiyan; Jin, Jing; Guo, Yong\*; . \*. Novel 1,3,4-thiadiazole/oxadiazole-linked honokiol derivatives suppress cancer inducing PI3K/Akt/mTOR-dependent autophagy. , , 105257.
- 41) Liu, Xin; Fu, Jing; Shen, Rong-Sheng; Wu, Xu-Jia; Yang, Ji; ; Jiang, Zhi-Hong\*; Zhu, Guo-Yuan\*. Linderanoids A–O, dimeric sesquiterpenoids from the roots of (Sims) Kosterm. , , 112924.

42) Zheng, Zhiyuan<sup>#</sup>

; Zhang, Wei\*; Jiang, Zhi-Hong\*. Similarity and specificity of traditional Chinese medicine formulas for the management of coronavirus disease 2019 and rheumatoid arthritis based on integrated network pharmacology. , , , 30519.

51) Xu, Ting; Zheng, Zhiyuan; Guo, Yong\*; \*. Semisynthesis of novel magnolol-based Mannich base derivatives that suppress cancer cells via inducing autophagy. , , , 112663.

52) Huang, Qi; Zhang, Hui; , Law, Betty Yuen Kwan; Xiong, Haoming; Zhou, Xiaobo; Xiao, Riping; Qu, Yuan Qing; Mok, Simon Wing Fai; Liu, Liang\*; Wong, Vicent Kam Wai\*. Novel ginsenoside derivative 20(S)-Rh2E2 suppresses tumor growth and metastasis in vivo and in vitro via intervention of cancer cell energy metabolism, , , 621.

53) Liu, Meixian; Li, Na; Zhang, Yida; Zheng, Zhiyuan; Zhuo, Yue; Sun, Baoqing; , Zhang, Mingming; Guo, Mingquan; Wu, Jianlin\*. Characterization of Covalent Protein Modification by Triclosan in vivo and in vitro via Three-Dimensional Liquid Chromatography-Mass Spectrometry: New Insight into Its Adverse Effects , , 105423.

54) Wang, Zhihua; Wu, Wenbo; Guan, Xiangchen; Guo, Shuang; Li, Chaowen; Niu, Ruixue; Gao, Jie; Jiang, Min; ; Leung, Elaine Laihan; Hou, Yuanyuan\*; Jiang, Zhi-Hong\*; Bai, Gang\*. Multiomic analysis revealed 20(s)-protopanaxatriol promotes the binding of P53 and DNA to regulate the antitumor network. , , (6), 1020-1035.

55) Jin, Jing<sup>#</sup>; Xue, Nina<sup>#</sup>; Liu, Yuan; Fu, Rong; Wang, Mingjin; Ji, Ming; Lai, Fangfang; Hu, Jinping; Wang, Xiaojian; Xiao, Qiong; Zhang, Xiaoying; Yin, Dali; ; Chen, Liping\*; Rao, Shuan \*. A novel S1P1 modulator IMM002 ameliorates psoriasis in multiple animal models, , (2), 276-288.

56) Chen, Qi; Liu, Juan; Zhuang, Yuxin; ; Yuan, Qing; Zheng, Silin; Liao, Kangsheng; Khan, Md. Asaduzzaman; Wu, Qibiao; Luo, Cheng; Liu, Liang; Wang, Hui\*; Li, Ting\*.

- 57) Zhou, Xiaobo<sup>#</sup>; Chen, Li<sup>#</sup>; Jiang, Zhi-Hong; Chen, Xiao Yi; Luo, Pei\*; \*.  
 Synthesis of 21-Alkylidenes and 21-Alkylol Analogues of Uscharin and Their Effects on  
 Intracellular Calcium in Cardiac Cells. (19), 5512-5517.
- 58) Liu, Xin; Yang, Ji; Yao, Xiaojun; Yang, Xing; Fu, Jing; Liu, Liang; Jiang, Zhi-  
 Hong\*; Zhu, Guo-Yuan\*. Linderalides A-D, Disesquiterpenoids Geranylbenzofuranone  
 Conjugates from *Lindera aggregate*. (12), 8242-8247.
- 59) Liu, Juan; ; Yang, Fen; Yao, Xiaojun; Lei, Kawai; Lam, Christopher Wai Kei; Wu,  
 Qibiao; Zhuang, Yuxin; Xiao, Riping; Liao, Kangsheng; Kuok, Hioha; Li, Ting\*; Liu, Liang\*.  
 Potent Antagonists of ROR $\gamma$ 1, Cardenolides from *Calotropis gigantea*, Exhibit Discrepant  
 Effects on the Differentiation of T Lymphocyte Subsets.  
(2), 798-807.
- 60) Qin, Hong-Yan \*; Kou, Jia-Xin; Rao, Zhi; Zhang, Guo-Qiang; Wang, Xiao-Hua;  
 Wei, Yu-Hui. N-acetyltransferase Activity Assay and Inhibitory Compounds Screening by  
 Using Living Human Hepatoma HepaRG Cell Model.  
(2), 229-237.
- 61) Fan, Dongsheng; Li, Ting; Zheng, Zhiyuan; Zhu, Guo-Yuan; Yao, Xiaojun; Jiang, Zhi-Hong\*;  
\*. Macrolide sesquiterpene pyridine alkaloids from the stems of *Tripterygium*  
*regelii*. (1), 23-33.
- 62) Zhu, Guo-Yuan\*; Yang, Ji; Yao, Xiaojun; Yang, Xing; Fu, Jing; Liu, Xin; ; Liu,  
 Liang; Jiang, Zhi-Hong\*. (+/-)-Sativamides A and B, Two Pairs of Racemic Nor-Lignanamide  
 Enantiomers from the Fruits of *Cannabis sativa*. (4),  
2376-2381.
- 63) Zhou, Xiaobo<sup>#</sup>; Qu, Yuan Qing <sup>#</sup>; Zheng, Zhiyuan; Law, B. Yuen Kwan; Mok, S. Wing Fai;  
 Jiang, Zhi-Hong\*; Wong, V. Kam Wai\*; \*. Novel dauricine derivatives suppress  
 cancer via autophagy-dependent cell death. , 450-460.
- 64) Sun, B.; Liang, Z.; Xie, B. P.; Li, R. T.; Li, L. Z.; Jiang, Z.-H.; ; Chen, Jin Xiang\*.  
 Fluorescence sensing platform based on ruthenium(II) complexes as high 3S (sensitivity,  
 specificity, speed) and "on-off-on" sensors for the miR-185 detection. , 658-  
667.

- 65) Zhou, Xiao Bo<sup>#</sup>; Chen, Ming<sup>#</sup>; Zheng, Zhi Yuan; Zhu, Guo-Yuan; Jiang, Zhi-Hong\*;  
\*. Synthesis and evaluation of novel 12-aryl berberine analogues with hypoxia-inducible factor-1 inhibitory activity. (43), 26921-26929.
- 66) Yang, S. P.; Zhao, W.; Hu, P. P.; Wu, K. Y.; Jiang, Z.-H.; ; Li, M. M.; Chen, J. X. Lanthanum-Based Metal-Organic Frameworks for Specific Detection of Sudan Virus RNA Conservative Sequences down to Single-Base Mismatch. (24), 14880-14887.
- 67) Sun, B.; Zhao, H. Q.; Xie, B. P.; ; Jiang, Z.-H.; Chen, Jin Xiang. Sequence-specific fluorometric recognition of HIV-1 ds-DNA with zwitterionic zinc(II)-carboxylate polymers. , 17-23.
- 68) Qiu, G. H.; Lu, W. Z.; Hu, P. P.; Jiang, Z.-H.; ; Wang, T. R.; Li, M. M.; Chen, Jin Xiang\*. A metal-organic framework based PCR-free biosensor for the detection of gastric cancer associated microRNAs. , 138-142.
- 69) Fan, Dongsheng; Zhou, Shuangyan; Zheng, Zhiyuan; Zhu, Guo-Yuan; Yao, Xiaojun; Yang, Ming Rong; Jiang, Zhi-Hong; \*. New Abietane and Kaurane Type Diterpenoids from the Stems of . (1), 147.
- 70) Xie, B.-P.<sup>#</sup>; Qiu, G.-H.<sup>#</sup>; Hu, P.-P.; Liang, Z.; Liang, Y.-M.; Sun, B.; ; Jiang, Z.-H.; Chen, Jin-Xiang\*. Simultaneous detection of Dengue and Zika virus RNA sequences with a three-dimensional Cu-based zwitterionic metal–organic framework, comparison of single and synchronous fluorescence analysis. , 1133-1140.
- 71) Yan, Fenggen; Yang, Fen; Wang, Rui; Yao, Xiao Jun; ; Zeng, Xing; Huang, J.; Wong, V. Kam Wain; Lam, C. W.; Zhou, Hua; Su, Xiaohui; Liu, Juan; Li, Ting\*; Liu, Liang\*. Isoliquiritigenin suppresses human T Lymphocyte activation via covalently binding cysteine 46 of IkappaB kinase. , (21), 34223-34235.
- 72) Wong, V. Kam Wai; Dong, Hang; Liang, Xu; ; Jiang, Zhi-Hong; Guo, Y.; Kong, A. N. T.; Wang, R.; Kam, R. K. T.; Law, B. Yuen Kwan; Hsiao, W. W. L.; Chan, K. M.; Wang, Jing Rong; Chan, R. W. K.; Guo, J. R.; Zhang, W.; Yen, F. G.; Zhou, H.; Leung, E. L. H.; Yu, Z. L.; Liu, Liang\*. Rh2E2, a novel metabolic suppressor, specifically inhibits energy-based

metabolism of tumor cells.

(9), 9907-9924.

- 73) Wang, Jing-Rong; Tong, Tian Tian; Yau, Lee Fong; Chen, Cheng Yu; ; Ma, Jing; Hu, Ming; Liu, Liang; Jiang, Zhi-Hong. Characterization of oxygenated metabolites of ginsenoside Rg1 in plasma and urine of rat. , 75-86.
- 74) Parhira, Supawadee; Zhu, Guo-Yuan; Li, Ting; Liu, Liang; \*; Jiang, Zhi-Hong\*. Inhibition of IKK-beta by epidioxysterols from the flowers of (Niu jiao gua). , 9.
- 75) Parhira, Supawadee; Zhu, Guo-Yuan; Chen, Ming; \*; Jiang, Zhi-Hong\*, Cardenolides from as potent inhibitors of hypoxia-inducible factor-1 transcriptional activity. , 930-936.
- 76) Li, Jin Xin; Sakata, A.; He, Han Ping; ; Murata, A.; Dohno, C.; Nakatani, Kazuhiko\*. Naphthyridine-Benzoazaquinolone: Evaluation of a Tricyclic System for the Binding to (CAG)(n) Repeat DNA and RNA. (13), 1971-1981.
- 77) Li, Jin Xin; Matsumoto, J.; ; Murata, A.; Dohno, C.; Nakatani, Kazuhiko\*. A Ligand That Targets CUG Trinucleotide Repeats. (42), 14881-14889.
- 78) Fan, Dong Sheng; Zhu, Guo-Yuan; Li, Ting; Jiang, Zhi-Hong\*; \*. Dimacrolide Sesquiterpene Pyridine Alkaloids from the Stems of *Tripterygium regelii*. (9), 1146.
- 79) Fan, Dong Sheng; Zhu, Guo-Yuan; Chen, Ming; Xie, Li Min; Jiang, Zhi-Hong; Xu, Liang; \*. Dihydro-beta-agarofuran sesquiterpene polyesters isolated from the stems of *Tripterygium regelii*. , 1-8.
- 80) Fan, Dong Sheng; Parhira, Supawadee; Zhu, Guo-Yuan; Jiang, Zhi-Hong; \*. Triterpenoids from the stems of *Tripterygium regelii*. , 69-73.
- 81) Chen, Cheng Yu; ; Ke, Zhen Feng; Liu, Yan; Wang, Jing-Rong\*; Jiang, Zhi-Hong\*, G-Quadruplex DNA-binding quaternary alkaloids from *Tylophora atrofoliculata*.



(115), 114135-114142.

82) Wang, Rui; Zhang, C. Y.; ; Pan, Hui Dan; Shu, L. M.; Kong, A. N. T.; Leung, E. Lai Han; Liu, Liang; Li, Ting\*. Flavonoids derived from liquorice suppress murine macrophage activation by up-regulating heme oxygenase-1 independent of Nrf2 activation.

(2), 917-924.

83) Wang, Jing-Rong; Yau, Lei-Fong; Tong, Tian-Tian; Feng, Qi-Tong; , Ma, Jing; Hu, Ming; Liu, Liang; Jiang, Zhi-Hong\*. Characterization of Oxygenated Metabolites of Ginsenoside Rb1 in Plasma and Urine of Rat.

, 2689-2700.

84) Zhu, G.-Y.; Yao, X. J.; Liu, L.; \*; Jiang, Z.-H.\*, Alistonitrine A, a Caged Monoterpene Indole Alkaloid from *Alstonia scholaris*.

(4), 1080-

1083.

85) Zhu, G.-Y.; Chen, G. Y.; Liu, L.; \*; Jiang, Z.-H.\*, C-17 Lactam-Bearing Limonoids from the Twigs and Leaves of *Amoora tsangii*.

(4), 983-989.

86) Zhu, G.-Y.; ; Liu, L.\*; Jiang, Z.-H.\*, Limonoids from the fruits of *Melia toosendan* and their NF-kappa B modulating activities.

, 175-181.

87) Yang, Z. F. #; #; Huang, W. B.; Li, X. Z.; Zhao, S. S.; Zhong, N. S.\*; Jiang, Z.-H.\*, Comparison of in vitro antiviral activity of tea polyphenols against influenza A and B viruses and structure-activity relationship analysis.

, 47-53.

88) Parhira, S.; Zhu, G.-Y.; Jiang, R. W.; Liu, L.; \*; Jiang, Z.-H.\*, 2'-Epi-uscharin from the Latex of *Calotropis gigantea* with HIF-1 Inhibitory Activity.

, 4748.

89) Parhira, S.; Yang, Z. F.; Zhu, G.-Y.; Chen, Q. L.; Zhou, B. X.; Wang, Y. T.; Liu, L.;

\*; Jiang, Z.-H.\*, In Vitro Anti-Influenza Virus Activities of a New Lignan Glycoside from the Latex of *Calotropis gigantea*.

(8), e104544.

90) Law, B. Y. K.; Chan, W. K.; Xu, S. W.; Wang, J. R.; ; Liu, L.; Wong, V. K. W., Natural small-molecule enhancers of autophagy induce autophagic cell death in apoptosis-

defective cells.

- 91) ; Liu, J.; Han, L.; Ho, H. M.; Wang, R. X.; Jiang, Z.-H.\*, Mass spectrometric studies on effects of counter ions of TMPyP4 on binding to human telomeric DNA and RNA G-quadruplexes. (22), 5455-5463.
- 92) ; Hagihara, M.; Nakatani, K.; Jiang, Z.-H.\*, Recognition of Chelerythrine to Human Telomeric DNA and RNA G-quadruplexes. , 6767.
- 93) ; Ho, H. M.; Ma, D. L.; Yang, H.; Fu, W. C.; Jiang, Z.-H.\*, Aminoglycosylation Can Enhance the G-Quadruplex Binding Activity of Epigallocatechin. (1), e53962.
- 94) Yang, W. G.; Wong, Y.; Ng, O. T. W.; ; Kwong, D. W. J.; Ke, Y.; Jiang, Z.-H.; Li, H. W.\*; Yung, K. K. L.\*; Wong, M. S.\*, Inhibition of Beta-Amyloid Peptide Aggregation by Multifunctional Carbazole-Based Fluorophores. (8), 1804-1810.
- 95) He, H.; ; Jiang, Z.-H.\*, Synthesis and human telomeric G-quadruplex DNA-binding activity of glucosaminosides of shikonin/alkannin. (4), 1582-1586.
- 96) Man, B. Y. W.; Chan, H. M.; Leung, C. H.; Chan, D. S. H.; ; Jiang, Z.-H.; Li, H. W.; Ma, D. L.\*, Group 9 metal-based inhibitors of beta-amyloid (1-40) fibrillation as potential therapeutic agents for Alzheimer's disease. (5), 917-921.
- 97) Ma, D. L.; Kwan, M. H. T.; Chan, D. S. H.; Lee, P.; Yang, H.; Ma, V. P. Y.; ; Jiang, Z.-H.; Leung, C. H., Crystal violet as a fluorescent switch-on probe for i-motif: label-free DNA-based logic gate. (13), 2692-2696.
- 98) Dong, H.<sup>#</sup>; <sup>#</sup>; Wong, V. K. W.; Zhou, H.; Wang, J. R.; Liu, Y.; Jiang, Z.-H.\*; Liu, L.\*, The in Vitro Structure-Related Anti-Cancer Activity of Ginsenosides and Their Derivatives. (12), 10619-10630.
- 99) Chan, D. S. H.; Yang, H.; Kwan, M. H. T.; Cheng, Z.; Lee, P.; ; Jiang, Z.-H.; Wong, C. Y.; Fong, W. F.; Leung, C. H.\*; Ma, D. L.\*, Structure-based optimization of FDA-approved drug methylene blue as a c-myc G-quadruplex DNA stabilizer.

(6), 1055-1064.

- 100) Chu, C.; Xia, L.; ; Li, Q.; Li, P.; Chen, H. B.; Zhao, Z. Z.\*, Authentication of the 31 Species of Toxic and Potent Chinese Materia Medica by Light Microscopy, Part 3: Two Species of T/PCMM from Flowers and Their Common Adulterants.

(6), 454-463.

- 101) Xia, L.; ; Chu, C.; Li, P.; Jiang, Z.-H.; Zhao, Z. Z.\*, Authentication of the 31 species of Toxic and Potent Chinese Materia Medica (T/PCMM) by microscopic technique, Part 2: Three species of seed T/PCMM. (4),

325-333.

- 102) ; Hagihara, M.; Jiang, Z.-H.\*; Nakatani, K.\*, Ligand Binding to Tandem G Quadruplexes from Human Telomeric DNA. (16), 2583-2587.

- 103) ; Cai, Z. W.; Zhao, Z. Z.; Nakatani, K.; Jiang, Z.-H.\*, Site-specific binding of chelerythrine and sanguinarine to single pyrimidine bulges in hairpin DNA.

(4), 709-716.

- 104) Xia, L.; ; Yi, L.; Liu, B. B.; Chu, C.; Liang, Z. T.; Li, P.; Jiang, Z.-H.; Zhao, Z. Z.\*, Authentication of the 31 species of toxic and potent chinese materia medica (T/PCMM) by microscopic technique, part 1: Three kinds of toxic and potent animal CMM.

(11), 960-968.

- 105) Long, Y. H. #; #; Qin, Y.; Pang, J. Y.; Chen, W. H.; Cai, Z. W.; Xu, Z. L.; Jiang, Z.-H., Spacer length and attaching position-dependent binding of synthesized protoberberine dimers to double-stranded DNA.

(13), 4670-4676.

- 106) ; Zhao, Z. Z.; Cai, Z. W.; Jiang, Z.-H.\*, DNA-binding affinities and sequence selectivity of quaternary benzophenanthridine alkaloids sanguinarine, chelerythrine, and nitidine. (16), 5439-5445.

- 107) ; Jiang, H.; Kang, T.; Zhang, H.; Jiang, Z.-H.; Zhao, Z. Z.\*, Pharmacognostical Evaluation of Arctii Fructus (5): Chemical Constituents from Fruits of *Amorpha fruticosa* L.

(The present journal name: ) , 275-

**Patents**

- 1) Jiang Zhi-Hong, , Xu Ting, Zhou Xiaobo, Guo Yong. Sphingolipids, liposomes containing sphingolipids, and their applications ( ). Chinese Patent No. ZL202210358677.7, filing on 7<sup>th</sup> April 2022 granted on 23<sup>rd</sup> July 2024; International application No. PCT/CN2022/098765, international filing on 14<sup>th</sup> June 2022.
- 2) Jiang Zhi-Hong, Kong Lingkai, Tian Wenyue, Liu Zhiyan. A kind of indole quinolinone compound, its synthetic method and application ( ). Chinese Patent No. ZL202210245932.7, granted on 4<sup>th</sup> June 2024.
- 3) Jiang Zhi-Hong, Lu Jing-Guang, Yang Ming-Rong; Zhu Guo-Yuan, , Wang Yingwei, Ma Xiaorong, Meng Jieru, Hu Kua. A kind of isoquinoline alkaloid compound and its preparation and use ( ). Chinese Patent No. ZL202110758807.1, granted on 29<sup>th</sup> August 2023.
- 4) , Zheng, Zhiyuan, Zhou Xiaobo, Zhu Guo-Yuan, Jiang Zhi-Hong. A cardiac glycoside, its synthesis method and application ( ). Chinese Patent No. ZL202010913582.8, granted on 3<sup>rd</sup> August 2021.
- 5) Jiang Zhi-Hong, , Lu Jiang-Guang, Liu Qianbao. An analytical approach for components in and its application ( ). Chinese Patent No. ZL202011103633.7, granted on 2<sup>nd</sup> November 2021.
- 6) Liu Liang, Wong Kam Wai Vincent, , Huang Qi, Xiong Hao-Ming. A derivative of ginsenoside and its synthesis method and application ( ). Chinese Patent No. ZL202010309939.1, granted on 23<sup>th</sup> November 2021.
- 7) Liang Chun, Jiang Zhi-Hong, Wang Ziyi, Yu Zhiling, Wang Jing-Rong, . Method and compounds for inhibiting the MCM complex and their application in cancer treatment ( MCM ). Chinese Patent No.

ZL201910489605.4, granted on 15<sup>th</sup> November 2022.

8) , Zhou Xiaobo, Chen Ming, Zhu Guo-Yuan, Jiang Zhi-Hong. Berberine derivatives, their preparation and use. IP Australia 2017100179, granted on 16 March 2017.

9) Jiang Zhi-Hong, , Zhou Xiaobo, Wong Kam Wai Vincent, Zheng Zhiyuan, Law Yuen Kwan Betty. Compounds that activate autophagy. filed on Jan. 3, 2018, U.S. Patent Application Serial No. 15/861,641.

/ IP Australia 2018100123, granted on 14 February 2018.

10) Chen Jin-Xiang; Pang Jian-Xin, Liu Shu-Wen, , Jiang Zhi-Hong. Crystalline contrast agent for magnetic resonance imaging, kit and composition comprising it and their use. filed on Sep. 21, 2016, U.S. Patent Application Serial No. 15/271,368.

/ IP Australia 2016101702, granted on 6 Oct. 2016.

11) Chen Jin-Xiang, Xie Bao-Ping, Qiu Gui-Hua, Hu Pei-Pei, Liang Zhen, Liang Ye-Mei, Sun Bin, , Jiang Zhi-Hong. Compounds that activate autophagy. filed on Jan. 3, 2018, U.S. Patent Application Serial No. 15/861,641.

2017101742, granted on 17 Jan. 2018.

16) and Jiang Zhi-Hong. Recognition of chelerythrine to human telomeric DNA and RNA G-quadruplexes. IP Australia 2014100708, granted on 10 July 2014.

17) , Parhira Supawadee, Zhu Guo-Yuan, Yang Zi-Feng, Chen Qiao-Lian, Wang Yu-Tao, Liu Liang, Jiang Zhi-Hong. Anti-influenza Virus Activities of a New Lignan Glycoside from the Latex of . IP Australia 2014100709, granted on 10 July 2014.

18) and Jiang Zhi-Hong. Mass Spectrometric Studies on Effects of Counter Ions of TMPyP4 on Binding to Human Telomeric DNA and RNA G-Quadruplexes. IP Australia 2014100806, granted on 31 July 2014.

19) , Parhira Supawadee, Zhu Guo-Yuan, Liu Liang Jiang Zhi-Hong. -Epi-uscharin from the Latex of *Calotropis gigantea* with HIF-1 Inhibitory Activity. IP Australia 2014100813, granted on 14 August 2014.

20) , Parhira Supawadee, Zhu Guo-Yuan, Li Ting, Liu Liang Jiang Zhi-Hong. Method of using epidioxysterols from *Calotropis gigantea* to inhibit IKK-beta activity, IP Australia 2014100822, granted on 31 July 2014.

21) Zhu Guo-Yuan, (g)]TJ0 Tc 0 A4 (nt)-2 ((nt)Tw Tc 0 Tu,3M0.002 Tc -0.033 Tw 2.21 0 Td(-)TTj0 Tc 0 Tw 0.8

- 25) Jiang Zhi-Hong, Cai Zhanchuan, , Zhang Yuhan, Liu Jiazheng, Lyu Peilun, Ye Ben, Lan Ting. A method and device for identifying Chinese medicinal materials ( ). Chinese Patent Application No. 202210344018.8, filing on 2<sup>nd</sup> April 2022; Publication No. CN 114818874 A, Publication Date 29<sup>th</sup> July 2022.
- 26) Cai Zhanchuan, Jiang Zhi-Hong, Ye Ben, Lyu Peilun, Zhang Yuhan, Liu Jiazheng, Lan Ting, . Image recognition method, electronic device, and storage medium ( ). Chinese Patent Application No. 202210346579.1, filing on 2<sup>nd</sup> April 2022; Publication No. CN 114821554 A, Publication Date 29<sup>th</sup> July 2022.
- 27) , Jiang Zhi-Hong, Tian Wenyue, Liu Zhiyan. Application of indoloquinolinone compounds in the preparation of drugs for preventing or/and treating pulmonary fibrosis and lung injury ( ). Chinese Patent Application No. 202311098036.3, filing on 31<sup>st</sup> August 2023; Publication No. CN 117017989 A, Publication Date 10<sup>th</sup> November 2023.
- 28) Jin Jing, , Hao Mengyao, Liu Zhiyan, et al. A trifluoromethylbenzyl ether-substituted amino acid derivative, its preparation method and use ( ). Chinese Patent Application No. 202311189621.4 filing on 15<sup>th</sup> September 2023.
- 29) Jin Jing, , Hao Mengyao, Liu Zhiyan, et al. A nitrogen-containing organic acid derivative substituted by trifluoromethylcyclohexylbenzyl ether, its preparation method and use ( ). Chinese Patent Application No. 202311195997.6 filing on 18<sup>th</sup> September 2023.
- 30) , Jiang Zhi-Hong, Liu Zhiyan, Tian Wenyue, Kang Ao, Liu Jiazheng. A new class of Mannich alkaloid compounds of Osmundacetone and their synthetic method and applications ( Chinese Patent Application No. 202410885620.1 filing on 3<sup>rd</sup> July 2024.
- 31) Jiang Zhi-Hong, , Tian Wenyue, Yau Lee Fong, Kang Ao. A combination of secondary ginsenosides and its application in the prevention and treatment of pulmonary

fibrosis and acute lung injury (

). Chinese Patent Application No. 202410909990.4 filing on 9<sup>th</sup>



- 3) The 2013 Bank of China (BOC) Excellent Research Award (Bank of China Macau Branch)
- 4) The 2016/2017 Zhongzhu Awards for Life Science Recognizing First Prize in Research (Zhongzhu Healthcare Holding Co., Ltd.)