



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

## ACKNOWLEDGEMENT

First of all, I would express my sincere appreciation to all people involved in completion of this thesis, especially to Prof. Dr. Gilles P. van Wezel and associate Prof. Dr. Young Hae Choi who gave me the opportunity to pursue a doctor degree at Leiden University, and much invaluable guidance during my PhD research. The China Scholarship Council (CSC) is highly acknowledged for the financial support.

I appreciate the help from the colleagues of natural products laboratory. Prof. Dr. Robert Verpoorte gave me valuable advice during lead finding meeting; Dr. Erica G. Wilson is acknowledged for the LC-MS measurements, and linguistic revision of my co-cultivation manuscript; Dr. Hye Kyong Kim, Dr. Yuntao Dai, and Dr. Justin T. Fishedick are highly appreciated for explaining me the utilities of NPL lab facilities when I first came to NPL lab; Many thanks to Dr. Aline Coqueiro for the NMR measurements, and the discussions on my PhD research; It is very nice to have very kind colleagues, including Purine, Yuvendran, Shahnoo, Ana, Ria, Babora, Yan, Iqbal, and Jun, thank you for sharing the common points during the NPL research life.

Much appreciation is expressed to many colleagues and friends in MBT group. I am very grateful to Du Chao and Dr. Le Zhang for being the go-to persons in the group, who helped me a lot both in the academic research in genetic manipulation and non-academic daily life; Many thanks to Dr. Hua Zhu for providing actinomycetes to form the basis of my antibiotic discovery, and for imparting the basic skills in cultivation of actinomycetes; Merissa Siu is always warm-hearted to offer experimental assistance; It is rewarding to discuss scientific ideas with Zheren Zhang; Mia Urem and Anne van der Meij are always sweet and patient to explain my any naïve question; Helga van der Heul and Alexander Kloosterman are my closest collaborators in the

lugdunomycin research; Lizah van der Aart is actually my enlightening teacher in gene cloning; Dr. Geneviève Girard provided genomic sequencing of several actinomycetes; I was happy to co-publish with Rianne M. Läkamp, Boris Zacchetti, Dr. Jacob Gubbens, and Dr. Dennis Claessen; It is impressive to work with beer-drinking Tom Berben and Daniel Melton in the same GenExpand project; Dr. Magda Swiatek is the person who first introduced me around the MBT offices when I arrived at Gorlaeus; Lab mamma Ellen de Waal is always supportive to buy necessary experimental materials.

Several outside collaborators also made significant contribution to this thesis. Jing Niu provided spores of fungus *Aspergillus niger* N402 for the coculture research; Dr. Navraj S. Pannu did the X-ray diffraction of lugdunomycin; Dr. Marnix H. Medema from Wageningen University supported me in bioinformatics analysis of leucanicidin research; Many thanks to Prof. Dr. Pieter C. Dorrestein from University of California for the input of MS-based molecular networking; It is highly appreciated that Prof. Dr. Koji Ichinose from Musashino University revised the qinimycins biosynthetic pathway.

Last but not least, I have to express full gratitude to all my families, who back me up all the time! Daddy and Mom, thank you for unconditional support, you are my sheltered bay whenever I encounter setbacks; Cui, thank you for being my wife, your love, tolerance, and understanding; Dear Niba, you indeed bring me very much happiness; Also, I love you, brother, and nephews forever; Thanks to parents and sister in law for taking care of baby Niba during the graduation year.