

Curriculum Vitae

Junmin Quan

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I. Education and Professional Experience

A. Education

- 08/2000-07/2004 Ph.D. in Computational Chemistry Department of Chemistry
The Hong Kong University of Science & Technology
Advisor: Yun-dong Wu
- 09/1997-07/2000 M.S. in Bioorganic Chemistry Department of Chemistry
Sun Yat-Sen University, Guangzhou
Advisor: Lian-quan Gu
- 09/1993-07/1997 B.S. in Organic Chemistry Department of Chemistry
Peking University, Beijing
Advisor: Yan-lin Song

B. Professional Experience

- 2008.10-present Tenure Track Associate Professor, School of chemical biology & biotechnology, Peking University Shenzhen Graduate School
- 2006.10-2008.10 Associate Professor, School of chemical biology & biotechnology, Peking University Shenzhen Graduate School
- 2004.10-2006.9 Postdoctoral Fellow in Peking University (Prof. Yun-dong Wu)

II. Scholarship and Research

A. Publications

* indicates corresponding authors.

a. Peer reviewed articles

1. Shan HM, Shi Y, **Quan J***. "Identification of Green Tea Catechins as Potent Inhibitors of the Polo-Box Domain of Polo-Like kinase 1" *ChemMedChem*. **2014** Sep 5. doi: 10.1002/cmdc.201402284.
2. Hongmei Shan, Tao Wang*, **Junmin Quan***. "Crystal structure of the Polo-box Domains of Polo-like Kinase 2" *BBRC* (Accepted) (**The first crystal structure of the polo-box domain of polo-like kinase 2**).
3. Jun Xu, Chen Shen, Tao Wang*, **Junmin Quan*** "Structural basis for the inhibition of Polo-like kinase 1" *Nat. Struct. Mol. Biol.* **2013**, *20*, 1047-53. (**The**

first crystal structure of the complex of the kinase domain and polo-box domain of PLK1. Highlighted in cover and also by Nature China, 2 October 2013 | doi:10.1038/nchina.2013.92)

4. Dai L, Liu Y, Liu J, Wen X, Xu Z, Wang Z, Sun H, Tang S, Maguire AR, **Quan J***, Zhang H*, Ye T*. "A novel CyclinE/CyclinA-CDK Inhibitor targets p27(Kip1) degradation, cell cycle progression and cell survival: Implications in cancer therapy." *Cancer Lett.* **2013**, 333, 103-112.
5. Dali Zhang, Liyan Zhou, **Junmin Quan**, Wei Zhang, Lianquan Gu, Zhishu Huang, Linkun An "Oxygen Insertion of o-Quinone under Catalytic Hydrogenation Conditions" *Org. Lett.* **2013**, 13, 1162-1165.
6. Tao Chen, Feng Lu, Aaron M. Streets, Peng Fei, **Junmin Quan**, Yanyi Huang "Optical imaging of non-fluorescent nanodiamonds in live cells using transient absorption microscopy" *Nanoscale*, **2013**, 5, 4701-4705.
7. Li, LC; Zhan, HM; Duan, PF; Liao, J; **Quan, JM**; Hu, Y; Chen, ZZ; Zhu, J; Liu, MH; Wu, YD; Deng, JG. "Self-Assembling Nanotubes Consisting of Rigid Cyclic gamma-Peptides" *Adv. Funct. Mater.* **2012**, 22, 3051-3056.
8. Liu, Q; Yue, GZ; Wu, N; Lin, G; Li, YZ; **Quan, JM**; Li, CC*; Wang, GX*; Yang, Z*. "Total Synthesis of (+/-)-Pentalenolactone A Methyl Ester" *Angew. Chem. Int. Ed.* **2012**, 51, 12072-12076.
9. Jing Wang, Fei Lu, Qi Ren, Hong Sun, Zhengshuang Xu, Rongfeng Lan, Yuqing Liu, David Ward, **Junmin Quan***, Tao Ye*, Hui Zhang*. "Novel Histone Demethylase LSD1 Inhibitors Selectively Target Cancer Cells with Pluripotent Stem Cell Properties" *Cancer Res.* **2011**, 71, 7238-49. (Highlighted by Nature China, 4 January 2012 | doi:10.1038/nchina.2012.1)
10. Xiaolei Wang, **Junmin Quan*** "Intermediate-Assisted Multifunctional Catalysis in the Conversion of Flavin to 5,6-Dimethylbenzimidazole by BluB: A Density Functional Theory Study" *J. Am. Chem. Soc.* **2011**, 133, 4079-4091.
11. Yang Yun-Fng, Shi Ting, Zhang Xin-Hao, Tang Zong-Xun, Wen, Zhen-Yi, **Quan Jun-Min**, Wu Yun-Dong*. Theoretical studies on the mechanism and stereoselectivity of Rh(Phebox)-catalyzed asymmetric reductive aldol reaction. *Org Biomol Chem.* **2011**, 9, 5845-55.

12. Lintai Da, **Junmin Quan**, YunDong Wu* “Understanding the binding mode and function of BMS-488043 against HIV-1 viral entry” *Proteins: Struct., Funct., Bioinf.* **2011**, 79, 1810-1819.
13. Lichao Fang, Yuan Chen, Jun Huang, Lianzhu Liu, **Junmin Quan**, Chuang-Chuang Li*, Zhen Yang* “Formal Synthesis of Cortistatins” *J. Org. Chem.* **2011**, 76, 2479-87.
14. Yufan Liang, Lin Wang, Rong Zhu, LuJiang Deng, Yunfang Yang, **Junmin Quan***, JiaHua Chen*, Zhen Yang* “An Unprecedented Silver Salt Effect Switches the Facial Selectivity in the Vinylogous Mukaiyama Aldol Reaction” *Adv. Synth. Catal.* **2010**, 352, 2387-2393.
15. Chao Che, Song Li S, Xianlong Jiang, **Junmin Quan**, Shuo Lin*, Zhen Yang* “One-Pot Syntheses of Chromeno[3,4-c]pyrrole-3,4-diones via Ugi-4CR and Intramolecular Michael Addition” *Org. Lett.* **2010**, 12, 4682-4685.
16. Haixia Zou, Liyan Zhou, Yuanzhen Li, Hanbing Zhong, Zhengying Pan, Zhen Yang*, **Junmin Quan*** “Benzo[e]isoindole-1,3-diones as Potential Inhibitors of Glycogen Synthase Kinase-3 (GSK-3). Synthesis, Kinase Inhibitory Activity, Zebrafish Phenotype” *J. Med. Chem.* **2010**, 53, 994-1003.
17. Chao Che, Lianzhu Liu, Jianxian Gong, Yunfang Yang, Guoxin Wang, **Junmin Quan***, Zhen Yang*. “Construction of All-Carbon Quaternary Center by R₂AlCl-Mediated Ring-Opening Reaction of Oxacycles” *Org. Lett.* **2010**, 12, 488-491.
18. Yi Cui; Zhaodong Jiao, Jiangxian Gong, Quan Yu, Xiaofeng Zheng, **Junmin Quan***, Ming Luo*, Zhen Yang* “Development of New Stereodiverse Diaminocyclitols as Inhibitors of Influenza Virus Neuraminidase” *Org. Lett.* **2010**, 12, 4-7.
19. Xian-Hui Wu, Guo-Lin Zou, **Jun-Min Quan**, Yun-Dong Wu* “A theoretical study on the catalytic mechanism of Mus musculus adenosine deaminase” *J. Comp. Chem.* **2010**, 31, 2238-2247.
20. Hangbing Zhong, Haixia Zou, Mikhail V. Semenov, Deborah Moshinsky, Xi He, Haigen Huang, Song Li, **Junmin Quan**, Zhen Yang*, Shuo Lin*

“Characterization and development of novel small-molecules inhibiting GSK3 and activating Wnt signaling.” *Mol. Biosyst.* **2009**, *5*, 1356-60.

21. Jing Xiang, Hongbo Yang, Chao Che, Haixia Zou, Hongshuo Yang, Yuquan Wei, **Junmin Quan**, Hui Zhang, Zhen Yang*, Shuo Lin* “Identifying tumor cell growth inhibitors by combinatorial chemistry and zebrafish assays.” *PLoS One.* **2009**, *4*, e4361.
22. Yi Cui, Hao Jiang, Zhengtao Li, Na Wu, Zhen Yang*, **Junmin Quan*** “Unexpected regioselectivity in the synthesis of pyranonaphthoquinone via the Diels-Alder reaction.” *Org. Lett.* **2009**, *11*, 4628-31.
23. Lintai Da, **Junmin Quan**,* Yundong Wu* “Understanding of the bridging sheet formation of HIV-1 glycoprotein gp120.” *J. Phys. Chem. B.* **2009**, *113*, 14536-43.

Before tenure track:

24. Nengdong Wang, Jing Xiang, Zhibo Ma, **Junmin Quan**, Jiahua Chen*, and Zhen Yang* “A Concise and Diversity-Oriented Approach to the Synthesis of SAG Derivatives” *J. Comb. Chem.*; **2008**; *10*, 825-834.
25. Xian-Hui Wu, **Junmin Quan***, Yun-Dong Wu* “A theoretical study on the catalytic mechanism and metal ion dependence of peptide deformylase” *J. Phys. Chem. B* **2007**, *111*, 6236-6244.
26. Liu, Y.; Lu, K.; Dai, M.; Wang, K.; Wu, W.; Chen, J.; **Quan, J.**; Yang, Z.* “An Efficient One-Pot Asymmetric Synthesis of Biaryl Compounds via Diels-Alder/Retro-Diels-Alder Cascade Reactions” *Org. Lett.* **2007**, *9*, 805-808.
27. Chunshan Zuo, **Junmin Quan**, Yundong Wu “Oxa-Bicyclocalixarenes: A New Cage for Anions via C-H...Anion Hydrogen Bonds and Anion... Interactions” *Org. Lett.* **2007**, *9*, 4219-4222.
28. Chao Che, Jing Xiang, Guo-Xin Wang, Reza Fathi, **Jun-Min Quan**, and Zhen Yang “One-Pot Synthesis of Quinoline-Based Tetracycles by a Tandem Three-Component Reaction” *J. Comb. Chem.* **2007**, *6*, 982-989.
29. Yuanzhen Li, Haixia Zou, Jiangxian Gong, Jing Xiang, Tuopin Luo, **Junmin Quan**, Guoxin Wang, Zhen Yang “Efficient synthesis of maleimides and carbazole via Zn(Otf)₂-catalyzed tandem annulations of isonitriles and allenic

- esters” *Org. Lett.* **2007**, *9*, 4057-4060.
30. Dongqi Liu, Tingting Zhu, Li Fan, **Junmin Quan**, Hongchun Guo, Jinren Ni
“Identification of a novel gentisate 1,2-dioxygenase from *Silicibacter pomeroyi*”
Biotechnol. Lett. **2007**, *29*, 1529-1535
31. Yamei Yu, Yu-He Liang, Erik Brostromer, **Jun-Min Quan**, Santosh Panjekar,
Yu-Hui Dong, Xiao-Dong Su “A catalytic mechanism revealed by the crystal
structures of the imidazolonepropionase from *Bacillus subtilis*” *J. Biol. Chem.*
2006, *281*, 36929-36936.
32. Damon Banks , Min Wu , Leigh Ann Higa , Nadia Gavrilova , **Junmin Quan** ,
Tao Ye , Ryuji Kobayashi , Hong Sun , Hui Zhang “L2DTL/CDT2 and PCNA
Interact with p53 and Regulate p53 Polyubiquitination and Protein Stability
through MDM2 and CUL4A/DDB1 Complexes”. *Cell Cycle*, **2006**, *5*, 1719.
33. **J.-M. Quan** and Y.-D. Wu “A theoretical study of the substituent effect on the
stability of collagen” *J. Theo & Comp Chem.* **2004**, *3*, 225.

b. Book chapters

1. Junmin Quan, Ruiping Xiao. 2013. Novel drug targets & drug candidates for cardiovascular diseases. Pages in 607-633 in Hualiang Jiang, Yongjun Chen, Peng Chen, Lihe Zhang, editors. *Perspectives in chemical biology*. Science Press, Beijing, China.

c. Manuscripts

1. Hongmei Shan, Tao Wang*, **Junmin Quan***. “Structure-based Design of Potent Peptide Ligand for the Polo-Box Domain of Polo-like Kinase 1” (Under review)
2. Hongmei Shan, Liyan Zhou, Tao Wang, Junmin Quan*. “Structural Basis for the Substrate Specificity of the Polo-box Domains of Polo-like Kinases” (In preparation).
3. Hongmei Shan, **Junmin Quan***. “Priming Phosphorylation Continues to Work for the Polo-box Domain of Polo-like Kinase 1” (In preparation).
4. Chen Shen, Xuechen Li*, **Junmin Quan***. “Discovery of cell-permeable

non-phosphorylated peptide inhibitors of the Polo-box Domain of Polo-like Kinase 1” (In preparation) (**The first cell-permeable non-phosphorylated peptide inhibitors of the Polo-box Domain of Polo-like Kinase 1**).

B. Patents

1. Hui Zhang, Tao Ye, **Junmin Quan**, Jing Wang. Histone Demethylase Inhibitors and Uses Thereof for Treatment of Cancer. WO2012/071469, 2012-05-31
2. Zhen Yang, Ming Luo, **Junmin Quan**, Yi Cui. Substituted Five-member-ring Compounds as Inhibitors of Influenza Neuraminidase. CN101486664B, 2013-09-04.

C. Invited seminars & Presentations

1. Junmin Quan “Regulations of Polo-like kinases” Invited talk, Chinese Chemical Society 29th Annual Conference, Beijing (August 2014)
2. Junmin Quan “Regulatory Mechanisms of Polo-like Kinases” Invited talk, Bayer Healthcare & Peking University Strategic Partnership Signing Ceremony & Drug Discovery and Translational Research Forum, Beijing (January 2014)
3. Junmin Quan “Structural basis for the autoinhibition of polo-like kinase 1” Oral presentation, The 8th National Conference on Chemical Biology of China, Shanghai (September 2013)
4. Junmin Quan “Novel Histone Demethylase LSD1 Inhibitors Selectively Target Cancer Cells with Pluripotent Stem Cell Properties” Invited talk, Ninth IUPAC International Symposium on Biomolecular Chemistry & Eighth International Symposium for Chinese Medicinal Chemists, Beijing (August 2012)
5. Junmin Quan “Novel Inhibitors against Cancer Stem Cells” Invited talk, the 6th International Conference of Molecular Simulations and Applied Informatics Technologies, Nanjing (May 2012)
6. Junmin Quan “Novel Histone Demethylase LSD1 Inhibitors Selectively Target Cancer Cells with Pluripotent Stem Cell Properties” Oral presentation, Chinese Chemical Society 28th Annual Conference, Chengdu (April 2012)

7. Junmin Quan “New Insights into Evolution of Enzymatic Catalysis: Roles of Reaction Path Species” Invited talk, The First Annual Symposium: Frontiers at the Chemistry Chemistry-Biology Biology Interface, Beijing (August 2011)
8. Junmin Quan “Intermediate-Assisted Multifunctional Catalysis in the Flavin Destructase BluB” Invited talk, the 11th National Conference of Quantum Chemistry, Hefei (May 2011)
9. Junmin Quan “Structure-based Understanding of HIV-1 Entry and its Regulation Related to HIV-1 glycoprotein gp120” Invited talk, the 5th International Conference of Molecular Simulations and Applied Information Technologies, Beijing (September 2010).
10. Junmin Quan “Structure-based Understanding of HIV-1 Entry and its Regulation Related to HIV-1 glycoprotein gp120” Invited talk, Peking University/Pfizer Joint Symposium Chemical Biology & Drug Discovery, Beijing (May 2010).
11. Junmin Quan “Structure-based Design of Flexible Inhibitor Library Targeting Influenza Virus Neuraminidase” Invited talk, 2nd Annual World Summit of Antivirals, Beijing (July 2009)

III. Research Grants

A. Funded External Proposals

1. **Junmin Quan** (PI). (2014/01-2017/12) the National Natural Science Foundation of China (No. 81373326): Design, synthesis and anticancer activity of novel lysine demethylase LSD1 inhibitors. RMB700,000.
2. Hongbin Zhai (PI), Yanxing Jia (co-PI), Zhigang Wang (co-PI) and **Junmin Quan** (co-PI). (2013/01-2017/12) the National Natural Science Foundation of China (No. 21290183): Synthetic strategies of complex ring systems for polycyclic natural products. RMB3,550,000.
3. **Junmin Quan** (PI). (2013/07-2015/08) Shenzhen Municipal Special Funds for the development of the Key laboratory (No. JCYJ2013033114947526): Study of the Structure, functions and small molecule modulators of CD38. RMB500,000.
4. **Junmin Quan** (PI). (2012/01-2014/12) National Program on Key Basic Research

Project (973 Program) (2012CB722602): Green catalysis for the bis(methoxycarbonylation) of terminal olefins. RMB1,200,000

5. **Junmin Quan** (PI). (2008/07-2011/08) Shenzhen Municipal “Shuangbai” talent program grant: Small molecule inhibitors of protein kinases GSK-3 β and CDK2. RMB1,000,000

6. Zhen Yang (PI) and **Junmin Quan** (co-PI). (2007/07-2008/12) National Program on Key Basic Research Project (973 Program) (2007CB516802): Small molecule inhibitors of influenza neuraminidase. RMB760,000.

B. Funded Internal Proposals

1. **Junmin Quan** (PI). (2009/01-2013/12) Peking University “One-Hundred Talents” program: Regulations of protein kinases and epigenetics. RMB1,500,000

IV. Teaching and Advising

A. Courses

Computational Chemistry, Fall 2011, 2012, 2013, 2014. Peking University Shenzhen Graduate School.

Frontiers in Chemical Biology, Fall 2012. Peking University Shenzhen Graduate School.

B. Supervision of Graduate Students

a. Ph.D. students

Liyan Zhou, Ph.D. 2011

Xiaolei Wang, Ph.D. 2012 (Now postdoctoral fellow in Shanghai Jiaotong University)

Jun Xu, Ph.D. 2013 (Now postdoctoral fellow in University of California, San Diego)

Hongmei Shan, Ph.D. 2013

Hong Yue, Ph.D. student, in progress, Fall 2009-present

Yibo Zhang, Ph.D. student, in progress, Fall 2009-present

Chen Shen, Ph.D. student, in progress, Fall 2010-present

Feng Lu, Ph.D. student, in progress, Fall 2011-present

Yudan Wu, Ph.D. student, in progress, Fall 2011-present

Tingyao Zhang, Ph.D. student, in progress, Fall 2012-present

b. M.S. students

Jinghui Ma, M.S. 2010

Xuan Luo, M.S. 2014

Jianwen Pei, M.S. student, in progress, Fall 2013-present

Xiaomin Guo, M.S. student, in progress, Fall 2013-present

V. Service

A. Service to the School

Vice dean, School of chemical biology & biotechnology (2014-)

Lead role in designing the training scheme for graduate student (2009-2014).

Graduate Curriculum Committee, School of Chemical Biology & Biotechnology
(2009-2014)

Vice director, the Key Laboratory of Structural Biology, Shenzhen (2013-)

B. Service to the Discipline

Editorial Advisory Board, *European Journal of Medicinal Chemistry* (2014-)

Papers reviewed (> 30) for *Tumor biology*, *BMC Biochemistry*, *Journal of Theoretical and Computational Chemistry*, *Archives of Biochemistry and Biophysics*, *Synlett*, *Organic letter*, *Journal of physical chemistry B*, *PLoS One*, *Scientific Report*, and *Combinatorial Chemistry & High Throughput Screening*.

Grants reviewed (>20) for the National Science Foundation of China, the Hong Kong Research Grants Council, the National Science Foundation of Guangdong Province, and the National Science Foundation of Shenzhen.