



Universiteit  
Leiden  
The Netherlands

## Discovery of novel antibiotics from actinomycetes by integrated metabolomics & genomics approaches

Wu, Changsheng

### Citation

Wu, C. (2016, October 26). *Discovery of novel antibiotics from actinomycetes by integrated metabolomics & genomics approaches*. Retrieved from <https://hdl.handle.net/1887/43768>

Version: Not Applicable (or Unknown)

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/43768>

**Note:** To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/43768> holds various files of this Leiden University dissertation

**Author:** Wu, Shangsheng

**Title:** Discovery of novel antibiotics from actinomycetes by integrated metabolomics & genomics approaches

**Issue Date:** 2016-10-26

## PUBLICATION LIST

- (1) **Wu, C.**; van der Heul, H.; Choi, Y. H.; van Wezel, G. P. Lugdunomycin, an antibiotic with unprecedented chemical scaffold. **2016**. *In preparation*
- (2) **Wu, C.**; Du, C.; Ichinose, K.; Choi, Y. H.; van Wezel, G. P. The cryptic *qin* gene cluster of *Streptomyces* sp. MBT76 specifies C-glycosylpyranonaphthoquinones with new chemistry. *J. Nat. Prod.* **2016**, *Submitted*.
- (3) **Wu, C.**; Choi, Y. H.; van Wezel, G. P. Metabolic profiling as a tool for prioritizing antimicrobial compounds. *J. Ind. Microbiol. Biotechnol.* **2016**, *43*, 299–312.
- (4) **Wu, C.**; Du, C.; Gubbens, J.; Choi, Y. H.; van Wezel, G. P. Metabolomics-Driven Discovery of a Prenylated Isatin Antibiotic Produced by *Streptomyces* Species MBT28. *J. Nat. Prod.* **2015**, *78*, 2355–2363.
- (5) **Wu, C.**; Kim, H. K.; van Wezel, G. P.; Choi, Y. H. Metabolomics in the natural products field – a gateway to novel antibiotics. *Drug Discov. Today Technol.* **2015**, *13*, 11–17.
- (6) **Wu, C.**; Medema, M. H.; Läkamp, R. M.; Zhang, L.; Dorrestein, P. C.; Choi, Y. H.; van Wezel, G. P. Leucanicidin and Endophenazines Result from Methyl-Rhamnosylation by the Same Tailoring Enzymes in *Kitasatospora* sp. MBT66. *ACS Chem. Biol.* **2016**, *11*, 478–490.
- (7) **Wu, C.**; van Wezel, G. P.; Choi, Y. H. Identification of novel endophenazine antibiotics produced by *Kitasatospora* sp. MBT66. *J. Antibiot. (Tokyo)*. **2015**, *68*, 445–452.
- (8) **Wu, C.**; Zacchetti, B.; Ram, A. F. J.; van Wezel, G. P.; Claessen, D.; Choi, Y. H. Expanding the chemical space for natural products by *Aspergillus-Streptomyces* co-cultivation and biotransformation. *Sci. Rep.* **2015**, *5*, 10868.
- (9) **Wu, C.**; Zhu, H.; van Wezel, G. P.; Choi, Y. H. Metabolomics-guided analysis of isocoumarin production by *Streptomyces* species MBT76 and biotransformation of flavonoids and phenylpropanoids. *Metabolomics* **2016**, *12*:90.
- (10) **Wu, C.**; Lin, Z.; Wang, L.; Guo, D. Phenolic Compounds with NF- $\kappa$ B Inhibitory Effects from the Fungus *Phellinus baumii*. *Bioorg. Med. Chem. Lett.* **2011**, *21*, 3261–3267.

- (11) **Wu, C.**; Choi, Y. H.; van Wezel, G. P. Novel antibiotics, methods of use and preparation. *Patent application PCT/NL2016/050398*.
- (12) Yuan, C.; Li, G.; **Wu, C.**; Wang, H.; Zhao, Z.; Lou, H. A New Fatty Acid from the Endolichenic Fungus *Massarina* sp. *Chem. Nat. Compd.* **2015**, *51*, 415–417.
- (13) Yuan, C.; Wang, H.; **Wu, C.**; Jiao, Y.; Li, M.; Wang, Y.; Wang, S.; Zhao, Z.; Lou, H. Austdiol, fulvic acid and citromycetin derivatives from an endolichenic fungus, *Myxotrichum* sp. *Phytochem. Lett.* **2013**, *6*, 662–666.
- (14) Zheng, L.; Wang, M.; Ibarra-Estrada, E.; **Wu, C.**; Wilson, E.; Verpoorte, R.; Klinkhamer, P.; Choi, Y. H. Investigation of Chemomarkers of *Astragali Radix* of Different Ages and Geographical Origin by NMR Profiling. *Molecules* **2015**, *20*, 3389–3405.
- (15) Zhu, H.; Swierstra, J.; **Wu, C.**; Girard, G.; Choi, Y. H.; Van Wamel, W.; Sandiford, S. K.; van Wezel, G. P. Eliciting antibiotics active against the ESKAPE pathogens in a collection of actinomycetes isolated from mountain soils. *Microbiol. (United Kingdom)* **2014**, *160*, 1714–1726.
- (16) Wang, L.; Guo, D.; Wang, S.; **Wu, C.**; Rehman, M. U.; Lou, H. Phenolic Glycosides from the Chinese Liverwort *Reboulia hemisphaerica*. *Helv. Chim. Acta* **2011**, *94*, 1146–1152.

## CURRICULUM VITAE

Changsheng Wu was born on March 13th, 1985, in Nancheng, Jiangxi province, China. After finishing high school in July 2004, he entered Shandong University (Jinan, China) to study pharmacy, where he three times won the “Annual Merit Scholarship”. He got trained in multiple disciplines involving both chemistry and biology, and obtained his bachelor degree in July of 2008. He accepted a recommendation to be exempted from the admission exam to his Master course in the Department of Natural Product Chemistry, School of Pharmaceutical Sciences, Shandong University. In July 2011 he obtained his Master’s degree. His research project on the phytochemical investigation of the fungus *Phellinus baumii* was awarded an ‘Excellent Graduate’ award in the department. In September 2011, he received a scholarship from the China Scholarship Council (CSC) to carry out a PhD study at the Institute of Biology at Leiden University. The project was carried out under the supervision of Prof. dr. Gilles P. van Wezel (Molecular Biotechnology) and Dr. Young Hae Choi (Natural Product Laboratory), with research theme as the discovery of novel antibiotics from actinomycetes. Currently, he is continuing his work in the laboratory of Prof. van Wezel as a post-doctoral researcher.

