

# Jiang Zhi Hong



Position: Chair Professor  
Vice President, Macau University of  
Science and Technology  
Director, Macau Institute for Applied  
Research in Medicine and Health  
Director, State Key Laboratory of Quality  
Research in Chinese Medicine

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## ***A Brief Introduction***

Chair Professor Jiang obtained the Bachelor and Master degrees from China Pharmaceutical University in 1987 and 1990, respectively. He earned his PhD degree from Nagasaki University, Japan in 1998. After postdoctoral training in Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School, USA from 1999-2001, he joined the School of Chinese Medicine, Hong Kong Baptist University in 2001 as an assistant professor, and was promoted to associate professor in 2005 and professor in 2008. He was the Associate Director of Teaching Division and Director of Master Program of Pharmaceutical Sciences in Chinese Medicine. In July 2011, he relocated to Macau University of Science and Technology (M.U.S.T.), and took up the positions as Director of Macau Institute for Applied Research in Medicine and Health. In March 2016, he was appointed as Vice President of M.U.S.T. In March 2022, he was appointed as the Director of State Key Laboratory of Quality Research in Chinese medicine (M.U.S.T.).

Chair Professor Jiang is an internationally-renowned scientist in natural products chemistry. His research interests include natural products chemistry, metabolomics, quality control of Chinese medicinal herbs and bioorganic chemistry. In an effort to advance the modernization of traditional Chinese medicines (TCM) research and development, Chair Professor Jiang has deeply devoted to the characterization of the active ingredients in TCM, and elucidation

of their action mechanism by using modern technologies of chromatography, spectroscopy, chemical biology and metabolomics, and has obtained outstanding achievements. Chair Professor Jiang has published more than 320 papers in international SCI journals, which were cited 12,000 times, with H-index of 65 (Google Scholar, 2023).

Chair Professor Jiang was awarded as the Young Distinguished Scholars by National Natural Science Foundation of China (Overseas) in 2007, and was appointed as Chair Professor of the Changjiang Scholars Programme by the Ministry of Education of China in 2014. In 2022, Chair Professor Jiang was elected as a member of Chinese Pharmacopoeia Commission. His research grants were financially supported by the Macau Science and Technology Development Fund (FDCT), Hong Kong Research Grants Council, Department of Health of HKSAR, National Natural Science Foundation of China and National Institutes of Health (NIH) of U.S.A. In addition, Chair Professor Jiang also serves in multiple social service positions, including Vice President of National Technical Committee of Standardization of Traditional Chinese Medicine, President of the Cross-Strait Scientific Collaboration Center for Chinese Medicine, Vice President of the Macao Science and Technology Council, Committee Member of Science and Technology Committee and Economic Committee of Macao SAR Government, and Vice Chairman of Macao Higher Education Development Promotion Association.

### ***Teaching and Research Areas***

Teaching subjects: Chemistry of Chinese Materia Medica, Chemical Analysis of Chinese Herbs

Research Areas: Natural Products Chemistry, Metabolomics, Bioorganic Chemistry, Chemical Analysis of Chinese Herbs

### ***Academic Qualifications***

1998.3	Ph.D, Nagasaki University, Japan
1990.7	M. Sc., China Pharmaceutical University, Nanjing, China
1987.7	B. Sc., China Pharmaceutical University, Nanjing, China

### ***Teaching Experience***

2015.9 - Present	Chair Professor, Macau University of Science and Technology
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2011.7- 2015.8	Professor, Macau University of Science and Technology
2008.9 - 2011.6	Professor, School of Chinese Medicine, Hong Kong Baptist University
2005.7 - 2008.8	Associate Professor, School of Chinese Medicine, Hong Kong Baptist University
2001.10 - 2005.6	Assistant Professor, School of Chinese Medicine, Hong Kong Baptist University
1999.11 - 2001.9	(Sabbatical leave) Postdoctoral Research Fellow, Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School, U.S.A
1996.10 - 2001.9	Research Assistant Professor, School of Pharmaceutical Sciences, Nagasaki University, Japan
1990.7 - 1994.3	Research Associate, Lecturer, China Pharmaceutical University, Nanjing, China

### ***Representative Publications since 2019***

1. Qian-Bao Liu, Jiazheng Liu, Jing-Guang Lu, Ming-Rong Yang, Wei Zhang, Wen-Jia Li, Zheng-Ming Qian, **Zhi-Hong Jiang\***, Li-Ping Bai\*. "Quantitative 1H NMR with global spectral deconvolution approach for quality assessment of natural and cultured *Cordyceps sinensis*." *Journal of Pharmaceutical and Biomedical Analysis* (2023): 115603.
2. Hao-Yuan Lyu, Meng-Yu Bao, Chi-Cheng Io, Hao-Ming Xiong, Fei-Long Chen, Li-Ping Bai, Wei Zhang, **Zhi-Hong Jiang\***, Guo-Yuan Zhu\*. "Sesquiterpenoids from the roots of *Aucklandia costus* and their anti-inflammatory activities." *Fitoterapia* (2023): 105604.
3. Hui-Xia Zhang, Dian Yu, Jian-Feng Sun, Ling Zeng, Cai-Yun Wang, Li-Ping Bai, Guo-Yuan Zhu, **Zhi-Hong Jiang\***, Wei Zhang\*. "An integrated approach to evaluate acetamiprid-induced oxidative damage to tRNA in human cells based on oxidized nucleotide and tRNA profiling." *Environment International* (2023): 108038.
4. Xinyu Zhang, Yuting Chen, Yueying Pan, Xinye Ma, Gui Hu, Song Li, Yan Deng, Zhu Chen, Hui Chen\*, Yanqi Wu\*, **Zhihong Jiang\***, Zhiyang Li. "Research progress of severe acute respiratory syndrome coronavirus 2 on aerosol collection and detection." *Chinese Chemical Letters* (2023): 108378.
5. Fei Ren, Kai-Yue Cao, Rui-Ze Gong, Meng-Lan Yu, Peng Tao, Yi Xiao,

- Zhi-Hong Jiang\***. "The role of post-transcriptional modification on a new tRNA<sup>Ala</sup> (GAU) identified from *Ganoderma lucidum* in its fragments' cytotoxicity on cancer cells." *International Journal of Biological Macromolecules* 229 (2023): 885-895.
6. Hui-Xia Zhang, Jian-Feng Qin, Jian-Feng Sun, Yu Pan, Tong-Meng Yan, Cai-Yun Wang, Li-Ping Bai, Guo-Yuan Zhu, **Zhi-Hong Jiang\***, Wei Zhang\*. "Selective Chemical Labeling Strategy for Oligonucleotides Determination: A First Application to Full-Range Profiling of Transfer RNA Modifications." *Analytical Chemistry* 95.2 (2023): 686-694.
  7. Hui Chen, Xinye Ma, Xinyu Zhang, Gui Hu, Yan Deng, Song Li, Zhu Chen, Nongyue He\*, Yanqi Wu\*, **Zhi-Hong Jiang\***. "Novel aerosol detection platform for SARS-CoV-2: Based on specific magnetic nanoparticles adsorption sampling and digital droplet PCR detection." *Chinese Chemical Letters* 34.1 (2023): 107701.
  8. Min Zhang, Long-Bo Bai, Lee-Fong Yau, Tian-Tian Tong, Wei Zhang\*, **Zhi-Hong Jiang\***. "Identification of Cannabidiol Metabolites in Different Mouse Organs Using Ultra-Performance Liquid Chromatography Coupled to a Quadrupole Time-of-Flight Mass Spectrometer." *Cannabis and Cannabinoid Research* (2022), doi.org/10.1089/can.2022.0161.
  9. Lee-Fong Yau, Hao Huang, Tian-Tian Tong, Long-Bo Bai, Guo-Yuan Zhu, Yuanyuan Hou, Gang Bai\*, **Zhi-Hong Jiang\***. "Characterization of deglycosylated metabolites of platycosides reveals their biotransformation after oral administration." *Food Chemistry* 393 (2022): 133383.
  10. Xu-Jia Wu, Dai Cao, Fei-Long Chen, Rong-Sheng Shen, Jin Gao, Li-Ping Bai, Wei Zhang, **Zhi-Hong Jiang\***, Guo-Yuan Zhu\*. "Chlorfortunones A and B, Two Sesquiterpenoid Dimers, Possessing Dispiro [4, 2, 5, 2] pentadecane-6, 10, 14-trien Moiety from *Chloranthus fortunei*." *ACS Omega* 7.39 (2022): 35063-35068.
  11. Jiazheng Liu, Jieru Meng, Runfeng Li, Haiming Jiang, Lu Fu, Ting Xu, Guo-Yuan Zhu, Wei Zhang, Jin Gao, **Zhi-Hong Jiang\***, Zi-Feng Yang\*, Li-Ping Bai\*. "Integrated network pharmacology analysis, molecular docking, LC-MS analysis and bioassays revealed the potential active

ingredients and underlying mechanism of *Scutellariae radix* for COVID-19." *Frontiers in plant science* 13 (2022): 988655.

12. Tian-Peng Yin, Yi Yu, Qing-Hua Liu, Ming-Yue Zhou, Guo-Yuan Zhu, Li-Ping Bai, Wei Zhang\*, **Zhi-Hong Jiang\***. "2D NMR-based MatchNat Dereplication Strategy Enables Explosive Discovery of Novel Diterpenoid Alkaloids." *Chinese Journal of Chemistry* 40.18 (2022): 2169-2178.
13. Kua Hu, Tong-Meng Yan, Kai-Yue Cao, Fang Li, Xiao-Rong Ma, Qiong Lai, Jin-Cheng Liu, Yu Pan, Jun-Ping Kou, **Zhi-Hong Jiang\***. "A tRNA-derived fragment of ginseng protects heart against ischemia/reperfusion injury via targeting the lncRNA MIAT/VEGFA pathway." *Molecular Therapy-Nucleic Acids* 29 (2022): 672-688.
14. Jing-Guang Lu, Yingwei Wang, Ming-Rong Yang, Cai-Yun Wang, Jieru Meng, Jiazheng Liu, Zifeng Yang, Kongsong Wu, Li-Ping Bai\*, Guo-Yuan Zhu\*, **Zhi-Hong Jiang\***. "Structures, biomimetic synthesis, and anti-SARS-CoV-2 activity of two pairs of enantiomeric phenylpropanoid-conjugated protoberberine alkaloids from the rhizomes of *Corydalis decumbens*." *Archives of Pharmacal Research* 45.9 (2022): 631-643.
15. Long-Bo Bai, Lee-Fong Yau, Tian-Tian Tong, Wai-Him Chan, Wei Zhang\*, **Zhi-Hong Jiang\***. "Improvement of tissue-specific distribution and biotransformation potential of nicotinamide mononucleotide in combination with ginsenosides or resveratrol." *Pharmacology Research & Perspectives* 10.4 (2022): e00986.
16. Rong-Sheng Shen, Dai Cao, Fei-Long Chen, Xu-Jia Wu, Jin Gao, Li-Ping Bai, Wei Zhang, **Zhi-Hong Jiang\***, Guo-Yuan Zhu\*. "New Monoterpene-Conjugated Phenolic Constituents from Nutmeg and Their Autophagy Modulating Activities." *Journal of Agricultural and Food Chemistry* 70.31 (2022): 9684-9693.
17. Kai-Yue Cao, Yu Pan, Tong-Meng Yan, Peng Tao, Yi Xiao, **Zhi-Hong Jiang\***. "Antitumor activities of tRNA-derived fragments and tRNA halves from non-pathogenic *Escherichia coli* strains on colorectal cancer and their structure-activity relationship." *mSystems* 7.2 (2022): e00164-22.
18. Yingwei Wang, Mingrong Yang, Chichou Lao, **Zhihong Jiang\***. "Potassium-Base-Mediated Autoxidative Diastereoselective Homocoupling of N-Acyl-2-aminoacetophenones." *Organic Letters* 24.14

(2022): 2625-2629.

19. Kai-Yue Cao, Tong-Meng Yan, Ji-Zhou Zhang, Ting-Fung Chan, Jie Li, Chong Li, Elaine Lai-Han Leung, Jin Gao, Bao-Xian Zhang, **Zhi-Hong Jiang\***. "A tRNA-derived fragment from Chinese yew suppresses ovarian cancer growth via targeting TRPA1." *Molecular Therapy-Nucleic Acids* 27 (2022): 718-732.
20. Fei-Long Chen, Dong-Li Liu, Jing Fu, Ji Yang, Li-Ping Bai, Wei Zhang, **Zhi-Hong Jiang\***, Guo-Yuan Zhu\*. "(±)-Atrachinenins A–C, Three Pairs of Caged C27 Meroterpenoids from the Rhizomes of *Atractylodes chinensis*." *Chinese Journal of Chemistry* 40.4 (2022): 460-466.
21. Fei-Long Chen, Dong-Li Liu, Jing Fu, Lu Fu, Jin Gao, Li-Ping Bai, Wei Zhang, **Zhi-Hong Jiang\***, Guo-Yuan Zhu\*. "Atrachinenynes A–D, four diacetylenic derivatives with unprecedented skeletons from the rhizomes of *Atractylodes chinensis*." *New Journal of Chemistry* 46.32 (2022): 15530-15537.
22. Tianpeng Yin, Jingguang Lu, Qinghua Liu, Guoyuan Zhu, Wei Zhang\*, **Zhihong Jiang\***. "Validated quantitative <sup>1</sup>H NMR method for simultaneous quantification of indole alkaloids in *Uncaria rhynchophylla*." *ACS Omega* 6.47 (2021): 31810-31817.
23. Xin Liu, Jing Fu, Rong-Sheng Shen, Xu-Jia Wu, Ji Yang, Li-Ping Bai, **Zhi-Hong Jiang\***, Guo-Yuan Zhu\*. "Linderanoids A–O, dimeric sesquiterpenoids from the roots of *Lindera aggregata* (Sims) Kosterm." *Phytochemistry* 191 (2021): 112924.
24. Yahui Ge, Na Li, Yu Fu, Xi Yu, Ying Xiao, Zhiying Tang, Jianbo Xiao, Jian-Lin Wu\*, **Zhi-Hong Jiang\***. "Deciphering superior quality of Pu-erh tea from thousands of years' old trees based on the chemical profile." *Food Chemistry* 358 (2021): 129602.
25. Qiang Shang, Xiaobo Zhou, Ming-Rong Yang, Jing-Guang Lu, Yu Pan, Guo-Yuan Zhu\*, **Zhi-Hong Jiang\***. "Amide Derivatives of Ginkgolide B and Their Inhibitory Effects on PAF-Induced Platelet Aggregation." *ACS Omega* 6.35 (2021): 22497-22503.
26. Xin Liu, Ji Yang, Jing Fu, Pei-Lin Xu, Tang-Gui Xie, Li-Ping Bai, **Zhi-Hong Jiang\***, Guo-Yuan Zhu\*. "Monoterpene-flavonoid conjugates from *Sarcandra glabra* and their autophagy modulating activities." *Bioorganic*

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27. WANG Cai-Yun, LU Jing-Guang, CHEN Da-Xin, WANG Jing-Rong, CHE Kai-Si, Ming Zhong, Wei Zhang\*, **Zhi-Hong Jiang\***. "Comprehensive chemical study on different organs of cultivated and wild *Sarcandra glabra* using ultra-high performance liquid chromatography time-of-flight mass spectrometry (UHPLC-TOF-MS)." *Chinese Journal of Natural Medicines* 19.5 (2021): 391-400.
28. Xin Liu, Jing Fu, Ji Yang, Ancheng C Huang, Run-Feng Li, Li-Ping Bai, Liang Liu, **Zhi-Hong Jiang\***, Guo-Yuan Zhu\*. "Linderaggrenolides A–N, oxygen-conjugated sesquiterpenoid dimers from the roots of *Lindera aggregata*." *ACS Omega* 6.8 (2021): 5898-5909.
29. Yu Pan, Tong-Meng Yan, Jing-Rong Wang, **Zhi-Hong Jiang\***. "The nature of the modification at position 37 of tRNAPhe correlates with acquired taxol resistance." *Nucleic Acids Research* 49.1 (2021): 38-52.
30. Run-Feng Li, Xiao-Bo Zhou, Hong-Xia Zhou, Zi-Feng Yang, Hai-Ming Jiang, Xiao Wu, Wen-Jia Li, Jian-Jian Qiu, Jia-Ning Mi, Ming Chen, Nan-Shan Zhong, Guo-Yuan Zhu\*, **Zhi-Hong Jiang\***. "Novel fatty acid in *Cordyceps* suppresses influenza A (H1N1) virus-induced proinflammatory response through regulating innate signaling pathways." *ACS Omega* 6.2 (2021): 1505-1515.
31. Tianpeng Yin, Huixia Zhang, Wei Zhang\*, **Zhihong Jiang\***. "Chemistry and biological activities of hetisine-type diterpenoid alkaloids." *RSC advances* 11.57 (2021): 36023-36033.
32. Yingwei Wang, Mingrong Yang, Chichou Lao, **Zhihong Jiang\***. "C–H bond cleavage-enabled aerobic ring-opening reaction of in situ formed 2-aminobenzofuran-3 (2 H)-ones." *Organic & Biomolecular Chemistry* 19.43 (2021): 9448-9459.
33. Ji Yang, Xin Liu, Jing Fu, Hao-Yuan Lyu, Li-Ping Bai, **Zhi-Hong Jiang\***, Guo-Yuan Zhu\*. "Calycindaphines A–J, Daphniphyllum alkaloids from the roots of *Daphniphyllum calycinum*." *RSC Advances* 11.16 (2021): 9057-9066.
34. Tong-Meng Yan, Yu Pan, Meng-Lan Yu, Kua Hu, Kai-Yue Cao, **Zhi-Hong Jiang\***. "Full-range profiling of tRNA modifications using LC–MS/MS at single-base resolution through a site-specific cleavage

strategy." *Analytical Chemistry* 93.3 (2020): 1423-1432.

35. Hao Huang, Tian-Tian Tong, Lee-Fong Yau, Jing-Rong Wang, Mao-Hua Lai, Chun-Ren Zhang, Xiao-Hui Wen, Shu-Na Li, Kun-Yin Li, Jian-Qiao Liu, Hong-Xia Ma, Benjamin K Tsang, **Zhi-Hong Jiang\***. "Chemerin isoform analysis in human biofluids using an LC/MRM-MS-based targeted proteomics approach with stable isotope-labeled standard." *Analytica Chimica Acta* 1139 (2020): 79-87.
36. Mao-Ze Wang, Jin Gao, Yang Chu, Jie Niu, Ming Chen, Qiang Shang, Li-Hua Peng\*, **Zhi-Hong Jiang\***. "Synthesis of crocetin derivatives and their potent inhibition in multiple tumor cells proliferation and inflammatory property of macrophage." *BMC Complementary medicine and therapies* 20 (2020): 1-8.
37. Zheng Li, Hongwei Chen, Huixia Zhang, Yan Li, Caiyun Wang, Liping Bai, Wei Zhang\*, **Zhihong Jiang\***. "Similarity and specificity of traditional Chinese medicine formulas for management of coronavirus disease 2019 and rheumatoid arthritis." *ACS Omega* 5.47 (2020): 30519-30530.
38. Yan Li, Yanli Chen, Huixia Zhang, Christopher Wai Kei Lam, Zheng Li, Caiyun Wang, Yunfeng Zhao, Wei Zhang\*, **Zhihong Jiang\***. "Immobilization of cell membrane onto a glucose-Zn-based porous coordination polymer and its application to rapid screening of potentially active compounds from *Vaccinium corymbosum* L. leaves." *Microchimica Acta* 187 (2020): 1-10.
39. Hong-Xia Zhou, Run-Feng Li, Yi-Feng Wang, Li-Han Shen, Li-Hua Cai, Yun-Ceng Weng, Huan-Rong Zhang, Xin-Xin Chen, Xiao Wu, Rui-Feng Chen, Hai-Ming Jiang, Caiyun Wang, Mingrong Yang, Jingguang Lu, Xiao-Dong Luo\*, **Zhihong Jiang\***, Zi-Feng Yang\*. "Total alkaloids from *Alstonia scholaris* inhibit influenza a virus replication and lung immunopathology by regulating the innate immune response." *Phytomedicine* 77 (2020): 153272.
40. Zhihua Wang, Wenbo Wu, Xiangchen Guan, Shuang Guo, Chaowen Li, Ruixue Niu, Jie Gao, Min Jiang, Liping Bai, Elaine Laihan Leung, Yuanyuan Hou\*, **Zhihong Jiang\***, Gang Bai\*. "20 (S)-Protopanaxatriol promotes the binding of P53 and DNA to regulate the antitumor network via multiomic analysis." *Acta Pharmaceutica Sinica B* 10.6 (2020): 1020-1035.



41. Tongmeng Yan, Kua Hu, Fei Ren, **Zhihong Jiang\***. "LC-MS/MS profiling of post-transcriptional modifications in ginseng tRNA purified by a polysaccharase-aided extraction method." *Biomolecules* 10.4 (2020): 621.
42. An-Cheng Huang, Cheng-Yu Chen, Jing-Rong Wang\*, **Zhi-Hong Jiang\***. "Three new C21 steroidal glycosides from *Tylophora atrofoliculata*." *Phytochemistry Letters* 36 (2020): 111-114.
43. Kai-Yue Cao, Yu Pan, Tong-Meng Yan, **Zhi-Hong Jiang\***. "Purification, characterization and cytotoxic activities of individual tRNAs from *Escherichia coli*." *International Journal of Biological Macromolecules* 142 (2020): 355-365.
44. Lee-Fong Yau, Ju Liu, Min Jiang, Gang Bai, Jing-Rong Wang\*, **Zhi-Hong Jiang\***. "An integrated approach for comprehensive profiling and quantitation of IgG-Fc glycopeptides with application to rheumatoid arthritis." *Journal of Chromatography B* 1122 (2019): 64-72.
45. Xin Liu, Ji Yang, Jing Fu, Xiao-Jun Yao, Jing-Rong Wang, Liang Liu, **Zhi-Hong Jiang\***, Guo-Yuan Zhu\*. "Aggreganoids A–F, carbon-bridged sesquiterpenoid dimers and trimers from *Lindera aggregata*." *Organic Letters* 21.14 (2019): 5753-5756.
46. Cheng-Yu Chen, Guo-Yuan Zhu, Tang-Gui Xie, Ping-Chuan Jiang, Jing-Rong Wang\*, **Zhi-Hong Jiang\***. "A phenanthroindolizidine glycoside with HIF-1 inhibitory activity from *Tylophora atrofoliculata*." *Phytochemistry Letters* 31 (2019): 39-42.
47. Xin Liu, Ji Yang, Xiao-Jun Yao, Xing Yang, Jing Fu, Li-Ping Bai, Liang Liu, **Zhi-Hong Jiang\***, Guo-Yuan Zhu\*. "Linderalides A–D, disesquiterpenoid–geranylbenzofuranone conjugates from *Lindera aggregata*." *The Journal of Organic Chemistry* 84.12 (2019): 8242-8247.
48. Xiaobo Zhou, Yuan Qing Qu, Zhiyuan Zheng, Betty Yuen Kwan Law, Simon Wing Fai Mok, **Zhi-Hong Jiang\***, Vincent Kam Wai Wong\*, Li-Ping Bai\*. "Novel dauricine derivatives suppress cancer via autophagy-dependent cell death." *Bioorganic Chemistry* 83 (2019): 450-460.