


2021年3月1日更新

**Fan Zhi-Jin (1968-7-17), Professor, PH D Mentor (Ph.D. of Pesticide Science)**

**简历 CURRICULUM VITAE**

博士生导师: 南开大学, 2014-至今. PH. D. Mentor: Nankai University, 2014-Now. 教授: 南开大学, 2008-至今. Professor: Nankai University, 2008-Now. 副教授: 南开大学, 2001-2008. Associate Professor: Nankai University, 2001-2008. 副教授: 四川师范大学, 2000-2001. Associate Professor: Sichuan Normal University, 2000-2001.	
博士: 中国农业大学, 1997-2000. 讲师: 四川师范大学, 1994-1997. 硕士: 北京农业大学, 1991-1994. 学士: 西南师范大学, 1987-1991.	PH. D.: China Agricultural University, 1997-2000. Lecture: Sichuan Normal University, 1994-1997. MS: Beijing Agricultural University, 1991-1994. BS: Southwest China Teacher's University, 1987-1991.

**研究方向 RESEARCH AREAS**

农药学 Pesticide Science; 植物保护 Plant Protection 新农药创制及其作用机制 Novel Pesticide Development and its MOA
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**社会职务 POSITION**

天津市化工学会农药分会秘书长	Secretary of Tianjin Pesticide Society, Chemical Industry and Engineering Society of Tianjin.
中国植物保护学会农药分会委员	Member of the Council of Pesticide Society, Plant Protection Society of China.
农药学学报编委	Member of editorial board of Chinese Journal of Pesticide Science

**学位论文 THESIS FOR DEGREE DEFENCE**

学士学位论文 B.S. Dissertation	Synthesis of New Sulfonylurea Herbicide NC-311. Supervised by Associate Professor Zou Junhua.
硕士学位论文 M.S. Dissertation	Studies on the Resistance Mechanisms and Cross-Resistance of Cotton Spider Mite ( <i>Tetranychus truncantus</i> Ehara). Supervised by Chen Nianchun Professor.
博士学位论文 PH. D. Dissertation	Basic Studies on Development of New Sulfonylurea Herbicide Monosulfuron. Supervised by Professor Qian Chuanfan.

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**我的导师 MY SUPERVISORS**

		
邹君华教授指导本科教学实习 Bachelor Professor Zou Junhua	硕士研究生导师陈年春教授 Master Professor Chen Nianchun	博士研究生导师钱传范教授 PH. D. Professor Qian Chuanfan



Latest Photo With Professor Zou



Latest Photo With Professor Chen



Latest Photo With Professor Qian

## 代表性研究成果 (REPRESENTATIVE ACHIEVEMENTS)

### 代表性论文和农药登记证 Selected Papers Published and Pesticide Certification

- Design, synthesis and biological evaluation of pyrazole-aromatic containing carboxamides as potent SDH inhibitors. Yu B., Zhao B., Hao Z.S., Chen L., Cao L.X., Guo X.F.\*, Zhang N.L., Yang D.Y.\*, Zhou S., Tang L.F., **Fan Z.J.\***. *Eur. J. Med. Chem.* **2021**, 214: 113230.
- Design, synthesis and antifungal activity of (E)-3-acyl-5-(methoxyimino)-1,5-dihydrobenzo[e][1,2]oxazepin-4(3H)-one analogues. Yang D.Y., Wang H.X., **Fan Z.J.\***, Li Z.M.\*, Zhou S., Hao Z.S., Lv Y., Kalinina T. A., Glukhareva T. V.\*. *Mol. Divers.*, **2021**, 25: 159-169.
- Systematic identification of genes associated with plant growth-defense tradeoffs under JA signaling in *Arabidopsis*. Zhang N.L., Zhao B., **Fan Z.J.\***, Yang D.Y., Guo X.F., Wu Q.F., Yu B., Zhou S., Wang H.Y.. *Planta*, **2020**, 251 (43): 1-14.
- Revealing shared and distinct genes responding to JA and SA signaling in *Arabidopsis* by meta-analysis. Zhang N.L., Zhou S., Yang D.Y.\*, **Fan Z.J.\***. *Front. Plant Sci.* **2020**, 11: 1-17.
- Synthesis, bioactivity and mode of action of 5<sub>A</sub>5<sub>B</sub>6<sub>C</sub> tricyclic spirolactones as novel antiviral lead compounds. Zhu Y.J., Wu Q.F., **Fan Z.J.\***, Huo J. Q., Zhang J.L., Zhao B.\*, Chen L., Qian X.L., Ma D.J., Wang D.W. *Pest. Manag. Sci.*, **2019**, 75: 292-301.
- Discovery of novel piperidinyl-thiazole derivatives as broad-spectrum fungicidal candidate. Wu Q.F., Zhao B.\*, **Fan Z.J.\***, Guo X.F., Yang D.Y., Zhang N.L., Yu B., Zhou S., Zhao J.B., Chen F. *J. Agric. Food Chem.*, **2019**, 67 (5): 1360-1370.
- Discovery of novel thiazole carboxamides as antifungal succinate dehydrogenase inhibitors. Guo X.F., Zhao B.\*, **Fan Z.J.\***, Yang D.Y., Zhang N.L., Wu Q.F., Yu B., Zhou S., Tatiana A. Kalinina, Natalia P. Belskaya. *J. Agric. Food Chem.*, **2019**, 67 (6): 1647-1655.
- Discovery and structure-activity relationship of novel diphenylthiazole derivatives as BTK inhibitor with potent activity against B cell lymphoma cell lines. Guo X.F., Yang D.Y.\*, **Fan Z.J.\***, Zhang N.L., Zhao B., Huang C., Wang F.J., Ma R.J., Meng M.\*, and Deng Y.C.\*. *Eur. J. Med. Chem.* **2019**, 178, 767-781.
- Discovery of novel isothiazole, 1,2,3-thiadiazole, and thiazole-based cinnamamides as fungicidal candidates. Chen L., Zhao B., **Fan Z.J.\***, Hu M.X., Li Q., Hu W.H., Li J.W., **Zhang J.L.\***. *J. Agric. Food Chem.* **2019**, 67 (45): 12357-12365.
- Synthesis and biological activity of novel succinate dehydrogenase inhibitor derivatives as potent fungicide candidates. Yang D.Y., Zhao B., **Fan Z.J.\***, Yu B., Zhang N.L., **Li Z.M.\***, Zhu Y.L., Zhou J.H., Tatiana A. Kalinina, Tatiana V. Glukhareva. *J. Agric. Food Chem.* **2019**, 67 (45): 13185-13194.
- Mode of action for a new potential fungicide candidate, 3-(4-Methyl-1,2,3-thiadiazolyl)-6-trichloromethyl-[1,2,4]-triazolo-[3,4-*b*][1,3,4]-thiadiazole by iTRAQ. Zhao B., Wang H.X., **Fan Z.J.\***, Wu Q. F., Guo X.F., Zhang N.L., Yang D.Y.\*, Yu B., Zhou S. *Food & Agric. Immunol.*, **2019**, 30 (1): 533-547.
- Efficient construction of bioactive trans-5<sub>A</sub>5<sub>B</sub>6<sub>C</sub> spirolactones via bicyclo[4.3.0]  $\alpha$ -hydroxy ketones. Zhu Y. J., Huo J. Q., **Fan Z. J.\***, Wu Q. F., Li X., Zhou S., Xiong L. X., Kalinina T. and Glukhareva T\*. *Org. Biomol.*

*Chem.*, **2018**, 16 (7): 1163-1166.

13. Synthesis of novel 3,4-chloroiso-thiazole-based imidazoles as fungicides and evaluation of their mode of action. Chen L., Zhao B.\*, **Fan Z.J.\***, Liu X.M., Wu Q.F., Li H.P., Wang H.X. *J. Agric. Food Chem.* **2018**, 66 (28): 7319-7327.
14. A synthetic disaccharide derivative of diphyllin, TAARD, activates human natural killer cells to secrete interferon-gamma via toll-like receptor-mediated NF- $\kappa$ B and STAT3 signaling pathways. Yi L., Chen L.X., Guo X.F., Lu T., Wang H.X., Ji X.T., Zhang J.Y., Ren Y.L., Pan P., Kinghorn A. Douglas, Huang X.H., Wang L.S., **Fan Z.J.\***, Caligiuri Michael A.\* and Yu J.H\*. *Front. Immunol.*, **2018**, 9: 1509.
15. Discovery of pyruvate kinase as a novel target of new fungicide candidate 3-(4-methyl-1,2,3-thiadiazolyl)-6-trichloromethyl-[1,2,4]-triazolo-[3,4-*b*][1,3,4]-thiadiazole. Zhao B., Fan S.J., **Fan Z.J.\***, Wang H.X., Zhang N.L., Guo X.F., Yang D.Y.\*, Wu Q.F., Yu B., Zhou S. *J. Agric. Food Chem.*, **2018**, 66 (28): 12439-12452.
16. Discovery of methyl (5*Z*)-[2-(2,4,5-trioxopyrrolidin-3-ylidene)-4-oxo-1,3-thiazolidin-5-ylidene]acetates as antifungal agents against potato diseases. Konstantin L. Obydenov\*, Liliya A. Khamidullina, Alexey N. Galushchinskiy, Svetlana A. Shatunova, Mariya F. Kosterina, Tatiana A. Kalinina, **Fan Z.J.**, Tatiana V. Glukhareva and Yuri Yu. Morzherin. *J. Agric. Food Chem.*, **2018**, 66 (24): 6239-6245.
17. Synthesis and fungicidal activity of monocyclic and fused 1,2,3-triazolium-5-olates. Inna S. Khazhieva, Pavel M. Demkin, Oleg S. Eltsov, Yulia I. Nein, Tatiana A. Kalinina, **Fan Z.J.\***, Lai Chen, Zhao B., Tatiana V. Glukhareva\*, Yuri Yu. Morzherin\*. *Chem. Heterocycl. Comp.*, **2018**, 54 (10), 956-963.
18. Synthesis of 1,2,3-thiadiazole and thiazole based strobilurins as potent fungicide candidates, Chen L., Zhu Y., **Fan Z.**, Guo X., Zhang Z., Xu J., Song Y., Morzherin Y. Y., Belskaya N. P., Bakulev V. A. *J. Agric. Food Chem.* **2017**, 65 (4), 745-751.
19. Approach to thiazole-containing tetrahydropyridine derivatives via Aza-Rauhut-Currier reaction and their potent fungicidal and insecticidal activity, Zhu Y., Guo X., **Fan Z.**, Chen L., Ma L., Wang H., Wei Y., Xu X., Lin J. and Bakulev V. A. *RSC Adv.*, **2016**, 6, 112704-112711.
20. Synthesis and biological activities of novel 2-amino-1,3-thiazole-4-carboxylic acid derivatives, Li F., Guo X., **Fan Z.**, Zhang Y., Zong G., Qian X., Ma L., Chen L., Zhu Y., Tatiana K., Morzherin Y. Y., Belskaya N. P. *Chin. Chem. Lett.* **2015**, 26 (10), 1315-1318.
21. Determination of tiadinil and its metabolite in flue-cured tobacco. Chen X., Zhao K., **Fan Z.**, Mao W., Li J., Ji X., Hua X., Zong G., Li F., *J. Chromatogr. Sci.* **2014**, 52 (7), 624-628.
22. Novel anthranilic diamide insecticides: design, synthesis, and insecticidal evaluation. Hua X., Mao W., **Fan Z.\***, Ji X., Li F., Zong G., Song H., Li J., Zhou L., Zhou L., Liang X., Wang G., and Chen X.. *Aust. J. Chem.* **2014**, 67 (10), 1491-1503.
23. Reactions of  $\beta$ -azolylenamines with sulfonyl azides as an approach to N-unsubstituted 1,2,3-triazoles and ethene-1,2-diamines. Efimov I., Bakulev V., Beliaev N., Beryozkina T., Knippschild U., Leban J., **Fan Z.**, Eltsov O., Slepukhin P., Ezhikova M., Dehaen W.. *Eur. J. Org. Chem.* **2014**, 2014 (17), 3684-3689.
24. The Natural product phyllanthusmin C enhances IFN- $\gamma$  production by human NK cells through upregulation of TLR-mediated NF- $\kappa$ B signaling. Deng Y., Chu J., Ren Y., **Fan Z.**, Ji X., Bethany M., Yuan S., Tiffany H., Zhang J., Cheema B., Camardo A., Xia Y., Wu L., Wang L., He X., Kinghorn A., Li X., Caligiuri M. and Yu J. *J Immunol.* **2014**, 193 (6), 2994-3002.
25. Synthesis and biological evaluation of novel 1,2,4-triazole containing 1,2,3-thiadiazole derivatives. Li Y., Mao W., **Fan Z.**, Li J., Fang Z., Ji X., Hua X., Zong G., Li F., Liu C., Yu J., *Chin. Chem. Lett.* **2013**, 24 (12), 1134-1136.
26. Preparation of a bifunctional pyrazosulfuron-ethyl imprinted polymer with hydrophilic external layers by reversible addition-fragmentation chain transfer polymerization and its application in the sulfonylurea residue analysis. Yang, M.-X. Zhang Y.-Y., Lin S., Yang X.-L., **Fan Z.-J.**, Yang L.-X., **Dong X.-C.**, *Talanta*, **2013**, 114: 143-151.

27. Synthesis, bioactivities and structure activity relationship of *N*-4-methyl-1,2,3-thiadiazole-5-carbonyl-*N'*-phenyl ureas. Guo D.-D., Wang Z.-W., **Fan Z.-J.\***, Zhao H., Zhang W., Cheng J.-G., Yang J.-Q., Wu Q.-J., Zhang Y.-J. and Fan Q., *Chin. J. Chem.* **2012**, 30 (10): 2522-2532.
28. Synthesis and bioactivity of *N*-*tert*-butyl-*N'*-acyl-5-methyl-1,2,3-thiadiazole-4-carbohydrazides. Mao W.-T., Zhao H., **Fan Z.-J.\***, J X.-T. i, Hu X.-W.a, Tatiana Kalinina, Yu. Y. Morzherin, V. A. Bakulev, *Chin. Chem. Lett.* **2012**, 23 (11): 1233-1236.
29. Synthesis and insecticidal activity of *N*-*tert*-butyl-*N'*, *N'*-diacylhydrazines containing 1,2,3-thiadiazoles. H. Wang, Z.-K. Yang, **Z.-J. Fan\***, Q.-J. Wu, Y.-J. Zhang, N. Mi, S.-X. Wang, Z.-C. Zhang, H.-B. Song, F. Liu, *J. Agric. Food Chem.* **2011**, 59 (2): 628-634.
30. Synthesis, crystal structure and biological activity of two 1,2,3-thiadiazole derivatives. S.-X. Wang, J. Huang, **Z.-J. Fan\***, H. Wang, Y.-F. Fu, N. Mi, Z.-C. Zhang, H.-B. Song, Belskaya Nataliya P., Bakulev Vasiliy A., *J. Chem. Crystallogr.* **2011**, 41 (9): 1348-1354.
31. 2-Hydroxypropyl derivatives of 1,2,3-thiadiazole and 1,2,3-triazole: Synthesis and antifungal activity. Y. Morzherin, Polina E. Prokhorova, Dmitry A. Musikhin, Tatiana V. Glukhareva and **Z.-J. Fan**, *Pure Appl. Chem.*, **2011**, 83 (3): 715-722.
32. 5-Methyl-1,2,3-thiadiazoles synthesized via Ugi reaction and their fungicidal and antiviral activity, Q.-X. Zheng, N. Mi, **Z.-J. Fan\***, X. Zuo, H.-K. Zhang, H. Wang, Z.-K. Yang, *J. Agric. Food Chem.* **2010**, 58 (13): 7846-7855.
33. Synthesis of 4-methyl-1,2,3-thiadiazole derivatives via Ugi reaction and their biological activities, X. Zuo, N. Mi, **Z.-J. Fan\***, Q.-X. Zheng, H.-K. Zhang, H. Wang, Z.-K. Yang, *J. Agric. Food Chem.* **2010**, 58 (5): 2755-2762.
34. Synthesis, crystal structure, and biological activity of 4-methyl-1,2,3-thiadiazole containing 1, 2, 4-triazolo-[3, 4-*b*][1,3,4]-thiadiazoles. **Z.-J. Fan\***, Yang Z.-K., Zhang, H.-K., Mi, -N., Wang, H., Cai, F., Zuo X., Zheng, Q.-X., Song, H.-B., *J. Agric. Food Chem.*, **2010**, 58 (5): 2630-2636.
35. Synthesis and biological activity evaluation of 1,2,3-thiadiazole derivatives as potential elicitors with highly systemic acquired resistance, **Z.-J. Fan\***, Z.-G. Shi, H.-K. Zhang, X.-F. Liu, L.-L. Bao, L. Ma, X. Zuo, Q.-X. Zheng, N. Mi, *J. Agric. Food Chem.*, **2009**, 57 (10): 4279-4286.
36. 96% Methandinil Technical temerary rigistration with certification LS20130370 issued by Chinese Department of Agriculture in 26th, August, **2013** (Validation date from 23rd, July, 2013 to 23rd, July, 2014).
37. 25% Methandinil SC temerary rigistration with certification LS20130369 issued by Chinese Department of Agriculture in 26th, August, **2013** (Validation date from 23rd, July, 2013 to 23rd, July, 2014).
38. 96% Methandinil Technical rigistration with certification PD20170015 issued by Chinese Department of Agriculture in 23rd, December, **2016** (Validation date from 3rd, January, 2017 to 3rd, January, 2022)
39. 25% Methandinil SC rigistration with certification PD20170014 issued by Chinese Department of Agriculture in 23rd, December, **2016** (Validation date from 3rd, January, 2017 to 3rd, January, 2022).
40. 24% Methiadinil-Moroxydine SC registration with certification PD20181410 issued by Chinese Department of Agriculture in 18th, April, **2018** (Validation date from 18th, April, 2018 to 17th, April, 2023).

**已产业化或具产业开发前景的部分授权专利**

**(Selected PCT and Patents Granted with Independent Intellectual Property Right for Industrialization or with Industrialized Prospects)**

1. **Fan Zhijin\***, Chen Lai, Zhang Zhiming, Zhang Nailou, Guo Xiaofeng, Zhu Yujie, Qian Xiaolin, Ma Liuyong, Wang Haixia, Xu Jinghua, Song Yinqi, Liang Fuqi, Tian Haifeng, Yu Maoxiang, A kind of thiadiazole oxime ether containing strobilurin derivatives and its preparation methods and application, Application No. **WO**

**2017/129121; PCT/CN2017/072554 (2017-01-25).**

2. **Fan Zhijin\***, Chen Lai, Guo Xiaofeng, Zhu Yujie, Qian Xiaolin, Ma Liuyong, Zhang Nailou, Wang Haixia, Zhang Zhiming, Xu Jinghua, Song Yinqi, A kind of isothiazole oxime ether containing strobilurin derivatives and its preparation methods and application. **US application No.: 16/073,089(2018-07-26)**, Publication date: 31 January, **2019**, Publication No. **US-2019-0031627-A1**.
3. **Fan Zhijin\***, Qian Xiaolin, Xue Jing, Wu Aoben, Yang Huaipu, Ma Liuyong, Yu Bin, Wang Haixia, Zhang Nailou, Wu Qifan, Han Cenhui, Jin Jianyu, A kind of  $\alpha$ -amino propenoic acid microbicides and its preparation methods and application, **PCT/CN2017/084775 (2017-05-17)**.
4. **Fan Zhijin\***, Zhu Yujie, Chen Lai, Zhou Shuang, Guo Xiaofeng, Wang Haixia, Yu Bin, Zhang Nailou, Wu Qifan, Yang Dongyan, Zhao Bin, A kind of 5<sub>A</sub>5<sub>B</sub>6<sub>C</sub> tricyclic spirolactone derivatives and its preparation methods and application, **WO 2019/07/1911; PCT/CN2018/079046 (2018-03-14)**.
5. **Fan Zhijin\***, Zhang Zhengcai, Wang Shouxin, Huang Jie, Zhang Jufang, Fu Yifeng, Zhao Hui, Guo Dandan, Li Yuedong, Fang Zhen. Derivatives of 4-methyl 1,2,3-thiadiazole ureas and its preparation methods and application, Chinese Patent, Application No. 201110071437.0 (2011-03-24), Publication No.: CN102180871A (2011-09-14), Granted Patent No.: ZL 2011 1 0071437.0, Grant Publishing No.: CN102180871B, Granted Publishing Date: **2014-04-23**. **Contract with Jiangsu Repon Pesticide Factory Co. Ltd. at January, 2017**
6. **Fan Zhijin\***, Li Fengyinn, Zong Guangning, Hua Xuwen, Li Juanjuan, Li Yuedong, Fang Zhen, Ji Xiaotian, A kind of pyridine containing 1,2,3-thiadiazole derivatives and their preparation methods and application, Chinese Patent, Application No. 201310005530.0 (2013-01-08), Publication No.: CN103012392A (2013-4-3), Granted Patent No.: ZL 2013 1 0005530.0, Grant Publishing No.: CN103012392B, Granted Publishing Date: **2015-03-04**. **Contract with Jiangxi Jiayin OPT Electronic Material Co. Ltd. at June, 2015**.
7. **Fan Zhijin\***, Tatiana Kalinina, Mao Wutao, Hua Xuwen, Wang Dun, Ji Xiaotian, Morzherin Yuri Yurievich, Belskaya Nataliya Pavlovna, Bakulev Vasiliy Alekseevich, A kind of 5-methyl-1,2,3-thiadiazole-1,3,4-oxazole derivatives and their preparation methods and application, Chinese Patent, Application No. 201210271276.4 (2012-08-01), Publication No.: CN102816158A (2012-12-12), Granted Patent No.: 2012 1 0271276.4, Grant Publishing No.: CN102816158B, Granted Publishing Date: **2014-12-31**. **Contract with Jiangxi Jiayin OPT Electronic Material Co. Ltd. at June, 2015**.
8. Chen Xiaoyan, Liu Xiping, **Fan Zhijin\***, Liang Xiaowen, Li Yuedong, Mao Wutao, Li Juanjuan, Wang Dun, Wang Shuhua, Zhou Lifeng, Ji Xiaotian, Hua Xuwen, Huang Liangwen, A kind of 3,4-dichloroisothiazole derivatives and its preparation methods and application, Chinese Patent, Application No. 201210436798.5 (2012-11-06), Publication No.: CN102942565A (2013-2-27), Granted Patent No.: 2012 1 0436798.5, Grant Publishing No.: CN102942565B, Granted Publishing Date: **2016-1-27**. **Contract with Jiangxi Tianren Ecological Co. Ltd. at October, 2011**.
9. **Fan Zhijin\***, Yang Zhikun, Zuo Xiang, Fan Zhiyin, Wu Qiong, Zheng Qinxiang, Zhang Haike, Synthesis routine and method for methyl thiadiazole formamide, Chinese Patent, Application No. 200810052548.5 (2008-03-28), Publication No.: CN101544633A (2009-09-30), Granted Patent No.: ZL 2008 1 0052548.5, Grant Publishing No.: CN 101544633B, Granted Publishing Date: **2011-04-20**. **Contract with Lier Chemical Co. Ltd. at September, 2009**.
10. **Fan Zhijin\***, Shi Zugui, Liu Xiufeng, Fan Zhiyin, Ai Yingwei, Derivatives of 1,2,3-thiadiazole and the method for their synthesis and usage, Chinese Patent, Application No. 200610013185.5 (2006-02-20), Publication No.: CN1810808A (2006-08-02), Granted Patent No.: ZL 2006 1 0013185.5, Grant Publishing No.: CN100420686C, Granted Publishing Date: **2008-09-24**. **Contract with Lier Chemical Co. Ltd. at September, 2009**.



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 The above identified application will be electronically published as a patent application pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

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# CEPCT

## 电子提交受理

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 申请人/发明人姓名: 179030002  
 申请人: 南开大学  
 发明名称: 一类5-甲氧基-1,2,3-二噻吩糖苷衍生物及其制备方法

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## 发明专利证书

发明名称: 4-甲氧基-1,2,3-二噻吩糖苷衍生物及其制备方法和用途

发明人: 葛志金, 张正财, 王守成, 黄杰, 张敬方, 赵一峰, 魏娟  
 周月丹, 李德东, 陈强

专利号: ZL 2011 1 0071437.0

专利申请日: 2011年03月24日

专利权人: 南开大学

授权公告日: 2014年04月23日

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证书号第1599380号

## 发明专利证书

发明名称: 一类5-甲氧基-1,2,3-二噻吩糖苷衍生物及其制备方法和用途

发明人: 葛志金, 李凤斌, 王守成, 李德东, 张敬方, 魏娟, 周月丹, 李德东, 陈强

专利号: ZL 2013 1 0005530.0

专利申请日: 2013年01月08日

专利权人: 南开大学

授权公告日: 2015年03月04日

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局长 申长雨

第1页(共1页)

证书号第185950号

## 发明专利证书

发明名称: 一类5-甲氧基-1,2,3-二噻吩糖苷衍生物及其制备方法和用途

发明人: 葛志金, 张正财, 王守成, 黄杰, 张敬方, 魏娟, 周月丹, 李德东, 陈强

专利号: ZL 2012 1 0271276.4

专利申请日: 2012年08月01日

专利权人: 南开大学

授权公告日: 2014年12月31日

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局长 申长雨

第1页(共2页)

证书号第1856763号

## 发明专利证书

发明名称: 一类5-甲氧基-1,2,3-二噻吩糖苷衍生物及其制备方法和用途

发明人: 葛志金, 张正财, 王守成, 黄杰, 张敬方, 魏娟, 周月丹, 李德东, 陈强

专利号: ZL 2012 1 0271276.4

专利申请日: 2012年08月01日

专利权人: 南开大学

授权公告日: 2014年12月31日

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局长 申长雨

第2页(共2页)

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证书号第180285号

## 发明专利证书

发明名称: 一类5-甲氧基-1,2,3-二噻吩糖苷衍生物及其制备方法和用途

发明人: 葛志金, 张正财, 王守成, 黄杰, 张敬方, 魏娟, 周月丹, 李德东, 陈强

专利号: ZL 2012 1 0436798.5

专利申请日: 2012年11月08日

专利权人: 江西天生态股份有限公司, 南开大学

授权公告日: 2016年01月27日

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局长 申长雨

第1页(共1页)

证书号第A08815号

## 发明专利证书

发明名称: 1,2,3-二噻吩糖苷衍生物及其合成方法

发明人: 葛志金, 石磊, 刘有明, 葛志刚, 文俊伟

专利号: ZL 2006 1 001185.3

专利申请日: 2006年2月20日

专利权人: 南开大学

授权公告日: 2008年9月24日

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 专利法第五十九条规定的法律状况, 专利权的转移、质押、无效、终止、恢复和专利权人的姓名或者名称、国籍、地址变更等事项记载在本专利登记簿上。

局长 田力普

第1页(共1页)

证书号第268830号

## 发明专利证书

发明名称: 半噻吩糖苷的合成工艺

发明人: 葛志金, 杨加金, 左刚, 葛志刚, 吴刚, 魏娟, 张海科

专利号: ZL 2008 1 0025248.5

专利申请日: 2008年03月28日

专利权人: 南开大学

授权公告日: 2011年04月20日

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 本专利的专利期限为二十年, 自申请日起算。专利权人在有效期内依法缴纳年费, 未按规定缴纳年费, 本专利的专利权自公告之日起满三年(即自公告之日起满三年)之日起终止。专利权自公告之日起满三年(即自公告之日起满三年)之日起终止。  
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局长 田力普

第1页(共1页)

201210436798.5

200810052548.5

200610013185.5

### 代表性奖励 (Selected Awards)

1. Guo Yongze, Zhang Yuting, Shao Hui, **Fan Zhijin**, Liu Lei, Li Hui, Li Na, Liu Yetong, Key control technology of vegetable pesticide residue and its application. Institute of Agriculture Quality Standard and detection technology of Tianjin Academy of Agricultural Sciences, Nankai University, **The Second Class Prize of Scientific and Technological Progress Award for Tianjin Municipal** (Ranking in No. 4), issued by Tianjin Municipality Government, 22, January, 2020, Certificate No.: **2019JB-2-092-R4**.
2. Chen Lai, PH D dissertation “Systemic acquired resistance based fungicidal lead optimization and their biological activity” was selected as **Excellent PH D dissertation dissertation of Nankai University in 2019**, directed by Professor Fan Zhijin, 6th November, 2019, Certificate No.: **20192018**.
3. Liang Xiaowen, Wang Bin, Zheng Guohua, Fan Zhijin, Zhong Ling, Wu Xuemin, Fu Gonghua, Ceng Pingzhang, Xiao Xiaocheng, Chen Yuqin, Zhou Qing. Key technology innovation and application of aviation biological disaster control by intelligent large helicopter. Jiangxi Tianren Ecology Co., Ltd., Anhui Agriculture University, Institute of Microbiology, Jiangxi Academy of Sciences, Nankai University, Jiangxi Plant Protection and Plant Inspection Bureau, Ji'an Fruit Industry Bureau, Jiangxi Tianxiang General Aviation Co., Ltd., **The Second Class Prize of Jiangxi Scientific and Technological Progress Award** (Ranking in No. 4), issued by Jiangxi Government, 30, September, 2019, Certificate No.: **J-18-2-29-R4**.
4. Gu Xishu, Bai Yichuan, Zhang Sufen, **Fan Zhijin**, Liu Bao-Sheng. Integrated demonstration of technological system of nonchemical control and main borer attracting in forest wood. Nankai University, Tianjin Institute of Plant Protection, Tianjin Forest Insect Pest Control and Quarantine Station, Nankai University, **Third Class Prize of Scientific and Technological Progress Award for Tianjin Municipal** (Ranking in No. 4), issued by Tianjin Municipality Government, 31, March, 2018, Certificate No.: **2017JB-3-157-R4**.
5. Ai Yingwei, Tu Shihua, **Fan Zhijin**, Xu Zonglin, Xu Bin, Wang Jinmei, Han Yu, Duan Xiaoming, Li Wei, Sichuan Tongfeng Science and Technology Co. Limited, Sichuan University, Institute of Soil and Fertilizer, Academy of Sichuan Agriculture, Development and application of series of highly effective multi-elemental micro-fertilizer, **First Class Award for Progress of Science and Technology in Sichuan Province** (Ranking in No. 3), issued by Science and Technology Bureau of Sichuan Province, 20, November, 2012, Certificate No.: **2012-1-0259**
6. Ai Yingwei, Xu Zonglin, Xu Bin, **Fan Zhijin**, Han Yu, Chen Shoulun, Han Zhongwen, Sichuan Tongfeng Science and Technology Co. Limited, Sichuan University, Nankai University, Chengdu Testing Center of Soil and Fertilizer, Leadership Training Center for Underdeveloped Areas, Development and application of high effective multi-elemental micro-fertilizer tongfeng plant nutritional agent, **First Class Award for Progress of Science and Technology in Sichuan Province** (Ranking in No. 4), issued by Science and Technology Bureau of Sichuan Province, 20<sup>th</sup>, October, 2006, Certificate No.: **2006-1-0220**.
7. **Fan Zhijin**, Qian Chuanfan, Chen Junpeng, Wang Lingxiu, Li Zhengming, Detoxification of naphthalic anhydride to maize (*Zea Mays* L.) under the stress of high concentration of monosulfuron, *Chin. J. Pestic. Sci.*, 2004, 6 (4): 55-61. **Ten Excellent Papers in Ten Years of Birthday of Chinese Journal of Pesticide Science, July/2009**.
8. **Fan Zhijin**, Liu Xiufeng, Liu Fengli, Bao Lili, Zhang Yonggang, Progress of researches on induced resistance of plant activator, *Acta Phytopythologica Sinica*, 2005, 32 (1): 87-92. **Second Class Prize of the sixth Excellent Academic Journal Paper of China Association for Science and Technology**, December/2008.
9. Li Zhengming, Wang Lingxiu, Jia Guofeng, Hei Zhongyi, Wang Suhua, Wang Jianguo, Wang Hongxue, Zhao Weiguang, Li Yonghong, Kou Junjie, **Fan Zhijin**, Development of novel environmental benign ultra effective sulfonylurea herbicide, **First Class Award for Invention of Technology in Tianjin Municipal** (Ranking in No. 11), issued by Tianjin Municipality Science and Technology Commission, 31, May, 2005, Certificate No.: **2004FM-1-001-R11**.

<p>The Second Class Prize of Jiangxi Scientific and Technological Progress Award in 2019</p>	<p>The first Class of Sichuan Scientific and Technological Progress Award in 2012</p>	<p>The first Class of Sichuan Scientific and Technological Progress Award in 2006</p>
<p>The Second Class Prize of Scientific and Technological Award for Tianjin Municipal in 2020</p>	<p>Excellent PH D dissertation of Nankai University in 2019</p>	<p>Third Class Prize of Scientific and Technological Award for Tianjin Municipal in 2018</p>
<p>Ten Excellent Papers in Ten Years of Birthday of Chinese Journal of Pesticide Science in 2009</p>	<p>Second Class Prize of Chinese Association for Science and Technology in 2008</p>	<p>First Class Award for Invention of Technology in Tianjin Municipal in 2005</p>

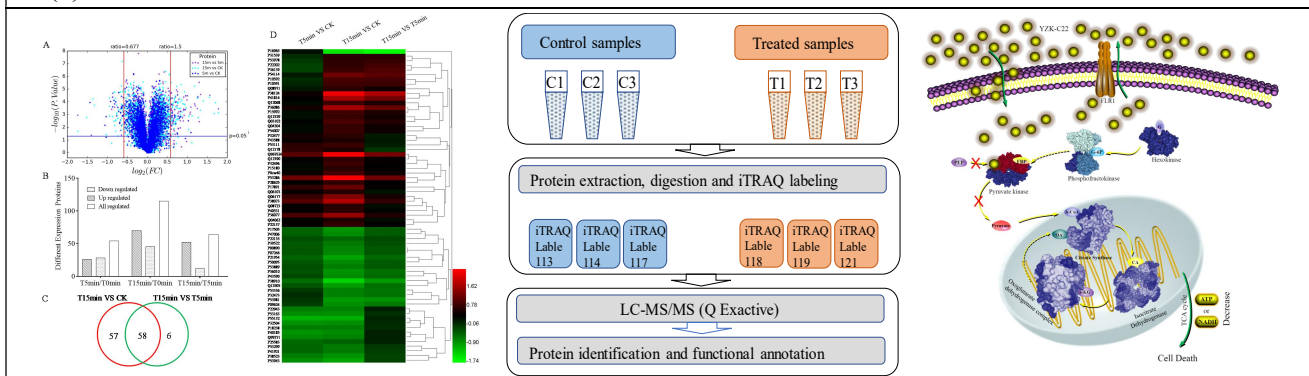
**代表性研究结果 (REPRESENTIVE STUDY RESULTS)**

**杀菌剂潜在新靶标丙酮酸激酶的发现 Discovery of pyruvate kinase as potent fungicide new target**

利用多组学交叉的原理, 结合 iTRAQ 和 DARTS 技术, 基于自主知识产权的高活性杀菌化合物 3-(4-甲基-1,2,3-噻二唑-5-基)-6-(三氯甲基)-1,7a-二氢[1,2,4]三唑[3,4-b][1,3,4]噻二唑(YZK-C22)作用机制的研究发现, YZK-C22 通过抑制丙酮酸激酶而发挥杀菌作用机制, 丙酮酸激酶是杀菌剂潜在的新靶标。研究结果发表在 *J. Agric. Food Chem.*, **2018**, 66(28): 12439-12452 和 *Food & Agric. Immunol.*, **2019**, 30(1): 533-547 上。

On the basis of principle of cross-linking among multi-omics and technology of iTRAQ and DARTS, 3-(4-methyl-1,2,3-thiadiazolyl)-6-trichloromethyl-[1,2,4]-triazolo-[3,4-b][1,3,4]-thiadizole (YZK-C22,) with independent interlignence properties was discovered exert its antifungal activity by inhibiting the activity of

pyruvate kinase, the new MOA indicated that, pyruvate kinase was a new potent fungicide target enzyme. The results were published in *J. Agric. Food Chem.*, **2018**, 66(28): 12439-12452 and *Food & Agric. Immunol.*, **2019**, 30(1): 533-547.

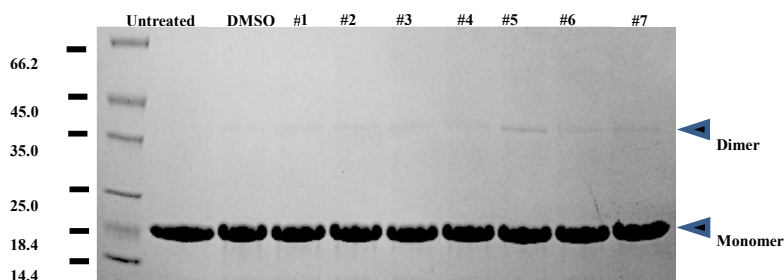
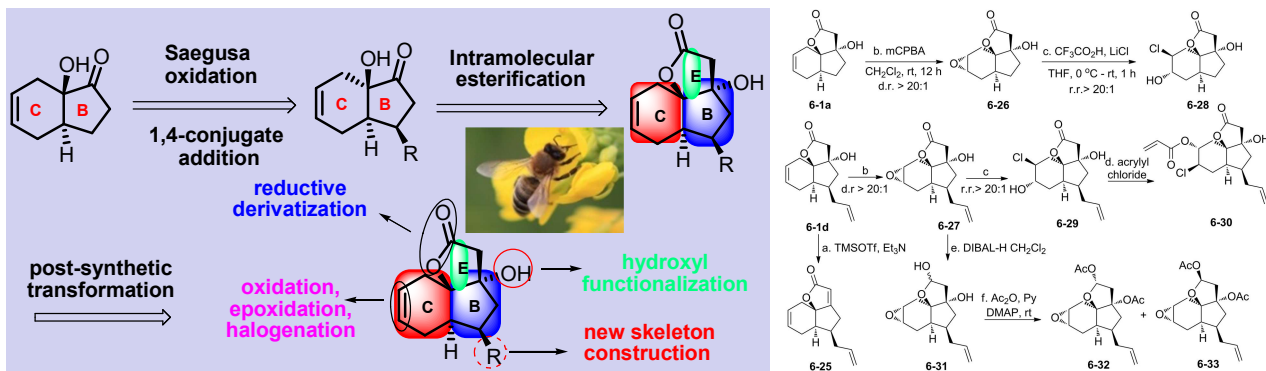


### 稠三环螺内酯抗病毒新先导和新机制的发现

#### Discovery of new antiviral MOA of novel tricyclic spirolactone lead

基于植物源天然产物先导发现与优化研究，构建了并发现了对蜜蜂十分安全的 5<sub>A</sub>5<sub>B</sub>6<sub>C</sub>-稠三环螺内酯先导骨架具有很好的钝化 TMV 活性，其作用机制是交联了 TMV-CP 蛋白致其二聚，这种聚合作用使病毒无法脱衣壳蛋白而不能复制和侵染邻近细胞。研究结果发表在 *Org. Biomol. Chem.*, **2018**, 16(7): 1163-1166 和 *Pest. Manag. Sci.*, **2019**, 75: 292-301 上。

Based on the studies on naturally occurring lead discovery and optimization, 5<sub>A</sub>5<sub>B</sub>6<sub>C</sub>-tricyclic spiranoid lactones with honeybee safety characteristics were constructed and derived for lead optimization, antiviral activity evaluation discovered that, the lead compounds induced crosslinking of TMV-CP to dimers and prevented uncoating of CP protein, and therefore inhibited the replication of TMV as a putative new mode of action for TMV inactivation. The results were published in *Org. Biomol. Chem.*, **2018**, 16(7): 1163-1166 and *Pest. Manag. Sci.*, **2019**, 75: 292-301.



中图分类号: 学校代码: 10055  
UDC: 密级: 公开

# 南开大学

## 博士学位论文

基于噻唑哌啶和稠三环的分子设计合成和农  
药生物活性研究

Molecular design, synthesis and biological activity of  
thiazole-containing piperidines and fused tricycles

论文作者 朱玉洁 指导教师 范志金 教授

申请学位 理学博士 培养单位 化学学院

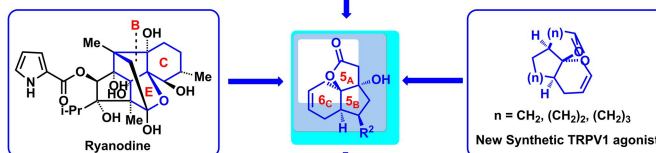
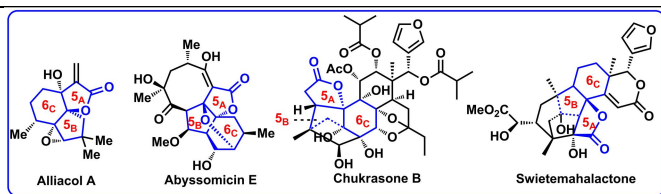
学科专业 农药学 研究方向 新农药创制

答辩委员会主席 刘心元

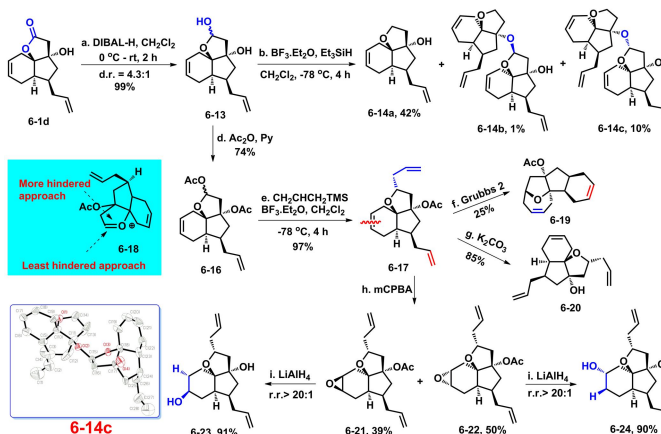
评阅人 陈甫雪, 杨新玲, 曾宪顺, 向文胜, 马军安

南开大学研究生院

二〇一八年五月



1. Reductive derivatization; 2. Oxidation epoxidation  
3. Hydroxyl functionalization; 4. New skeleton construction

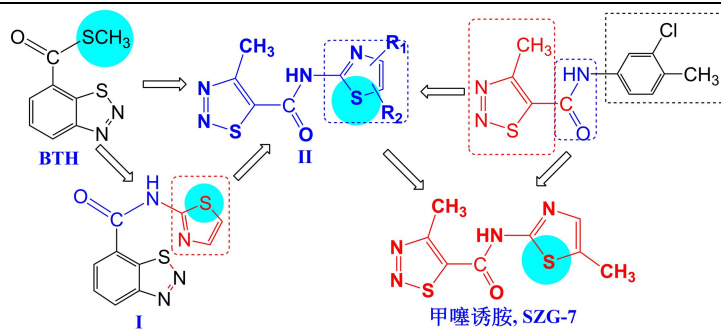


*RSC Adv.*, 2016, 6, 112704-112711; *Org. Biomol. Chem.*,  
2018, 16(7): 1163-1166; *Pest. Manag. Sci.*, 2019, 75: 292-301.

### 植物激活剂甲噻诱胺的创制 Developed novel plant elicitor methiadinil

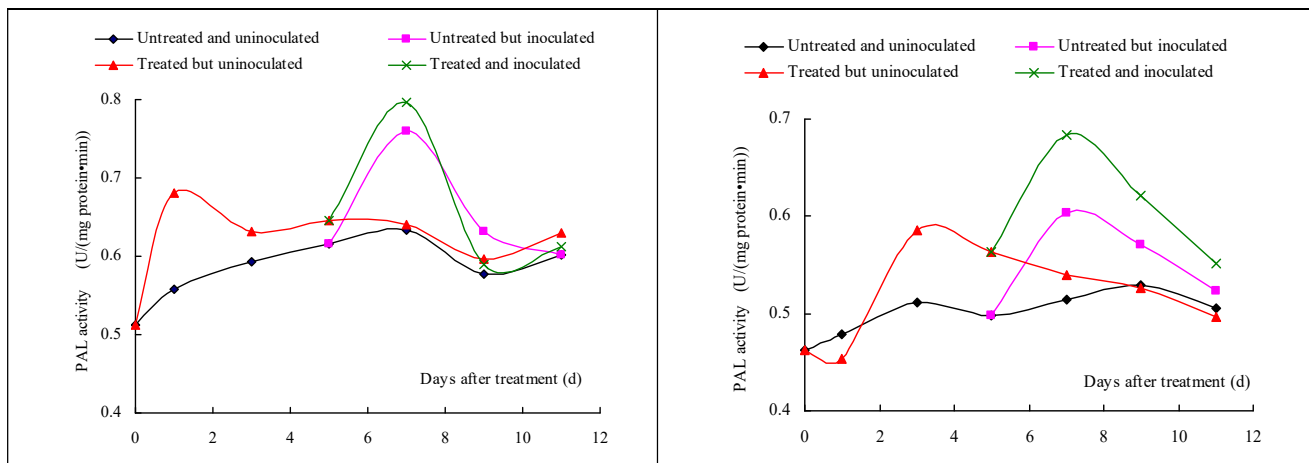
基于 S 杂环的生物活性, 创制了具有自主知识产权的植物激活剂甲噻诱胺, 并获得我国新农药登记证。

Based on biological activity of S containing heterocyclic compounds, novel plant elicitor methiadinil with independent intellectual properties was developed with certification in China.



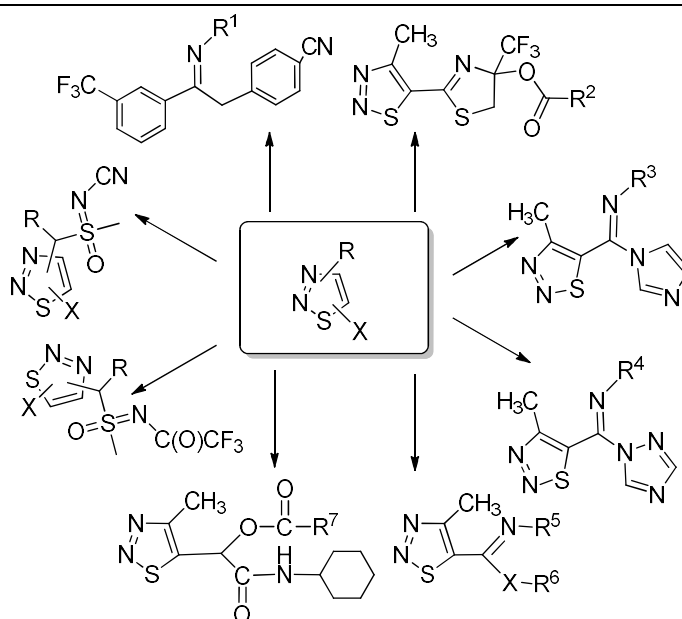
构建了植物激活剂的筛选体 Constructed screening system for plant elicitor

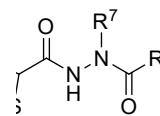
Enzymatic activity determination associated with SAR for BTH induction of cucumber  
against *Colletotrichum lagenarium* (First leaf [left] and the second leaf [right])



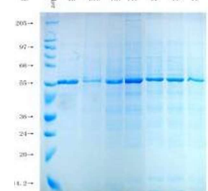
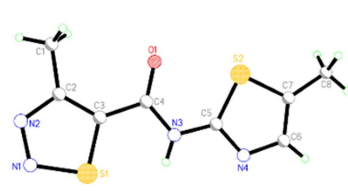
### 开展了植物激活剂的先导优化 Lead Optimization of Plant Elicitor (Selected)

Type	I	II	II	IV	V	VI	VII
Structure							
Compounds	5	40	10	10	200	3	13





新化合物的诱导效果 (烟草对 TMV 体系和黄瓜对黄瓜炭疽病菌体系)  
**Induction activity of SAR to tobacco against TMV and cucumber against *Colletotrichum* *Lagenarium* by novel derivatives of derivatives of leading elicitor synthesized**

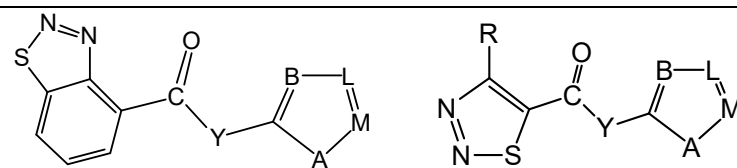


BTH 诱导效果 (BTH 左, CK)  
**Induction of BTH**

新化合物诱导效果 (BBL16 左, CK)  
**Induction of New Compound**

新型先导化合物的单晶结构 PR-蛋白检测  
**Novel Leading Structure of SZG-7 PR-Protein detected**

**发现了新型绿色杀菌剂先导甲噻诱胺的生物活性 Discovery of Novel Green Elicitor Lead**



Y 为 O 或 O 或 S 或 NH 或 NR; R 为烷基, 芳基及其取代的杂环基团;

是六元或五元杂环, L 为杂原子 M 为杂原子

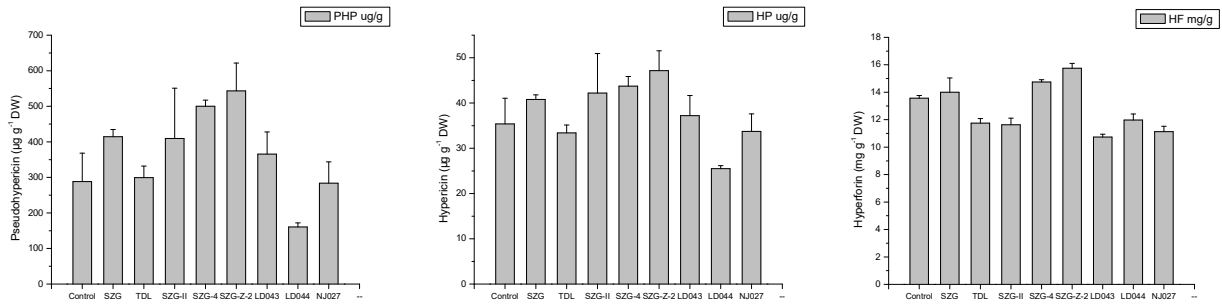
**新化合物对菌丝生长的抑制作用 Mycelia Growth Inhibition Activity of Novel Compound**



**甲噻诱胺的作用机制 Preliminary Mode of Action of Novel Elicitor Methiadinil**

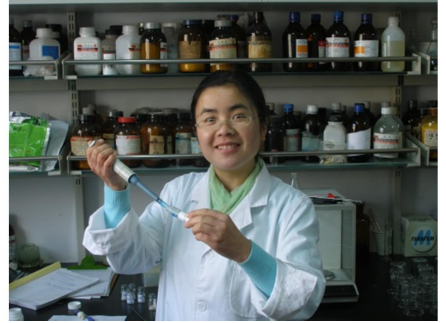
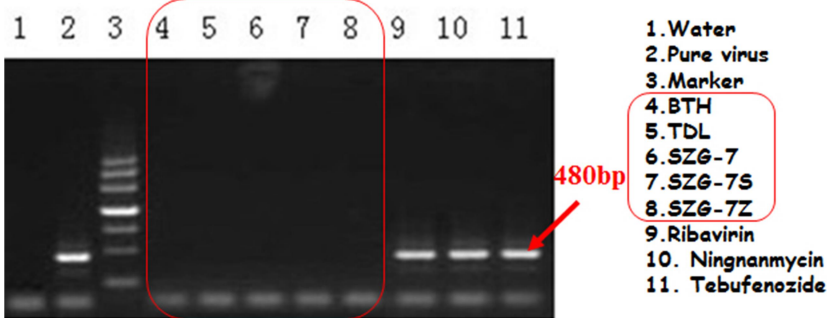
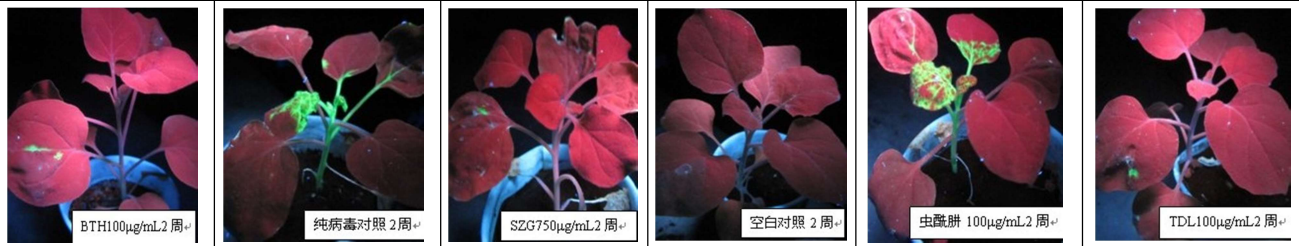


## 诱导效果的生物测定 Effects of induction by bioassay



## 诱导产生的活性物质含量测定结果 Effects of induction by terminal product determination

### 甲噁诱胺的诱导抗病毒作用的分子机制 Molecular Mode of Action of Methiadinil agaist TMV

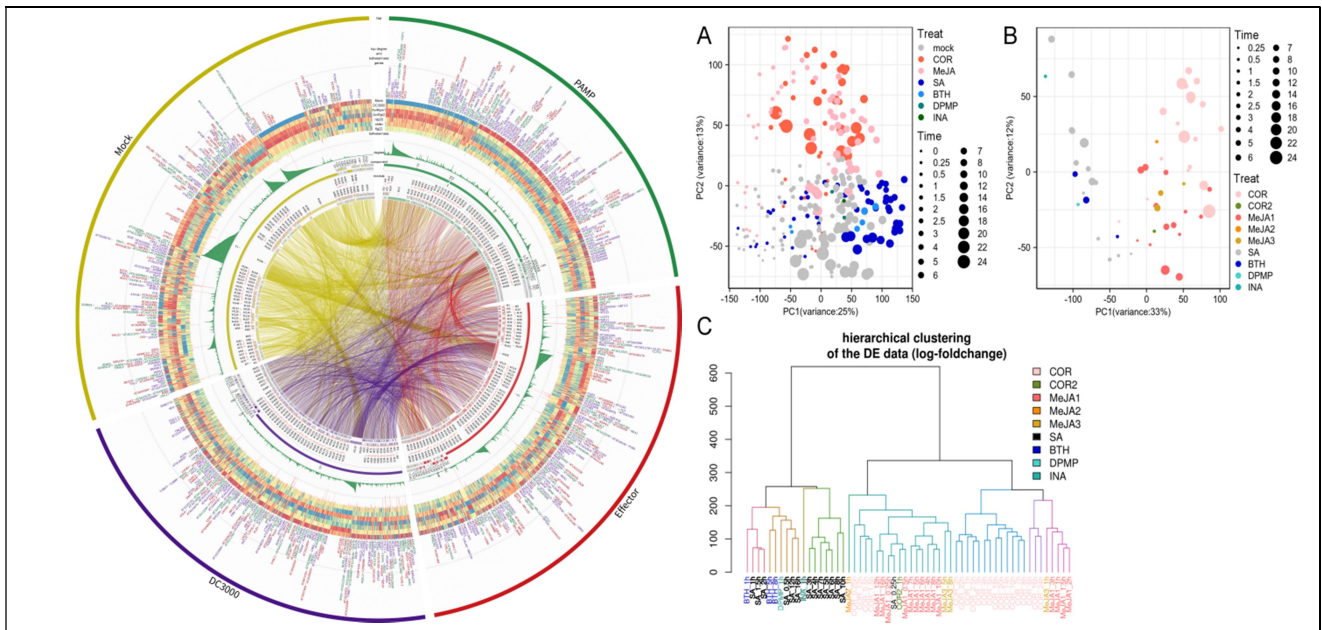


### 甲噁诱胺的诱导抗病的信号通路 Signaling Pathway of Plant Elicitor Methiadinil

构建了基于共表达网络系统的植物激活剂作用机制研究平台，利用JA和SA的关联分析可挖掘并验证植物的抗病相关基因。甲噁诱胺激活植物的水杨酸信号通路。

Established MOA study platform for plant elicitor screening on the basis of gene coexpression network, plant disease resistance related gene discovery, validation and the MOA of plant elicitor can be analyzed by correlation analysis between JA and SA. SA signaling pathway was the induction MOA of elicitor methiadinil.





### 甲噻诱胺的毒性 Toxicity of the Novel Elicitor Candidate Methiadinil

对雌、雄大鼠的急性经口的 LD<sub>50</sub> 均大于 5000mg/kg, 属微毒化合物; 对雌、雄大鼠的急性经皮的 LD<sub>50</sub> 均大于 2000mg/kg, 属低毒化合物; 对家兔的急性眼刺激试验结果为轻度刺激; 对家兔的急性皮肤刺激试验结果为无刺激; 对豚鼠的皮肤致敏试验结果为弱致敏。

### 甲噻诱胺的田间效果 Field Efficacy of the Novel Elicitor Candidate Methiadinil

对病毒病害的诱导防治效果: 在我国南方等地的田间试验结果表明, 甲噻酰胺对烟草花叶病毒病的防治效果与宁南霉素水剂相当, 优于病毒清 WP。甲噻酰胺对辣椒病毒病的防效与宁南霉素水剂基本相当, 优于病毒清 WP。

Field experiment indicated that, methiadinil had good efficacy for tobacco against TMV and hot pepper against pepper virus disease as that of ninamycin did and better than that of Bingduqing WP.



2010 年武清防治水稻稻曲病的诱导效果  
Induction effects for rice against *Ustilaginoidea virens*  
(Cooke) Tak in 2010



2011 年武清防治番茄灰霉病的诱导效果  
Induction effects for tomato against *Botrytis cinerea*  
Pers in 2011

### 创制植物激活剂甲噻诱胺的产业化开发与登记

#### Research, Development and Registration of the Novel Plant Elicitor Methiadinil

甲噻诱胺具有自主知识产权, 是全国农药标准化技术委员会的建议中文通用名称, 曾用名: 甲噻酰胺; 在国家“十二五”科技支撑计划 (2011BAE06B02) 的支持下由利尔化学股份有限公司成功产业化, 2016 年 12 月 23 日取得我国农业部颁发的新农药登记证, 96%甲噻诱胺原药正式登记证号: PD20170015; 25%甲噻诱胺悬浮剂正式登记证号: PD20170014。被工信部列为产业技术创新能力发展规划(2016-2020 年)中发展高效、绿色的原材料工业, 加强资源节约和环境保护的石化和化学工业重点发展方向。2018 年 4 月 18 日 24%甲噻·吗啉胍悬浮剂取得我国新农药登记证: PD20181410。

Novel plant elicitor methiadinil was named by National Pesticide Standardization and Technical Committee, name as methyl thiadiazole formamide was once used, it is developed by Lier Chemical Co. Ltd. under the supporting of the National Key Technology Research and Development Program (2011BAE06B02). It was registered as new pesticide by Ministry of Agriculture, China with Certification: 96% methadiinil technical of **PD20170015** and 25% methadiinil SC of **PD20170014** issued in 2016-12-23. Methiadinil was listed as key development directions of petrochemical and chemical industry in strengthen resource conservation and environmental protection of developing efficient and green raw material industry of Industrial Technology Innovation Capability Development Plan (2016-2020) by Ministry of Industry and Information Technology. Registration certification **PD20181410** of 24% Methiadinil·Moroxydine SC was issued by Ministry of Agriculture and Rural Affairs, China in 2018-4-18.

## 全国农药标准化技术委员会秘书处

(2009) 农标字第 013 号

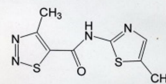
关于为“甲噻诱胺”命中文通用名称的函

南开大学:

贵单位为“甲噻诱胺”命中文通用名称的申请收到, 该化合物的化学名称:

N-(5-甲基-1,3-噻唑-2-基)-4-甲基-1,2,3-噁二唑-5-甲酰胺

结构式:



根据 HG 3308《农药通用名称命名原则和程序》中“根据化学结构并结合其用途命名”的原则, 经征求有关专家的意见, 建议用“甲噻诱胺”作为该化合物的暂定通用名, 且不与其它农药通用名重复。



### 甲噻诱胺的命名文件



### 农药登记证

CERTIFICATE FOR PESTICIDE REGISTRATION

农药正式登记证号: PD20170015  
 有效期限: 2017年1月31日 至 2022年1月31日  
 申请单位(生产)名称: 利尔化学股份有限公司

下列农药准予正式登记, 特发此证  
 The following pesticide is hereby granted  
 the certificate for full registration.

中华人民共和国农业部  
 MINISTRY OF AGRICULTURE,  
 PEOPLE'S REPUBLIC OF CHINA



### 96%甲噻诱胺原药登记证: PD20170015



### 农药登记证

CERTIFICATE FOR PESTICIDE REGISTRATION

农药正式登记证号: PD20170014  
 有效期限: 2017年1月31日 至 2022年1月31日  
 申请单位(生产)名称: 四川利尔生物科学有限公司

下列农药准予正式登记, 特发此证  
 The following pesticide is hereby granted  
 the certificate for full registration.

中华人民共和国农业部  
 MINISTRY OF AGRICULTURE,  
 PEOPLE'S REPUBLIC OF CHINA



### 25%甲噻诱胺悬浮剂登记证: PD20170014

### 农药登记证

登记证号: PD20181410  
 登记持有人: 四川利尔生物科学有限公司  
 农药名称: 甲噻·吗啉胍  
 剂型: 悬浮剂  
 农药类别: 杀菌剂

使用范围和使用方法:

作物/场所	防治对象	用药量(制剂量)	施用方式
烟草	烟草青	350-450克/亩	喷雾

备注:

首次批准日期: 2018年04月18日

有效期至: 2023年04月17日



### 24%甲噻·吗啉胍悬浮剂取得我国新农药登记证: PD20181410 及专利权转让



## Foundation Under Studing

In Charge of Tianjin Development Program for Innovation and Entrepreneurship 2018-18 (2019.6-2022.5)  
 (Will be concluded in May, 2022)

In Charge of "Innovation Group for Crop Immunity Control" supported by the 3rd Batch of Special Foundation in Tianjin Development Program for Innovation and Entrepreneurship (No.: 31872007).

<p>Conducting team establishment of innovation in crop immunity control, training 1-2 members reaching the same candidate level. Conducting studies on the crop immunity based novel insecticide or fungicide or antiviral or herb seed germinator lead discovery and optimization with QSAR and its MOA and basic studies on the application. International collaboration studies with scientists in the area of plant immunity and heterocycle for elucidating the MOA and signal pathways of novel active compounds and enlarging the lead diversity of plant elicitors respectively. Each 2 master students, PH D students and Post doctors will be trained under this supporting.</p>
<p><b>In Charge of NSFC31872007 (2019.1-2022.12) (Will be concluded in December, 2022)</b></p>
<p><b>In Charge of "Novel Antiviral Mode of Action of Naturally Occurring Fused Tricyclicspiralactone and its Lead Optimization" supported by "The National Natural Science Foundation of China" (No.: 31872007).</b></p>
<p>Plant virus disease is an important puzzle of plant protection and causes tremendous crop losses in China. Our recent studies constructed the novel fused tricyclic spiranoid lactone skeleton as lead compound, and confirmed its novel anti-TMV mode of action as inactivation TMV by crosslinking TMV-CP through dimerization. Aimed at the key virus disease in China, this proposal will conduct the mode of action studies on the different stages of TMV virus replication, assembly, movement and the induction of the systemic acquired resistance of the host plant as influenced by these novel fused tricyclic spiranoid lactones according to the combination of theories of life science and plant protection. This proposal will also establish the in vitro TMV-CP based anti-TMV screening system and improve the in vivo GFP-TMV screening method. Based on the information of TMV-CP crystal structure, the quantity and position of double bonds and OHs in the fused tricyclic spiranoid lactone skeleton will be adjusted by combined theory and principle of the computer aided rational molecular design, organic chemistry and pesticide science, heteroatoms or systemic acquired resistance or antiviral pesticidability substructures will be introduced into the target molecules for lead optimization, molecular design, biological activity and quantitative structure activity relationship (QSAR) studies. For the highly active compounds, the detailed mode of action will be preliminarily elucidated and validated by proteomics or transcriptomics or the compounded cocrystal between active compounds and TMV-CP or studies on its systemic acquired resistance. This proposal pays more attention to disciplinary crosslink of computer, biology, chemistry, plant protection and pesticide science. These results will provide our country new measure for integrated virus control and make great contribution to the integrated virus disease control, novel pesticide development and plant protection in theory and practice.</p>
<p><b>In Charge of TJNSF 18JCZDJC33500 (2018.4-2021.3) (Will be concluded in March, 2021)</b></p>
<p><b>In Charge of "Studies on the bioinformatics based novel plant elicitor lead optimization and its mode of action" supported by "The Tianjin Natural Science Foundation" (No.: 18JCZDJC33500).</b></p>
<p>Plant immunity control is the frontier and an important direction of novel pesticide development in plant protection, on the basis of systemic acquired resistance, aimed at the key disease, novel thiazole piperidine derivatives were designed and synthesized via combination of theories of organic chemistry, pesticide molecular design, principles of plant protection and technology of bioinformatics, the pesticidability and physicochemical properties of the target molecules were improved. Substructures with systemic acquired resistance are introduced to improve the efficacy of the plant protection and decrease the pesticide application amount for the agroenvironment protection by taking full advantage of plant innate systemic acquired resistance. The biological activities of all the novel target compounds will be screened for the mode of action studies of the most active compounds. The target or MOA of the plant elicitor and the highly active target compounds will be studied by genomics studies. The results of this proposal will show important meanings to the integrated key disease control and make great contribution to the novel pesticide</p>

development especially to novel elicitor development and plant protection in theory and practice.

**In Charge of The National Key Research and Development Program of China 2017YFD020090 (sub foundation No. 2017YFD0200903) (2017.1-2020.12) (Will be concluded in 2021)**

**In Charge of The National Key Research and Development Program of China "Technologies and Products Research and Development of Crop Immunity Regulation and Physical Control" subfoundation "Studies on the Crop Immunity Regulation and its product Development" (2017.1-2020.12).**

In order to overcome the over pesticide application to lower the release amount by improving its efficiency, regulation of the plant immunity against insect and pathogen damage becomes an effective measure in the integrated plant protection. This proposal will conduct structural optimization of natural product such as trans gossypol and conduct research and development of candidate against plant virus; conduct lead optimization of heterocyclic plant elicitor and elucidate its mode of action; conduct biosources and oligocarbohydrate lead derivation and its biological activity studies. S-ABA is a very good natural product with systemic acquired resistance activity, this proposal will also overcome the key technology of its technical production by fermentation and settle the questions of its formulation which obstacle its spread and application. Through this study, we hope to apply 16 patents, publish 12 papers, culture 12 graduate students, and prepare 4 products among them, 2 will reach the pesticide registration in technical requests and the other 2 will complete the field validation experiments, set up one fermentation line for S-ABA. We will also preliminary elucidate the mode of action of one biological source and one chemical source of highly active candidates.

**Foundation Concluded**

**In Charge of NSFC 31571991 (2016.1-2019.12) (Concluded)**

**Summary of "Studies on lead optimization of optically active thiazole containing novel green pesticide and its mode of action" supported by "The National Natural Science Foundation of China" (No.: 31571991):**

Stereoisomerism especially optically active molecules with pesticide activity are the frontier and important direction of novel pesticide development in the area of plant protection. Combination of principle of stereochemistry and pesticide rational molecular design with the rule of plant protection, on the basis of systemic acquired resistance and substructures with induction activity, aimed at the key disease including virus disease and fungi disease occurred in China, more than 400 novel optically active thiazole containing green pesticide leads and their derivatives were designed and synthesized. Systematic bioassay and QSAR studies discovered 5 highly active compounds, 2 of them showed further development value. Platform for discovery of pesticide mode of action and target were established on the basis of frontier of the life science, one brandly new potent fungicide target pyruvate kinase was discovered and preliminarily validated by using multi-omics study methods. Under the financial support of this proposal, 17 academic journal papers recorded by SCI including 4 JAFC papers in the top quality of this area were published, 12 Chinese patents, 4 PCT patents and 1 American patent were applied, 20 Chinese patents were certificated with intelligence properties, 5 master students and 3 PHD students and 1 post doctor were trained and graduated. One Tianjin Talent Project and 2 Provincial and ministerial Awards were also harvested. The achievements of this proposal enlarged the international collaborations with Russian professor Bakulev and Tatiana Glukhareva at TOSLab and American professors Thomas Eulgem at UCR in a new high level. The results of this study also gained the financial support of the International Science & Technology Cooperation Program of China (No.2014DFR41030) and the National Key Research & Development Plan (No.2017YFD0200903). The All-Russian Scientific-Practical Conference with international participation of «Modern methods and

approaches to plant protection» was invited for the conference invitation report during the period of collaboration studies in November 11-22, 2018 at the Ural Federal University named after the first President of Russia B.N. Yeltsin. One Parallel Sessions presentation was invited at the 14th IUPAC on Crop Protection with overall congress theme of “Crop Protection: Education of the Future Generation” in May 19-24, 2019, at Ghent, Belgium. Novel plant elicitor methiadinil with independent intelligence properties in China discovered by our research group including 96% methiadinil TK and 25% methiadinil SC were registered as with certifications issued by Chinese Department of Agriculture in 2016. Methiadinil and its related novel pesticides were listed as the key direction of Petrochemical and Chemical Industry of the Development Plan of Industrial Technological Innovation Capability (2016-2020) by the Ministry of Industry and Information Technology, China In 2016. In 2018, 24% methiadinil-moroxydine SC was registered with certification issued by Chinese Department of Agriculture. This proposal fulfilled all the original aims applied. All the studies pay more attentions to the cross links of academic disciplines, the results have significant meanings to the novel pesticide development and the strategy of lowering the pesticide amount with synergistic application.

**In Charge of NSFC 21372132 (2014.1-2017.12) (Concluded)**

**Summary of "Studies on the synthesis and biological activity of systemic acquired resistance based novel thiadiazole and isothiazole derivatives" supported by "The National Natural Science Foundation of China" (No.: 21372132).**

This proposal designed and synthesized more than 400 novel 1,2-isothiazole and 1,2,3-thiadiazole compounds according the principles of organic chemistry and pesticide molecular designation, under this supporting, 5 highly active lead compounds were discovered, among them, 3 highly active compounds deserved for further commercialization studies. This proposal also conducted studies on the pro-pesticide molecular designation, synthesis, its biological activity and QSAR, the mode of action and metabolism of the highly active pro-pesticide candidates were studied by molecular biology, transcriptomics and pesticide environmental toxicology. Under the financial support of this proposal, 12 academic journal papers recorded by SCI including 6 high quality papers were published, 15 Chinese patents and 4 PCT patents were applied, 10 Chinese patents were certificated with intelligence properties, 6 master students were graduated. The achievements of this proposal enlarged the international collaborations with Russian professor Bakulev at TOSLab and American professors Jianhua Yu and Thomas Eulgem at OSU and UCR in a new high level. The results of this study were the basis for succeeding support of the International Science & Technology Cooperation Program of China (No. 2014DFR41030) and the National Key Research & Development Plan (No. 2017YFD0200903). During the period of this proposal, 3 Chinese patents with independent intelligence properties were transformed as scientific and technological achievements. One invited symposia presentation and another candidate excellent poster presentation were addressed at the 13th IUPAC International Congress of Pesticide Chemistry in the 248th American Chemical Society National Meeting, August 10-14, 2014, San Francisco, California, USA. As the first plant elicitor with independent intelligence properties in China discovered by our research group, 96% methiadinil TK and 25% methiadinil SC got their novel pesticide certifications in 2016 issued by Chinese Department of Agriculture. In 2016, methiadinil and its related novel pesticides, novel green pesticides molecular designation and its systemic important common key technology were listed as the key direction of Petrochemical and Chemical Industry of the Development Plan of Industrial Technological Innovation Capability (2016-2020) by the Ministry of Industry and Information Technology, China.

**In Charge of TJNSF 14JCYBJC20400 (2014.4-2017.4) (Concluded)**

**Summary of "Studies on the synthesis and biological activity of novel isothiazole derivatives" supported by**

**"The Tianjin Natural Science Foundation" (No.: 14JCYBJC20400):**

In this proposal, 222 bioactive novel 1,2-isothiazoles with both systemic acquired resistance and fungicidal or insecticidal activity were design and synthesized, biological screening discovered 2 highly active new compounds. Transcriptomic sequency was conducted for the preliminary mode of action studies on methiadinil. Under the financial support of this proposal, 4 academic journal papers recorded by SCI including 1 high quality papers in JAFC were published, 5 Chinese patents and 1 PCT patents were applied, 5 Chinese patents were certificated with intelligence properties, 5 master and 3 bachelor students were graduated. 96% methiadinil TK and 25% methiadinil SC got their novel pesticide certifications issued by Chinese Department of Agriculture.

**In Charge of International Science & Technology Cooperation Program of China  
2014DFR41030 (2014.4-2017.4) (Concluded)**

**Summary of "Joint studies and development of novel green pesticide between China and Russia" supported by "The Department of Science and Technology" (No.: 2014DFR41030).**

Aimed at key damage caused by insects and pathogen in agriculture, forestry, grassland in our country, this program established fast in vivo micro-screening at molecular target by using heterocyclic compounds resources of both Chinese and Russian collaborator, conducted theoretical basic studies for novel pesticide development and biological screening. More than 200 novel heterocyclic pesticide lead derivatives were designed and synthesized by advanced heterocyclic synthetic methods combining with the principle of pesticide molecular designation, initiate practice by enhancing the plant systemic acquired resistance at the same time of insect and disease management to settle the questions of target organism resistance, potential contamination of agro-ecological environment and lower availability of pesticide molecules in the field. This program also conducted studies on the early stage of methiadinil as novel pesticide industrialization including evaluation on its environmental behavior, physicochemical properties, biological activity and field experiment, conducted the synthetic route studies and other requirement studies for the novel pesticide registration, industrialization and application. Under the support of this foundation, 4 certifications with methiadinil TKs and formulations were issued by the Ministry of Agriculture, P. R. China. The lead derivation containing systemic acquired resistance based insecticidal and fungicidal 1,2-isothiazoles and 1,2,3-thiadiazoles were synthesized on the basis of Ryanodine receptors or other fungicidal targets. By introducing sulfone nitrile into 1,2-isothiazoles or 1,2,3-thiadiazoles or other heterocyclic compounds, insecticidal, fungicidal, anti-TMV activity and systemic acquired resistance based new compounds were discovered by bioassay screening according to the SOP of Nankai University and field experimental standards issued by the Ministry of Agriculture, P. R. China, among them, 4 highly active leads were found, 14 Chinese patents were applied and 4 of them were issued with intelligence properties, other 2 PCT were applied too. In this program, 12 graduate students were graduated, 10 papers with SCI scores were jointly published by both Chinese and Russian partners. In addition, 2 Chinese conference papers were also published, 3 reports were presented at international conference.

**In Charge of "The 12th Five-Year Plan" (2011BAE06B02-06) (2011.1-2015.3) (Concluded)**

**Summary of "1,2,3-Thiadiazole kind of pesticide lead discovery and its derivation" supported by "The Department of Science and Technology" (No.: 2011BAE06B02-06):**

More than 200 novel 1,2,3-thiadiazole derivatives with characteristics of NMR, MS, IR and some of the EA data were designed and sythesized and their fungicidal and anti-virus activities were screened systemically, the mode of action of highly active compounds were also studied. Green house validation discovered 2 highly active compounds with filed experiments. This proposal applied 3 Chinese patents, obtained 2 issued Chinese patents, published 5 SCI academic papers, and trained 6 master students and 2 PH D students.

<b>Take part in Tianjin Agricultural Science and Technology Achievements Transformation and Promotion Rroject 201002250 (2010.9-2013.6) (Concluded)</b>
<p><b>Summary of "Development of integrated important poplar insects and fungi management technology in Tianjin" supported by Tianjin Agricultural Committees (No.: 201002250):</b></p> <p>Develop the <i>Populus L.</i> protect agents against key insects and pathogen using thiadiazole derivatives and different kind of additives according to the characteristics of <i>Xanthomonas populi</i> and <i>Cytospora chrysosperma</i>. Study the scientific application methods of these kind of protect agents, establish the specific control procedures. Optimization of the microencapsule suspension of Lambda-cyhalothrin and its application procedures.</p>
<b>Take part in The National Key Project for Basic Research (973) (2010CB126105) (2010.1-2015.12) (Concluded)</b>
<p><b>Summary of participating in the second 973 program of pesticide science: "Molecular target directed green chemical pesticide development" supported by "The Department of Science and Technology" [Group5: Studies on the candidate pesticide of fungi and virus control and its molecular target] (2010CB126105):</b></p> <p>Completed studies on the mode of action of novel elicitor and its lead derivation for virus and fungi control.</p>
<b>In Charge of TJNSF 10JCZDJC17500 (2010.4-2013.3) (Concluded)</b>
<p><b>Summary of "Leading derivation and mode of action of methiadinil" supported by "The Tianjin Natural Science Foundation (Key Proposal)" (No.: 10JCZDJC17500):</b></p> <p>Methiadinil is an environment benign elicitor lead candidate with independent intellectual property right and highly activity. This proposal will conduct studies on the innovation of the fungicide and elicitor screening system using cucumber against fungi and tobacco against TMV, the mode of action of methiadinil was studied by GFP-TMV and RT-PCR. The mode of action of florotiadinil and bromo substituted 1,2,3-thiadiazoles were also tested. Under the support of this proposal, 400 novel compounds were synthesized, among them 4 were found to be as highly active compounds. Twenty five patents were applied, and 6 got independent intellectual property rights. 13 SCI sources journal papers including 2 JAFC papers were published. Seven master students, 1 PH D student and 1 Russian PH D student were graduated. The active ingredient of methiadinil technical was above 95%, while, its suspension was above 25%.</p>
<b>In Charge of Projeit for NSFC 20872071 (2009.1-2011.12) (Concluded)</b>
<p><b>Summary of "Synthesis of derivatives of novel green fungicide methyl thiadiazole formamide via Ugi reaction and study on their biological activity" supported by "The National Natural Science Foundation of China" (No.: 20872071):</b></p> <p>Methyl thiadiazole formamide (Suggested Chinese common name Methiadinil) is a novel plant elicitor candidate discovered by Nankai University with independent intellectual property right under development. This proposal designed and synthesized 693 novel derivatives of methiadinil including 312 derivatives of multi-component Ugi reaction under the directions of principles of organic chemistry and pesticide molecular designation. All the structures were identified by <sup>1</sup>HNMR, IR, MS, EA or HRMS. Systemic bioassay indicated that, some new compounds had good fungicide activity, some new compounds had good systemic acquired resistance, and some new compounds had good insecticide activity. Some compounds with good fungicide activity or insecticide activity also exhibited good systemic acquired resistance, this provided very good basis for further novel pesticide development in practice. Studies on the mode of action for the active compounds methiadinil and WQ-C-13 were also conducted systematically and provided more</p>

accurate measures for bioassay of antivirus agents and plant elicitors. On the basis of massive bioassay results, QSAR studies were evaluated systematically. 26 journal papers including 18 papers recorded by SCI and 19 papers for 5 conferences and 23 Chinese applied patents and 23 certificated patents were published under the financial support of this program, among them. In addition, 2 awards were also gained. 8 master students and 1 PH D student were graduated and the other 8 master students and 2 PH D students were under study now under the support of this proposal. This program paid more attention to the cross link of knowledge between biology and chemistry, the successful international collaboration with TOSLab enlarged the international impacts of this proposal.

**In Charge of NSFC-RFBR Proposal (20911120069) (2009.1-2010.12) (Concluded)**

**Summary of "Oxidative cyclization approach to monocyclic and fused heterocyclic compounds and its biological activity" collaborated with Professor Bakulev Vasilii Alexeevich, Urals State Technical University supported by "The National Natural Science Foundation of China" (No.: 20911120069):**

Heterocyclic compounds are the most important sources of lead with physiological activity. In order to enlarge the range of discovery of agrochemical lead compounds, on the basis of the discovery of the systemic acquired resistance of plant elicitor candidate methiadinil, this program conducted studies on the oxidative cyclization approach to monocyclic and fused heterocyclic compounds and its biological activity with The Ural State Technical University (changed into The Ural Federal University Named After the First President of Russia B. N. Yeltsin, Yeltsin UrFU). More than 800 novel N and S containing heterocyclic compounds were synthesized, their structures were determined by <sup>1</sup>HNMR, IR and HR MS, some of the them were confirmed by X-ray crystal diffraction. Bioassay indicated that, some new compounds exhibited good fungicide activity or good systemic acquired resistance or antivirus activity or insecticidal activity. The structure and activity relationship were also discussed too. Under the financial support of this program, 27 journal papers including 19 SCI sources and another 23 conference papers or posters were published. 16 patents were granted and another 20 patents were applied. We attended 4 conferences in China and oversea and gained 2 awards. Five master students were graduated and another 9 graduate students were under study in China under the support of this study. This program provided a new method for discovery of pesticide lead, and the collaboration studies enlarged the international impact of both partners.

**In Charge of NSFC 20672062 (2007.1-2009.12) (Concluded)**

**Summary of "Study on Structure Modification of Novel Elicitor Leading and Their Induction of Systemic Acquired Resistance" supported by "The National Natural Science Foundation of China" (No.: 20672062):**

Plant elicitors are regarded as real "Green Pesticide" because of its novel mode of action. On the basis of former studies on the establishment of corresponding screening system and practice on the novel plant elicitor development, under the support of this proposal, the systemic acquired resistance, preliminary mode of action, its efficacy and physicochemical properties and the synthetic technology of methiadinil, an elicitor lead with independent intellectual property right, were evaluated and validation at the levels of bioassay, physiology and field studies systematically. Afterwards, nearly 300 novel derivatives of methiadinil were synthesized, their structures were identified by NMR, IR and EI or HRMS, UV or crystal diffraction determination. Biological screening indicated that, some novel compounds exhibited good induction of systemic acquired resistance, anti-TMV, fungicide and herbicide activities respectively. On the basis of bioassay and synthesis of novel compounds, preliminary quantitative structure activity relationship was also studied. Under the financial support of this proposal, 34 journal papers including 19 SCI recorded and 29 conference papers and 18 Chinese patents were published, another 8 patents were certificated too. Four awards were obtained under this proposal. Eight graduated master students and four bachelor students were

all conducted the studies relative to this proposal. Another seven master students on campus still conducting further studies of this proposal. The successful model of international collaboration studies with Professor Bakulev V. A. got fruitful achievements and enhanced the impact of this program.

**In Charge of TJNSF 07JCYBJC01200 (2007.4-2009.9) (Concluded)**

**Summary of "Study on the Mode of Action of Novel Antiphytoviral Agents" supported by "The Tianjin Natural Science Foundation" (No.: 07JCYBJC01200):**

The mode of action of ningnanmycin, antofine,  $\alpha$ -aminophosphonate derivatives and bitriazolyl compounds were preliminary studied by comparison their affects on TMV-CP, RNA multiplication, polymerization *in vitro*, decapsid, enzyme activity associated with systemic acquired resistance and PR-proteins with Ribavirin. The results provided basis for application and development of these agrochemicals. Under the support of this proposal, 47 journal papers including 8 SCI recorded were published, 22 patents were applied and 7 of them were certificated. Two awards were obtained under this proposal. Ten master students were trained, among them, 8 were graduated, all graduated students worked in different areas of pesticide science or proceeded their futher PH D studies, 2 of them were now studing for their master degree.

**In Charge of ICPTJST 07ZCGHHZ01400 (2007.10-2009.3) (Concluded)**

**Summary of "Pesticide Activity and Synthesis of Novel Derivatives of 1,2,3-Thiadiazole", supported by "The International Collaboration Program of Tianjin on Science and Technology" (No.: 07ZCGHHZ01400):**

Under the guidance of principals of both Russia and China, the collaboration partners fulfilled all the tasks of this proposal, both partners improved under the principle of **mutual** advantages and **resources** sharing. More than 200 novel 1,2,3-thiadiazole derivatives were designed and synthesized in both laboratories, systematic biological activity evaluation discovered one compound with very good systemic acquired resistance and two compounds with good fungicide activity, this proposal also conducted preliminary mode of action studies on the systemic acquired resistance systematically and set up the artificial routine for synthesis of highly active elicitor candidate methiadinil. Under the support of this study, 16 papers were published, 9 patents were applied, another 3 patents were Certificated, 6 master students including 2 graduated and 4 are preparing for master degree defiance.

**Take part in The National Key Project for Basic Research (973) (2003CB114402) (2004.1-2008.12) (Concluded)**

**Summary of the first "The National Basic Research Program of China (973)" program of pesticide science: "Leading structure and action target for green chemical pesticide" taking part in, supported by "The Department of Science and Technology" [Group2: Derivation of pesticide leading by combinatorial chemistry and effective micro-screening *in vivo*] (2003CB114402):**

Conducted biological screening for antivirus activity for some members of this program, completed studies on the environmental behavior of monosulfron and monosulfron ester, two herbicides with independent intellectual property right.

**In Charge of NSFC 30270883 (2003.1-2005.12) (Concluded)**

**Summary of "Basic Study on Development of Novel Plant Activator" supported by "The National Natural Science Foundation of China" (No.: 30270883):**

Plant elicitor is real "Green Pesticide", three standard plant elicitors were prepared for first establishment and validation of screening system at the level of bioassay and physiological and biochemical characters and PR-protein determination in China systematically. More than 110 novel derivatives were synthesized, their structures were determined by EI, <sup>1</sup>HNMR, IR, MS and UV scanning. More than 150 of another novel

compounds were synthesized by cooperation with specialists all over the world. Systemic screening for 270 novel compounds discovered that 18 novel compounds had good induction of systemic acquired resistance as equal as its' corresponding standard BTH and BABA; a kind of novel bitriazolyl compounds can be modified as antiviral leading compound, another 3 novel compounds had good fungicide activity including 1 leading compound. On the basis of bioassay and preparation of novel compounds, quantitative structure activity relationship was also studied systematically.

**In Charge of NSFC 20107003 (2002.1-2004.12) (Concluded)**

**Summary of "Environmental Behavior of Novel Herbicide Monosulfuron" supported by "The National Natural Science Foundation of China" (No.: 20107003):**

Bioassay indicated that, the main root length was a very good indicator for bioassay, monosulfuron had good herbicide activity, which was at the same level as chlorsulfuron did; the main impurities in monosulfuron technical had no plant toxicity to maize and wheat; the safety of maize to monosulfuron was higher than chlorsulfuron and lower than nicosulfuron, the safety of wheat to monosulfuron was lower than chlorsulfuron and almost equal to tribenuron-methyl. Activity determination of acetolactate synthase (ALS) found that, monosulfuron acted as chlorsulfuron, tribenuron-methyl and nicosulfuron, they all were the non-competitive inhibitors to ALS of maize.

HPLC-UV residue analytical indicated that monosulfuron residue was not detected in soil and wheat samples collected 75d after application. Monosulfuron degraded faster in acid and strong alkaline soil than in neutral or weak alkaline soil with half-life less than 14d in wheat fields. The studies on photolysis kinetics in methanol and acetone and hydrolysis in buffers indicated that, monosulfuron degradation followed the first order kinetics; they all gave 2-nitrobenzenesulfonamide and 2-amino-4-methyl pyrimidine as main products. Another method with the combination of SPE using a novel molecularly imprinted polymer and HPLC was developed for the sample clean-up and residue determination of monosulfuron in soil with good recovery and suitable precision.

The study of this program elucidated the bioactivities and environmental behaviors of monosulfuron, 2 masters took part in this program had graduated, 23 papers had already published (5 of them was SCI paper), the results of this program made contribution to the registration of monosulfuron in Department of Agriculture in China and the appraisal of National Pesticide Engineering Research Center (Tianjin), and made contribution to the development and industrialization of novel pesticide in China too.

**Take part in "The 10th Five-Year Plan" (2001BA308A16) (2001.1-2003.12) (Concluded)**

**Summary of "Establishment of biological activity evaluation SOP specification of novel pesticide development" supported by "The Department of Science and Technology" (No.: 2001BA308A16):**

Established the SOP for biological evaluation for development of novel fungicides, insecticides, herbicides and anti-virus agrochemicals at biological level and physiological level.

**国际合作研究 INTERNATIONAL COLLABORATION STUDY**

The research team is international collaborating with famous heterocyclic chemist Professor Bakulev Vasilii Alekseevich and Bel'skaya Nataliya Pavlovna in TOSLab, Department of Technology for Organic Synthesis, The Ural Federal University Named After The First President of Russia B.N. Yeltsin, Russia for novel pesticide development. Professor Bakulev visited State Key Laboratory of Elemento-Organic Chemistry, Nankai University in 28th/March to 3rd/April, 2006, another member in his study group, Polina Kroptina, came to our laboratory for joint study in 30th/October to 24th/November, 2006 too. In 14th/September to 12th/October, 2007, associate Professor Fan Zhijin visited TOSLab and conducted collaboration studies on synthesis of novel derivatives of 1,2,3-thiadiazole. Professor Morzherin Yuri Yurievich and Bel'skaya

Nataliya Pavlovna visited State Key Laboratory of Elemento-Organic Chemistry, Nankai University in 22nd/November to 30th/November, 2007. Professor Bakulev Vasiliy Alekseevich and Bel'skaya Nataliya Pavlovna visited State Key Laboratory of Elemento-Organic Chemistry, Nankai University in 6th-11th/November, 2008. Professor Bel'skaya Nataliya Pavlovna visited State Key Laboratory of Elemento-Organic Chemistry, Nankai University for collaboration studies in 22th-28th/Jun, 2010; later, Professor Fan Zhijin visited TOSLab for collaboration studies in 6th-14th/September, 2010. From 2nd, October, 2011 on, Dr. Tatiana Kalinina came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University for one year of collaboration studies under the support of Scholarship of Russia President. Professor Fan Zhijin visited TOSLab and attended the conference of Organic Synthesis: Chemistry and Technology (SCOS1012) in 4<sup>th</sup>-8<sup>th</sup>, June, 2012. Tatiana Kalinina, Glukhareva Tatiana and Prokhorova Polina visited Nankai University conducted Sino-Russia Collaboration studies in 29th, July, 2014-11th, August, 2014 at Nankai University. PH D student Lugovik Ksenia conducted collaborative studies at SKLEOC in 3rd July to 1st August, 2014 in China. Professor Fan Zhijin visited TOSLab in 26th, October-1st, November 2014 to discuss the deep collaboration study detail. PH D student Lai Chen conducted collaborative studies at UrFU Russia in 3rd to 9th November, 2014. PH D student Khazhieva Inna conducted collaborative studies at SKLEOC Nankai University in 3rd April to 4th May, 2015. Professor Morzherin Yury Yur'evich and Bel'skaya Nataliya Pavlovna visited SKLEOC Nankai University in 20th-26th, October 2016 and discussed our new collaboration contents. Both partner had person exchange almost every year afterwards.

### Professor Bakulev Vasiliy Alekseevich Visited SKLEOC in 2006 (28th/March-3rd/April)



At Presentation



Visit Bioassay Department



After Presentation

### Student Exchange (30th/October to 24th/November, 2006)

Polina Kroptina of TOSLab, the Urals State Technical University conduct joint study in Nankai University



At Class with Students

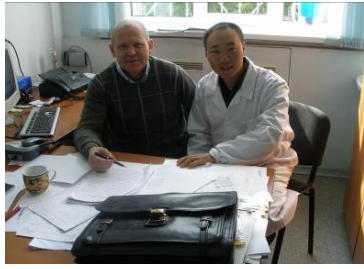


In Laboratory



During Bioassay

### Associate Professor Fan Zhijin Visited TOSLab in 2007 (14th/September-12th/October)



With Director of TOSLab

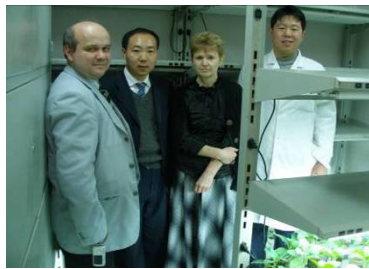


At Group of Professor Morzherin

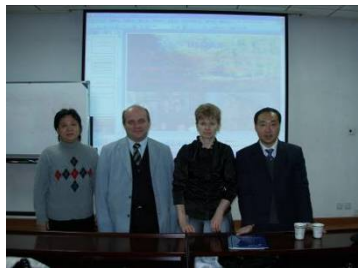


During the experiments

**Professor Morzherin Yuri Yur'evich and Bel'skaya Nataliya Pavlovna  
Visited SKLEOC in 2007 (22nd/November-30th/December)**



In TMV Screening Chamber



During the Presentation



After Presentation



With Our Study Group



Checking the Fungicide Results

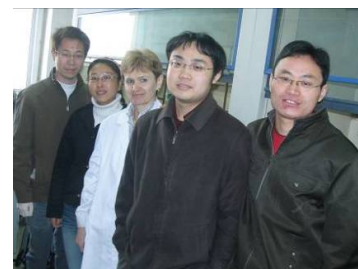


At Greenhouse

**Professor Bakulev Vasiliy Alekseevich and Bel'skaya Nataliya Pavlovna  
Visited SKLEOC in 2008 (6th-11th/November)**



Checking the Documents



Direct students



With Students After Presentation

**Professor Bel'skaya Nataliya Pavlovna Visited SKLEOC in 2010 (22th-28th/June)**



At the Liberation Bridge



During the Presentation



With Graduating Students

**Professor Fan Zhijin Visited TOSLab in 2010 (6th/September-14th/September)**



During the Presentation (Teacher)



In Front of the Main Building



During the Presentation (Student)

**Tatiana Kalinina Visited Nankai University for 1 year of PH D study in Fan Zhijin' Group under the supporting of Scholarship of Russia President (2<sup>nd</sup>, October, 2011-30<sup>th</sup>, July, 2012)**



Dr. Kalinina at Nankai University



With Professor Fan in TOSLab



Just before left China

**Professor Fan Zhijin Visited TOSLab and Attended Proceeding of Organic Synthesis: Chemistry and Technology (SCOS1012) (4th-8th, June, 2012)**



During Proceeding



Main building for proceeding



Visit poster

**Tatiana Kalinina, Glukhareva Tatiana and Prokhorova Polina Visited Nankai University for Sino-Russia Collaboration Studies in 29th, July-11th, August, 2014**

		
In synthesis laboratory	After bioassay experiments	In front of the living hotel

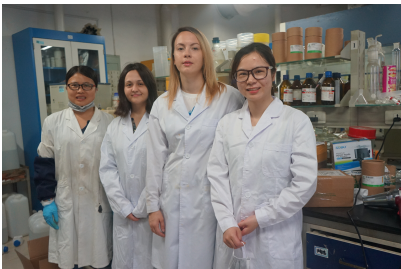


**Professor Fan Zhijin Visited TOSLab in 26th, October-1st, November 2014**

		
With Morzherin's group	At presentation	With Nataliya's group

**Professor Morzherin Yury Yur'evich and Bel'skaya Nataliya Pavlovna Visited SKLEOC Nankai University in 2016 (20th-26th/October)**

		
After presentation	Visit Nankai new campus	At SKLEOC annual meeting

**Lecture Kalinina Tatiana and PH D student Olga Vysokova Visited SKLEOC Nankai University in 2017 (10<sup>th</sup>/August-12<sup>th</sup>/September)**

		
After synthesis at SKLEOC	Fungicidal Screening	At Hebei Agriculture University

**Lecture Kalinina Tatiana and PH D student Olga Vysokova Visited SKLEOC Nankai University in 2018 (28<sup>th</sup>/August-30<sup>th</sup>/September)**

		
Fungicidal bioassay	Take care of tobacco	Tobacco culturing

**Professor Zhijin Fan Visited the Ural Federal University and participate the All-Russian Scientific-Practical Conference with international participation «Modern methods and approaches to plant protection» in 2018 (11<sup>th</sup>/November-22<sup>nd</sup>/ November)**

		
During the presentation	With conference chair	With students in the lab

**Associate Professor Glukhareva Tatiana and Lecture Kalinina Tatiana Visited SKLEOC Nankai University and attended "The 6<sup>th</sup> EOC Symposium-Elemento-Organic Compounds: Synthesis and Applications" in 2019 (7<sup>th</sup>/jULY-22<sup>nd</sup> September)**

		
After EOC Symposium	Bioassay for plant elicitor	During EOC Symposium

***Students Exchange between TOSLab and Nankai University***

**PH D student Lugovik Ksenia at SKLEOC Nankai University from 3rd July to 1st August, 2014**

		
After group meet	After work with classmates	With Professor Mobashery

**PH D student Lai Chen for PH D studies at UrFU Russia from 3rd to 9th November, 2014**

		
Prize for Conference	Presentation in UrFU Russia	After work in Ekaterinburg

**PH D student Khazhieva Inna at SKLEOC Nankai University from 3rd April to 4th May, 2015**

		
With her TMV and fungi tests	In Nankai University campus	In restaurant

**在读博士研究生 PH D STUDENTS UNDER STUDY NOW**

**张越 (2120190859) (2019 级硕士 2+4 直博生, 将于 2025 年 7 月毕业) ZHANG Yue**

简历 Curriculum Vitae	<p>1997 年 6 月生于河北省保定市, 汉族, 2019 年 6 月毕业于南京农业大学植物保护学院, 获农学学士学位, 2019 年 9 月考入南开大学元素有机化学国家重点实验室攻读植物病理学硕士学位, 2021 年获得 2+4 模式攻读农药学博士学位的机会, 主要开展基于诱导抗病活性的新农药创制及作用机制研究工作。</p> <p>Zhang Yue was born in Baoding, Hebei Province, P. R. China in June 1997, Han Nationality, she got her</p> <p>Bachelor degree of agronomy from Nanjing Agricultural University in June 2019. From September 2019 on, she was pursuing further study for master degree at State Key Laboratory of Element-Organic Chemistry, Nankai University major in pesticide science under the direction of Professor Fan Zhijin. From 2021 on she has a chance to continue further PH D study major in pesticide science as 2+4 mode. Her main studies concentrated on the systemic acquired resistance based novel pesticide development and mode of action.</p>	
学位论文 Thesis for Degree	<p>学士论文题目: 植物内生真菌 <i>Xylaria</i> sp. 次生代谢产物研究 (导师: 叶永浩教授)。          B.S. Dissertation: Study on secondary metabolites of plant endophytic fungus <i>Xylaria</i> sp. (Directed by Professor Ye Yonghao).</p> <p>博士论文题目: 基于植物免疫抗病的杀菌先导优化和构效关系及其作用机制 (导师: 范志金教授)。          M.S. Dissertation: Studies on the lead optimization, QSAR and its MOA (Directed by Professor Fan Zhijin).</p>	
获奖情况	2015-2016 年 南京农业大学“三好学生”一等奖学金; 南京农业大学“江苏克胜”奖学金;	

Awards	<p>First-class scholarship for three good students of Nanjing Agricultural University; Jiangsu Kesheng Scholarship of Nanjing Agricultural University;</p> <p>2016-2017 年 南京农业大学优秀学生干部、优秀共青团员; Excellent student cadres and excellent Communist Youth League members of Nanjing Agricultural University;</p> <p>2017-2018 年 南京农业大学公派赴美国加州大学戴维斯分校学习 1 个月; Publicly sent to study at University of California, Davis, USA for 1 month by Nanjing Agricultural University;</p> <p>2018-2019 年南京农业大学优秀毕业论文、优秀毕业生; Excellent Nanjing Agricultural University Graduation Thesis, Outstanding Graduate.</p>	
联系方式	1007109484@qq.com	
<b>刘笑宇 (1120200426) (2017 级推免硕士生, 2020 级 3+4 直博生, 将于 2024 年 7 月毕业) Liu Xiaoyu</b>		
简历 Curriculum Vitae	<p>1995 年 8 月生于吉林省吉林市, 汉族, 2017 年 6 月毕业于南开大学化学学院, 获理学学士学位。2017 年 9 月免试推荐到南开大学元素有机化学国家重点实验室唐良富教授课题组攻读有机化学硕士研究生。2020 年 9 月 3+4 进入南开大学元素有机化学国家重点实验室范志金教授课题组攻读农药学博士学位, 从事新型药物分子的设计合成和构效关系的研究。</p> <p>Liu Xiaoyu was born in Jilin, Jilin Province, China in August 1995, Han Nationality. He got his bachelor degree of science from Nankai University in June 2017, and was then recommended to State</p>	
	<p>Key Laboratory of Elemento-Organic Chemistry, Nankai University for master degree study major in organic chemistry in September 2017 under the direction of Professor Tang Liangfu. From September 2020 on, he got chance for further PH D study at State Key Laboratory of Element-Organic Chemistry, Nankai University, major in pesticide science under the direction of professor Fan Zhijin by 3+4 mode. His studies concentrated on molecular design, synthesis and structure and activity relationship of novel pesticide.</p>	
学位论文 Thesis for Degree	<p>学士论文题目: 3 位取代异吲哚啉酮衍生物研究 (导师: 唐良富 教授)。 B.S. Dissertation: Investigation of 3-substituted isoindolinones (Directed by Professor Tang Liangfu).</p> <p>硕士论文题目: 多环异吲哚啉酮类化合物研究 (导师: 唐良富 教授)。 M.S. Dissertation: Synthesis of Polycyclic Isoindolinones (Directed by Professor Tang Liangfu).</p>	
获奖情况 Awards	<p>2015-2016 学年度南开大学“公能”奖学金; Nankai University "Gong Neng" Scholarship</p> <p>2017 南开大学 2017 届本科生优秀毕业论文(设计); Excellent Graduation Thesis (Design) of 2017 Nankai University Undergraduates</p> <p>2017 年度万香优秀奖学金; Wanxiang Scholarship</p> <p>2017-2018 学年度金发科技奖学金; Kinfa Scientific and Technological Scholarship.</p>	
联系方式	775017383@qq.com	
<b>高卫 (1120200427) (2020 级博士生, 将于 2024 年 6 月毕业) Gao Wei</b>		

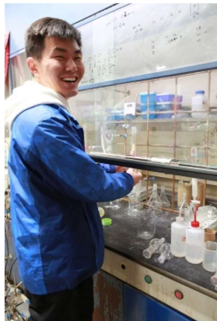
简历 Curriculum Vitae	<p>1994年8月生于河北省石家庄市，汉族，2017年6月毕业于河北农业大学植物保护学院，获农学学士学位。2017年9月至2020年6月于河北农业大学农药学专业张金林教授课题组攻读农药学硕士学位。2020年9月通过考核制进入南开大学元素有机化学国家重点实验室范志金教授课题组攻读农药学博士学位，从事基于杀菌剂潜在新靶标丙酮酸激酶的计算机辅助农药分子设计、合成和构效关系研究。</p>	
	<p>Gao Wei, Han nationality, was born in Shijiazhuang City, Hebei Province in August 1994. He graduated from the College of Plant Protection of Hebei Agricultural University in June 2017 with a bachelor's degree of agronomy. From September 2017 to June 2020, he studied as a master student in pesticide science in the research group of Professor Zhang Jinlin majoring in pesticide science at Hebei Agricultural University. After getting the master degree of agronomy in June 2020, From September on, he passed the application assessment system and entered into the research group of Professor Fan Zhijin at the State Key Laboratory of Elemento-Organic Chemistry of Nankai University for further PH D study major in pesticide science. His main studies engaged in computer-aided pesticide molecular design, synthesis and its structure-activity relationship using the potent fungicide new target pyruvate kinase.</p>	
学位论文 Thesis for Degree	<p>硕士论文题目：基于除草剂作用靶标转酮醇酶的除草活性分子的合理设计与筛选研究（导师：张金林教授）。 M.S. Dissertation: Studies of Rational Design and Screening of Herbicidal Active Molecules based on the Herbicide Action Target Transketolase (Directed by Professor Zhang Jinlin).</p>	
获奖情况 Awards	<p>202004 河北省优秀毕业生； Outstanding Graduates of Hebei Province in 2020 201912 硕士研究生国家奖学金； National Scholarship for Postgraduate Master in 2019 202006、201910、201810 河北农业大学一等学业奖学金； Three consecutive first-class academic scholarships of Hebei Agricultural University 202005、201905、201805 河北农业大学优秀共青团员； Three consecutive Outstanding Youth League award of Hebei Agricultural University 201910、201810 河北农业大学优秀学生干部； Outstanding Student Leader of Hebei Agricultural University 201809 第四届河北省“互联网+”大学生创新创业大赛 省赛银奖； Provincial Silver Award in the 4th Hebei Province "Internet+" College Student Innovation and Entrepreneurship Competition 201807 “中国创翼”创业创新大赛保定选拔赛创新组 三等奖； The third prize in the innovation group of the "China Chuangyi" Entrepreneurship and Innovation Competition Baoding Trial</p>	
联系方式	<p>565419747@qq.com; 1120200427@mail.nankai.edu.cn; 15733239877</p>	
<p><b>齐欣 (1120190414) (2019级普博生, 将于2021年7月毕业) Qi Xin</b></p>		
简历 Curriculum Vitae	<p>1994年1月生于河北省唐山市，汉族，2016年7月毕业于河北经贸大学生命科学与工程学院，获工学学士学位。2016年9月通过考试到中国农业科学院作物科学研究所攻读硕士研究生。2019年9月通过申请考核进入南开大学元素有机化学国家重点实验室范志金教授课题组攻读农药学博士学位，从事植物免疫激活剂作用机制的研究。</p>	
	<p>Qi Xin was born in Chenzhou, Hebie Province, China in January 1994, Han Nationality. She got her bachelor degree of science from Hebei University of Economics and Business in July 2016. In September 2016, she passed the examination and went to the Institute of Crop Science, Chinese</p>	

	Academy of Agricultural Sciences for master's degree. In Jun 2019, she got master degree of agronomy, in September, she entered into the State key Laboratory of element Organic Chemistry of Nankai University for a doctorate major in plant protection at the group of Professor Fan Zhijin, her studies engaged in the mode of action of novel plant immunity stimulating activators.	
学位论文 Thesis for Degree	<p>学士论文题目：杏鲍菇液体菌株的制备 (导师：马同锁教授)。 B.S. Dissertation: Preparation of liquid strain of <i>Pleurotus eryngii</i> (Directed by Associate Professor Ma Tongsuo).</p> <p>硕士论文题目：G 蛋白 <math>\beta</math> 亚基 <i>AtAGBI</i> 及转录因子 <i>SiMYR1</i> 调控植物赤霉素相关发育性状的功能分析 (导师：陈明研究员)。 M.S. Dissertation: Functional Analysis of G Protein <math>\beta</math> Subunit <i>AtAGBI</i> and Transcription Factor <i>SiMYR1</i> Regulating Gibberellin Related Development Traits in Plants (Directed by Professor Chen Ming).</p>	
获奖情况 Awards	<p>2012-2013 河北经贸大学一等奖学金; 河北经贸大学二等奖学金; 河北经贸大学三好学生; Hebei University of Economics and Business first-class scholarship; Hebei University of Economics and Business second-class scholarship; Outstanding students of Hebei University of Economics and Business.</p> <p>2013-2014 河北经贸大学一等奖学金; 河北经贸大学一等奖学金; 国家励志奖学金; Hebei University of Economics and Business First-class scholarship; Hebei University of Economics and Business First-class scholarship; National motivational scholarships.</p> <p>2014-2015 河北经贸大学一等奖学金; 河北经贸大学二等奖学金; 河北经贸大学三好学生; Hebei University of Economics and Business First-class scholarship; Hebei University of Economics and Business second-class scholarship; Outstanding students of Hebei University of Economics and Business.</p> <p>2015-2016 河北经贸大学优秀毕业生; 河北省优秀毕业生; Outstanding graduates of Hebei University of Economics and Business; Outstanding graduates of Hebei Province.</p> <p>2016-2017 中国农业科学院研究生院二等学业奖学; Second-class scholarship of Graduate School of Chinese Academy of Agricultural Sciences</p> <p>2017-2018 中国农业科学院研究生院二等学业奖学; Second-class scholarship of Graduate School of Chinese Academy of Agricultural Sciences</p> <p>2018-2019 中国农业科学院研究生院二等学业奖学; Second-class Scholarship of Graduate School of Chinese Academy of Agricultural Sciences.</p>	
联系方式	997701750@qq.com	
<b>董静月 (1120190413) (2017 级硕士, 2019 级博士, 2+3 直博, 将于 2022 年 7 月毕业) Dong Jingyue</b>		
简历 Curriculum Vitae	<p>1994 年 5 月生于河北省邢台市, 汉族, 2017 年 7 月毕业于内蒙古科技大学化学学院, 获工学学士学位, 2017 年 9 月考入南开大学元素有机化学国家重点实验室攻读有机化学硕士学位, 导师李玉新副教授; 2019 年 9 月 2+3 模式进入南开大学元素有机化学国家重点实验室范志金教授课题组攻读农药学博士学位, 从事农药学的研究, 开展基于原创性潜在靶标的新农药创制工作。</p>	
	<p>Dong Jingyue was born in Xingtai, Hebei Province, China in December 1994, Han Nationality, Chinese Communist Youth League Member, and got his bachelor degree of engineering from Inner Mongolia University of Science &amp; Technology in July 2017. From September 2017 on, he was pursuing further study for master degree at State Key Laboratory of Element-Organic Chemistry,</p>	

	Nankai University major in organic chemistry under the direction of Associate professor Li Yuxin. From September 2019 on, he was pursuing further study for PH D degree at State Key Laboratory of Element-Organic Chemistry, Nankai University major in pesticide science under the direction of Professor Fan Zhijin. The main studies concentrated on the novel pesticide development based on original potential targets.
学位论文 Thesis for Degree	<p>学士论文题目：1-(2-吡嗪基)-1,3-丁二酮的合成研究 (导师: 雍胜利副教授)。 B.S. Dissertation: Study on synthesis of 1-(2-pyrazinyl)-1,3-butanedione (Directed by Associate professor Yong Shengli).</p> <p>硕士论文题目：基于原创性潜在靶标丙酮酸激酶的杀菌剂设计合成及生物活性研究 (导师: 范志金教授)。 M.S. Dissertation: Studies on the synthesis and biological activity of the fungicide based on original potential targets (Directed by Professor Fan Zhijin).</p>
获奖情况 Awards	<b>2013-2014 学习成绩奖学金; 2015-2016“金蒙稀土”奖学金。 2013-2014 Academic scholarship; 2015-2016 Jinmeng Rare Earth scholarship.</b>
联系方式	<a href="mailto:2983754878@qq.com">2983754878@qq.com</a>

**吕游 (1120180348) (2018 级博士生, 将于 2021 年 7 月毕业) Lv You**

简历 Curriculum Vitae	<p>1989 年 8 月生于山东省菏泽市, 汉族, 2010 年 7 月毕业于青岛科技大学化学与分子工程学院应用化学专业, 获理学学士学位。2013 年 7 月毕业于上海大学理学院有机化学专业, 获理学硕士学位。2013 年 7 月至 2015 年 5 月, 在上海睿智化学研究有限公司从事有机小分子库合成及测试相关工作。2015 年 5 月至 2018 年 9 月在道中道菏泽制药有限公司从事原料药工艺开发。2018 年 9 月进</p>	
	<p>入南开大学元素有机化学国家重点实验室范志金教授课题组攻读农药学博士研究生。从事新型药物分子的设计合成和构效关系以及先导发现和优化的研究工作。</p> <p>Lv You was born in Heze, Shandong Province, China in August 1989, Han Nationality. In July 2010, he graduated from college of chemistry and molecular engineering, Qingdao University of Science and Technology with a Bachelor degree of Science in applied chemistry. In July 2013, he graduated from college of science of Shanghai University as a graduate student with a master degree of science major in organic chemistry. From July 2013 to May 2015, engaged in the synthesis and characteristics determination of organic small molecule in Shanghai Chempartner Co., Ltd. From May 2015 to September 2018, he engaged in API process development in Daozhongdao Heze Pharmaceutical Co., Ltd. From September 2018 on, he got chance for further study as a PHD student at State Key Laboratory of Element-Organic Chemistry, Nankai University, major in pesticide science under the direction of professor Fan Zhijin. His studies concentrated on molecular design, synthesis and structure activity relationship of novel pesticide and lead discovery and optimization.</p>	
学位论文 Thesis for Degree	<p>学士论文题目：用反相乳液聚合方法合成液体油井水泥降失水剂 (导师: 周新红 副教授)。 B.S. Dissertation: Synthesis of fluid loss reducer for liquid cement by inverse emulsion polymerization (Directed by Associate Professor Zhou Xinhong).</p> <p>硕士论文题目：利用含氟砌块——全氟烷基炔酸酯合成含氟五元或六元有机环化合物 (导师: 曹卫国 教授)。 M.S. Dissertation: Synthesis of Fluorine-containing Five- or Six-membered Ring Organic Compounds Using 2-Perfluoroalkynoates as Building Blocks (Directed by Professor Cao</p>	

	Weiguo).	
获奖情况 Awards	2019.12 万香奖学金; Wanxiang scholarship	
联系方式	<a href="mailto:lv.you2008@163.com">lv.you2008@163.com</a> ; 15964630329	
<b>郝泽生 (1120180347) (2018 级普博, 将于 2021 年 7 月毕业) Hao Zesheng</b>		
简历 Curriculum Vitae	<p>1993 年 3 月生于山东省聊城莘县, 汉族, 2015 年 7 月毕业于山东省农业大学植物保护学院, 获工学学士学位。2015 年 9 月考入沈阳化工研究院新农药创制与发现国家重点实验室李斌教授级高工课题组攻读应用化学硕士研究生。2015 年 9 月-2016 年 7 月, 在大连理工大学学习基础课程。2018 年 9 月通过申请考核制进入南开大学元素有机化学国家重点实验室范志金教授课题组攻读农药学博士学位, 从事新型药物分子的设计合成和构效关系的研究。</p>	
	<p>Hao Zesheng was born in in Shen County, Liaocheng City, Shandong Province, in March 1993, Han nationality, he graduated from Shandong Agricultural University, College of Plant Protection, with a Bachelor degree of Engineering in July 2015. In September 2015, he entered into the group of Professor Li Bin at State Key Laboratory of New Pesticide Creation and Discovery, Shenyang Research Institute of Chemical Technology to pursue his Master study major in Applied Chemistry. From September 2015 to July 2016, he studied his basic courses at Dalian University of Technology. In September 2018, he entered into the Prof. Fan Zhijin's group at the State Key Laboratory of Elemental Organic Chemistry, Nankai University for his PhD study major in pesticide science, he is now conducting studies on the molecular design and synthesis of novel pesticide lead and their QSAR.</p>	
学位论文 Thesis for Degree	<p>学士论文题目: 四种三唑类杀菌剂对蜜蜂的经口毒性及安全性评价 (导师: 姜兴印 副教授)。 B.S. Dissertation: Oral toxicity and safety evaluation of four triazole fungicides in honey bees (Directed by Associate Professor Jiang Xingyin)</p> <p>硕士论文题目: 新型酰胺类化合物的设计、合成及杀菌活性研究 (导师: 李斌 教授级高工)。 M.S. Dissertation: Design, synthesis and fungicidal activity of novel amide compounds (Directed by Professorial Senior Engineer Bin Li).</p>	
获奖情况 Awards	<p>2012-2013 山东农业大学三等优秀学生奖学金; Shandong Agricultural University Third Class Outstanding Student Scholarship;</p> <p>2013-2014 山东农业大学三等优秀学生奖学金; Shandong Agricultural University Third Class Outstanding Student Scholarship.</p> <p>2019-2020 南开大学三等公能奖学金; 2019-2020 Nankai University Third Class Public Energy Scholarship.</p> <p>2020-2021 南开大学三等公能奖学金; Nankai University Third Class Public Energy Scholarship.</p> <p>2020-12 万香奖学金 Wanxiang scholarship</p>	
联系方式	<a href="mailto:Haozesheng0302@163.com">Haozesheng0302@163.com</a>	
<b>在读硕士研究生 (MASTER STUDENTS AT NANKAI UNIVERSITY NOW)</b>		
<b>李静 (2120200864) (2020 级, 将于 2023 年毕业) Li Jing</b>		

简历 Curriculum Vitae	<p>1998年10月生于河北省保定市，汉族，中共党员，2020年6月毕业于河北农业大学植物保护学院，获农学学士学位，2020年9月考入南开大学元素有机化学国家重点实验室，从事农药学的研究，主要开展创制新农药作用机制的研究工作。</p> <p>Li Jing was born in October 1998 in Baoding, HeBei Province, P. R. China, Han Nationality, Chinese Communist Party Member, she got her bachelor degree of agronomy from College of Plant Protection, Hebei Agricultural University in June 2020. From September 2020 on, she enrolled into State Key Laboratory of Elemento-Organic Chemistry, Nankai University as a master student</p>	
	<p>major in Pesticide Science under the direction of Professor Fan Zhijin, her main studies concentrated on the studies of mode of action of novel pesticide.</p>	
学位论文 Thesis for Degree	<p>学士学位论文题目：淀粉酶降解除草剂烟嘧磺隆机制的初步研究 (导师：张金林教授)。 B.S. Dissertation: Preliminary study on the mechanism of degradation of nicosulfuron by amylase (Directed by Professor Zhang Jinlin).</p>	
获奖情况 Awards	<p>2020年获河北农业大学植物保护学院优秀共产党员荣誉称号；2017-2019年连续三年获河北农业大学二等奖学金；2017-2019年连续三年获河北农业大学社会活动优秀奖；2019年获河北省第五届互联网+大学生创新创业大赛铜奖；2018年获河北农业大学大学生思政课教学成果三等奖；2018年获河北农业大学优秀共青团员称号。</p> <p>2020 College of Plant Protection, Hebei Agricultural University, Honorary title of Outstanding Communist Party member; 2017-2019 Hebei Agricultural University, Second-Class scholarship; 2017-2019 Hebei Agricultural University, Social activity Excellence Award; 2019 Bronze Award of the fifth Hebei Internet plus student innovation and entrepreneurship competition; 2018 Hebei Agricultural University, Third prize of teaching achievement of Ideological and political course; 2018s Hebei Agricultural University. Outstanding Communist Youth League member title.</p>	
联系方式	<a href="mailto:lijing@mail.nankai.edu.cn">lijing@mail.nankai.edu.cn</a>	
<b>洪泽宇 (2120200919) (2020级，将于2023年毕业) Hong Zeyu</b>		
简历 Curriculum Vitae	<p>1998年11月生于黑龙江牡丹江市，汉族，2020年6月毕业于青岛科技大学化学与分子工程学院，获工学学士学位，2020年9月考入南开大学元素有机化学国家重点实验室，从事农药学的研究，主要开展基于靶酶丙酮酸激酶的新农药创制研究工作。</p> <p>Hong Zeyu was born in Mudanjiang City, Heilongjiang in November 1998, Han nationality, graduated from the School of Chemistry and Molecular Engineering, Qingdao University of Science and Technology in June 2020 with a bachelor's degree in engineering, and came to the State Key Laboratory of Elemental Organic Chemistry</p>	
学位论文 Thesis for Degree	<p>学士学位论文题目：过渡金属硼化物在基电催化的应用 (导师：高洪涛教授)。 B.S. Application of transition metal boride in base electrocatalysis.</p>	
获奖情况 Awards	<p>2017-2018 青岛科技大学单项奖学金；2018-2019 青岛科技大学校级优秀学生；2019-2020 青岛科技大学一等综合奖学金。</p>	

	2017-2018 Qingdao University of Science and Technology Single Scholarship; 2018-2019 Qingdao University of Science and Technology Outstanding Student; 2019-2020 Qingdao University of Science and Technology First Class Comprehensive Scholarship.	
联系方式	<a href="mailto:2120200919@mail.nankai.edu.cn">2120200919@mail.nankai.edu.cn</a>	
<b>陈蕾 (2120190863) (2019 级, 将于 2022 年毕业) Chen Lei</b>		
简历 Curriculum Vitae	<p>1997 年 7 月生于天津, 汉族, 中共党员, 2019 年 7 月毕业于南开大学化学学院, 获理学学士学位, 2019 年 9 月考入南开大学元素有机化学国家重点实验室, 从事农药学的研究, 主要开展基于植物诱导抗病活性的新农药创制研究。</p> <p>Chen Lei was born in July 1997 in Tianjin, P. R. China, Han Nationality, Chinese Communist Party Member. She got her bachelor degree of Science from College of Chemistry, Nankai University in July 2019. From September 2019 on, she enrolled into State Key Laboratory of</p>	
	Elemento-Organic Chemistry, Nankai University as a master student majoring in Chemical Engineering. Under the direction of Professor Fan Zhijin, her main studies concentrated on systemic acquired resistance based novel pesticide development.	
学位论文 Thesis for Degree	<p>学士学位论文题目: pH 响应自屏蔽纳米金的制备及表征 (导师: 王蔚副研究员)。 B.S. Dissertation: Preparation and characterization of pH-responsive self-shielding gold nanoparticles (Directed by Associate Researcher Wang Wei).</p>	
获奖情况 Awards	<p>2017-2018 南开大学本科生公能专项奖学金; Nankai University, Gongneng Special Scholarship; 2017.5 全国大学生英语竞赛三等奖; Third Prize in National English Contest for College Students; 2019-2020 南开大学研究生公能二等奖学金; Nankai University, Second-Class of Gongneng Scholarship.</p>	
联系方式	<a href="mailto:1442339818@qq.com">1442339818@qq.com</a>	
<b>李坤 (2120190874) (2019 级, 将于 2022 年毕业) Li Kun</b>		
简历 Curriculum Vitae	<p>1996 年 10 月生于山东枣庄市, 汉族, 共青团员, 2019 年 6 月毕业于山东理工大学化学化工学院, 获工学学士学位, 2019 年 9 月考入南开大学元素有机化学国家重点实验室, 从事农药学的研究, 主要开展新型绿色农药创制研究工作。</p> <p>Li Kun was born in October 1996 in Zaozhuang, ShanDong Province, P. R. China, Han Nationality, Communist Youth League member, he graduated from School of Chemistry and Chemical Engineering, Shandong University of Technology in June, 2019 with a bachelor's degree of Engineering. In September 2019, he enrolled into</p>	
	State Key Laboratory of Elemento-Organic Chemistry, Nankai University as a master student major in Pesticide Science under the direction of Professor Fan Zhijin, he mainly conducts research on the development of new green pesticides.	
学位论文 Thesis for Degree	<p>学士学位论文题目: 年产 20 万吨丙烷脱氢制丙烯 (导师: 秦士跃讲师)。 B.S. Dissertation: Annual production of 200,000 tons of propane dehydrogenation to propylene (Directed by Lecturer Qin Shiyue).</p> <p>硕士论文题目: 植物生长调节活性的独角金内酯衍生物的设计合成 (导师: 范志金教授)。 M.S. Dissertation: Design and synthesis of plant growth regulated strigolactone derivatives</p>	

	(Directed by Professor Fan Zhijin).	
获奖情况 Awards	2015-2016 山东省励志奖学金, 山东理工大学优秀学生奖学金; Shandong Encouragement Scholarship, Excellent Student Scholarship of Shandong University of Technology; 2016-2017 山东省励志奖学金; Shandong Encouragement Scholarship; 2017-2018 山东省励志奖学金; Shandong Province Encouragement Scholarship.	
联系方式	<a href="mailto:18266052144@163.com">18266052144@163.com</a>	
<b>王炜博 (2120180801) (2018 级, 将于 2021 年毕业) Wang WeiBo</b>		
简历 Curriculum Vitae	<p>1996 年 8 月生于河南郑州市, 汉族, 中共预备党员, 2018 年 7 月毕业于南阳师范学院化学与制药工程学院, 获理学学士学位, 2018 年 9 月考入南开大学元素有机化学国家重点实验室, 从事农药学的研究, 主要开展构效关系指导下的新农药创制研究工作。</p> <p>Wang Weibo was born in August 1996 in Zhengzhou, Henan Province, China, Han Nationality, probationary member of Chinese Communist Party, she got her bachelor degree of Science from School of Chemistry and Pharmaceutical Engineering, Nanyang Normol University in July 2018. From September 2018 on, she enrolled into State Key Laboratory of Elemento-Organic Chemistry, Nankai University as a master student major in Pesticide Science under the direction of Professor Fan Zhijin, her main studies concentrated on QSAR directed novel pesticide development.</p>	
学位论文 Thesis for Degree	学士学位论文题目: 4-[4'-(2,2':6',2''-三联吡啶)]基苯甲酸的合成及表征 (导师: 杨浩教授)。 B.S. Dissertation: Synthesis and characterization of 4-[4'-(2,2':6',2''-terpyridyl)] benzoic acid (Directed by Professor Yang Hao).	
获奖情况 Awards	2014-2015 南阳师范学院卧龙学子优秀学生奖学金; Nanyang Normol University, Wolong Scholarship for Excellent Students; 2015-2016 南阳师范学院国家励志奖学金; Nanyang Normol University, National Motivational Scholarship; 2016-2017 南阳师范学院国家励志奖学金; Nanyang Normol University, National Motivational Scholarship.	
联系方式	<a href="mailto:2074756102@qq.com">2074756102@qq.com</a>	
<b>已出站博士后 (POST DOCTOR OUT OF STATIONS)</b>		
<b>杨冬燕 (8193582) (2017 级) Yang Dongyan</b>		

<p>简历 Curriculum Vitae</p>	<p>1989年5月生于福建省南平市，汉族，2017年6月毕业于中国农业大学理学院，农药学专业，获理学博士学位，导师覃兆海教授。2017年7月进入南开大学农药国家工程研究中心进行博士后研究，合作指导老师李正名院士和范志金教授，主要从事基于植物免疫调控的杀菌剂设计和作用机制研究。2020年6月出站后在仲恺农业工程学院任教。</p> <p>Yang Dongyan was born in May 1989 in Nanping, Fujian Province, P. R. China, Han Nationality; she got her doctor's degree of pesticide science from college of science, China Agricultural University in June 2017 under the guidance of Professor Zhaohai</p>	
	<p>Qin. From July 2017 on, she came into National Pesticide Engineering Research Center (Tianjin), Nankai University began her postdoctoral research in pesticide science under the co-direction of professor Li Zhengming and Fan Zhijin, her main studies concentrated on systemic acquired resistance based green fungicides development. From June 2020 on, she out of station and worked as a lecturer in Zhongkai University of Agriculture and Engineering.</p>	
<p>学位论文 Thesis for Degree</p>	<p>博士论文题目：炔氧基胺分子插件的结构多样性衍生及应用 (导师：覃兆海教授)。 Ph. D. Dissertation: Structural diversity derivatization and application based on alkoxyamine-the plug-in molecule (Directed by Professor Qin Zhaohai).</p> <p>博士后研究工作报告：基于植物免疫调控的绿色杀菌剂的设计合成与生物活性研究 (导师：李正名和范志金教授)。 Ph. D. Dissertation: Systemic Acquired Resistance Based Green Fungicides Design and Biological Assessment (Directed by Professor Li Zhengming and Fan Zhijin).</p>	
<p>获奖情况 Awards</p>	<p>2014-2016 中国农业大学一等学业奖学金；China Agricultural University, the First-Class of Excellent Student Scholarship.</p>	
<p>联系方式</p>	<p><a href="mailto:yangdy@nankai.edu.cn">yangdy@nankai.edu.cn</a></p>	
<p><b>赵斌 (8179809) (2016 级) Zhao Bin</b></p>		
<p>简历 Curriculum Vitae</p>	<p>1983年10月生于河北省保定市，汉族，2016年6月毕业于河北农业大学植物保护学院，农药学专业，获农学博士学位，2016年9月进入南开大学农药国家工程研究中心植物保护科研流动站进行博士后研究，合作指导老师范志金教授，主要从事基于杀菌剂作用靶标鉴定研究。2019年12月起在河北农业大学任教。</p> <p>Zhao Bin was born in Baoding of Hebei Province in October 1983, Han Nationality. He graduated from Hebei Agricultural University in June 2016, the major is Pesticide Science, with a PH degree of agronomy. In September 2016, he entered to the post-doctoral studies station major in plant protection at the National Pesticide Engineering Research Center (Tianjin), Nankai University</p>	
	<p>for post-doctoral research, and collaborated with Professor Fan Zhijin. Dr Zhao was engaged in target identification research of the new fungicide. He was a teacher introduced as a talent in Hebei Agricultural University since December 2019 after outing side from the post-doctoral studies station.</p>	
<p>学位论文 Thesis for Degree</p>	<p>博士论文题目：黄顶菊中除草活性物质 <math>\alpha</math>-三联噻吩作用靶标的确定及分子模型的建立 (导师：张金林 教授)。 Ph. D. Dissertation: The Target of the Herbicidal <math>\alpha</math>-Triple Terthienyl from Flaveria bidentis and Molecular Model for Herbicide (Directed by Professor Zhang Jinlin).</p>	

	博士后研究工作报告：无标记方法发现和鉴定杀菌作用靶标 (合作导师：范志金教授)。 Ph. D. Dissertation: Discovery and identification of the fungicide targets by label-free methods (Directed by Professor Fan Zhijin ).	
获奖情况 Awards	2015 年获得国家奖学金，2016 年获得省级优秀毕业生称号。 He won the National Ncholarship in 2015 and the Provincial Excellent Graduate title in 2016	
联系方式	<a href="mailto:binzhao@nankai.edu.cn">binzhao@nankai.edu.cn</a> ;	
<b>已毕业博士研究生 (PH D STUDENTS GRADUATED)</b>		
<b>张乃楼 (2120150784 and 1120170323) (Grade 2015 级硕士, 2+3 直博, 2020 年 12 月毕业) ZHANG Nailou</b>		
简历 Curriculum Vitae	1992 年 1 月生于河南省信阳市，汉族，2015 年 7 月毕业于沈阳农业大学植物保护学院，获理学学士学位，2015 年 9 月考入南开大学元素有机化学国家重点实验室攻读农药学硕士学位，主要从事生物信息学农药作用机制的研究，2020 年毕业后前往武汉病毒所做博士后研究。 Zhang Nai-lou was born in January 1992 in Xinyang, Henan Province, P. R. China, Han	
	Nationality; he got his bachelor degree of Science from Colledge of Plant Protection, Shenyang Agricultural University in July 2015. From September 2015 on, he enrolled into State Key Laboratory of Elemento-Organic Chemistry, Nankai University as a master student major in pesticide science under the direction of Professor Fan Zhijin, he main studies concentrated on target of pesticide at molecular letve by bioinformatics. He started his post-doctor studies in Wuhan Institute of Virology, Chinese Academy of Sciences after graduation in 2020.	
学位论文 Thesis for Degree	学士论文题目：辽宁省黄瓜靶斑病菌对常用杀菌剂的敏感性 (导师：祁之秋副教授)。 B.S. Dissertation: Cucumber target leaf spot pathogen susceptibility to commonly used fungicides in Liaoning Province (Directed by associate professor Qi zhiqiu). 博士论文题目：基于转录组数据对植物免疫作用机制的研究 (导师：范志金教授)。 PH D. Dissertation: Studies of the mechanisms of plant immunity based on transcriptomic data (Directed by Professor Fan Zhijin).	
获奖情况 Awards	2011-2014 沈阳农业大学励志奖学金 Shenyang Agricultural University National Motivational Scholarship. 2019 年度万香奖学金 Wanxiang scholarship	
联系方式	<a href="mailto:zhangnailou@foxmail.com">zhangnailou@foxmail.com</a>	
<b>郭晓凤 (2120140708 and 1120160266) (2014 级硕士生, 2016 级 2+3 直博生, 2019 年 7 月毕业) Guo Xiaofeng</b>		
简历 Curriculum Vitae	1991 年 10 月生于湖南省郴州市，汉族，2014 年 7 月毕业于四川师范大学化学与材料科学学院，获理学学士学位。2014 年 9 月免试推荐到南开大学元素有机化学国家重点实验室范志金教授课题组攻读有机化学硕士研究生。2016 年 3-8 月前往俄亥俄州立大学综合癌症中心在余建华教授的联合指导下开展癌症免疫治疗的基础研究，2016 年 9 月 2+3 进入南开大学元素有机化学国家重点实验室范志金教授课题组攻读有机化学博士学位，从事新型药物分子的设计合成和构效关系的研	


	<p>究；毕业后前往湖南大学开展植物激素相关的博士后研究。</p> <p>Guo Xiaofeng was born in Chenzhou, Hunan Province, China in October 1991, Han Nationality. She got her bachelor degree of science from Sichuan Normal University in July 2014. Recommended to State Key Laboratory of Elemento-Organic Chemistry, Nankai University for master degree study majoring in organic chemistry in September 2014. From March to August, 2016, she conducted basic studies on immunotherapy for cancer collaboratively under the co-directed by Professor Jianhua Yu at Comprehensive Cancer Center, Ohio State University for six months. From September 2016 on, she got chance for further study as a PH D student at State Key Laboratory of Element-Organic Chemistry, Nankai University, majoring in organic chemistry under the direction of professor Fan Zhijin by 2+3 mode. Her studies concentrated on molecular design, synthesis and structure and activity relationship of novel drug and pesticide leads. after graduation in 2020, she started her plant hormone related post-doctor studies in Hunan University.</p>
学位论文 Thesis for Degree	<p>学士论文题目：可食性胶原蛋白食品包装膜的制备 (导师：杨华 副教授)。 B.S. Dissertation: Preparation of edible collagen food-packaging films (Directed by Associate Professor Yang Hua).</p> <p>博士论文题目：新型噻唑衍生物的合理设计、合成与生物活性研究 (导师：范志金教授)。 PH D. Dissertation: Rational design, synthesis and biological activity of novel thiazole derivatives (Directed by Professor Fan Zhijin).</p>
获奖情况 Awards	<p>2010-2011 第一学期四川师范大学一等奖学金; 2010-2011 第二学期四川师范大学二等奖学金; 2010-2011 学年度国家励志奖学金; The first semester of Sichuan Normal University first-class scholarship; The second semester of Sichuan Normal University second-class scholarship; 2010-2011 national motivational scholarships.</p> <p>2011-2012 第一学期四川师范大学三等奖学金; 2011-2012 第二学期四川师范大学社会工作奖学金; 2011-2012 第二学期四川师范大学优秀班干部; The first semester of Sichuan Normal University third-class scholarship; The second semester of Sichuan Normal University social work scholarship; The second semester of 2011-2012 Sichuan Normal University outstanding class cadre.</p> <p>2012-2013 第一学期四川师范大学二等奖学金; 2012-2013 第一学期四川师范大学三好学生; 2012-2013 第二学期四川师范大学一等奖学金; 2012-2013 第二学期四川师范大学优秀共青团员; 2012-2013 学年度国家励志奖学金; 参加四川师范大学的第八批科研创新, 项目《胶原蛋白创伤修复膜的制备》获得校级 A 类。The first semester of Sichuan Normal University second-class scholarship; The first semester of Sichuan Normal University excellent students; The second semester of Sichuan Normal University first-class scholarship; Excellent Chinese Communist Youth League Member; National motivational scholarships; Project "the preparation of collagen wound-healing membranes " won class A prize.</p> <p>2015.10 金发科技三等奖学金; Kingfa Scientific and Technological Scholarship.</p>
联系方式	<a href="mailto:875776870@qq.com">875776870@qq.com</a>
<b>陈 来 (2120130897 and 1120150310) (Grade 2013 级硕士, 2+3 直博, 2018 年 6 月毕业) CHEN Lai</b>	

简历 Curriculum Vitae	1988年12月生于江苏省连云港市，汉族，中共党员，2013年7月毕业于山东农业大学植物保护学院，获工学学士学位，2013年9月考入南开大学元素有机化学国家重点实验室攻读农药学硕士学位，2015年9月进入南开大学元素有机化学国家重点实验室攻读农药学博士学位，主要开展基于诱导抗病活性的新农药创制工作。2018年7月获得理学博士学位。2018年9月以青年才俊人才被引进到河北农业	
	业大学植物保护学院作为副教授开展新农药创制研究工作。2019年他的博士学位论文获南开大学优秀博士学位。 Chen Lai, born in Lianyungang, Jiangsu Province, China in December 1988, Han Nationality, Chinese Communist Party, got his bachelor degree of engineering from Shandong Agricultural University in July 2013. From September 2013 on, he was pursuing further study for master degree at State Key Laboratory of Element-Organic Chemistry, Nankai University major in pesticide science under the direction of Professor Fan Zhijin. From September 2015 on, he was pursuing further study for PHD at State Key Laboratory of Element-Organic Chemistry, Nankai University major in pesticide science under the direction of Professor Fan Zhijin. The main studies concentrated on the systemic acquired resistance based novel pesticide development, and got the degree of doctor science in July 2018. Since September 2018, he was introduced as a Talented Youth working at the Plant Protection College of Hebei Agricultural University for novel pesticide development under the position of associate professor.	
<p>中图分类号：          学校代码：  10055 UDC：                  密级：      公开</p> <p style="text-align: center;"><b>南开大学</b> <b>博士学位论文</b></p> <p style="text-align: center;">具有诱导抗病活性的杀菌剂先导优化 及生物活性研究</p> <p style="text-align: center;">Studies on the Systemic Acquired Resistance Based Fungicidal Lead Optimization and Their Biological Activity</p> <p>论文作者 <u>陈来</u> 指导教师 <u>范志金</u> 教授 申请学位 <u>理学博士</u> 培养单位 <u>化学学院</u> 学科专业 <u>农药学</u> 研究方向 <u>新农药创制</u> 答辩委员会主席 <u>池永贵</u> 评阅人 <u>杨松,杨新玲,董金皋,向文胜,王文明</u></p> <p style="text-align: center;">南开大学研究生院 二〇一八年五月</p>	   <p style="text-align: center;"><i>J. Agric. Food Chem.</i> <b>2017</b>, 65, 745-751; <i>RSC Adv.</i>, <b>2017</b>, 7, 3145-3151; <i>J. Agric. Food Chem.</i> <b>2018</b>, 66, 7319-7327; <i>Chin. J. Chem.</i>, <b>2018</b>, 36, 731-736; <i>J. Agric. Food Chem.</i>, <b>2019</b>, 67(45): 12357-12365.</p>	
学位论文 Thesis for	学士论文题目：两种有机磷类除草剂对斑马鱼急性毒性的评价 (导师：夏晓明 副教授)。 B.S. Dissertation: The Acute toxicity evaluation of two kinds of organic phosphorus herbicide	

Degree	(Directed by Associate Professor Xia Xiaoming). 博士论文题目：具有诱导抗病活性的杀菌剂先导优化及生物活性研究 (导师：范志金 教授)。 Ph. D. Dissertation: Studies on the systemic acquired resistance based fungicidal lead Optimization and their biological activity (Directed by Professor Fan Zhijin).	
获奖情况 Awards	2009-2010 山东农业大学三等奖学金; 2010-2011 山东农业大学三等奖学金; 2011-2012 山东农业大学一等奖学金、国家励志奖学金; 2012-2013 山东农业大学三好学生、山东省级优秀毕业生。 2009-2010 Shandong Agricultural University third-class scholarship; 2010-2011 Shandong Agricultural University third-class scholarship; 2011-2012 Shandong Agricultural University first-class scholarship and National Encouragement scholarship; 2012-2013 Shandong Agricultural University excellent students and Shandong provincial outstanding graduates. 2014-2015 南开大学万香会议奖学金; 2016-2017 南开大学万香优秀学生奖学金; 2018 南开大学一等奖学金; 天津市“挑战杯”比赛一等奖; 2019 获 2018 届南开大学优秀博士学位论文。 2014-2015 NanKai University WanXiang scholarship; 2016-2017 NanKai University WanXiang excellent students scholarship; 2018 First-Class Scholarship of Nankai University; First Prize of Tianjin "Challenge Cup" Competition; 2019 Awarded the 2018 Excellent Doctoral Dissertation of Nankai University.	
联系方式	<a href="mailto:chenlai@hebau.edu.cn">chenlai@hebau.edu.cn</a>	
<b>朱玉洁 (2120130757 and 1120150311) (Grade 2013 级硕士, 2+3 直博, 2018 年 6 月毕业) Yujie Zhu</b>		
简历 Curriculum Vitae	<p>朱玉洁, 1990 年 7 月生于河南省信阳市, 汉族, 中共党员。2013 年 7 月毕业于信阳师范学院, 获理学学士学位。2013 年 9 月加入南开大学元素有机化学国家重点实验室范志金教授课题组, 主要从事生物活性小分子及天然产物类似物的设计, 合成及其生物活性研究, 2018 年 6 月获理学博士学位。随后于 2018 年 7 月进入上海大学超分子与催化研究中心, 加入 Julius Rebek 教授及于洋教授课题组从事超分子主客体分子识别、分子自组装、受限空间内的客体分子行为研究、新型水溶性功能化大环主体的合成及其催化性质研究。</p> <p>Yujie Zhu was born in July 1990 in Xinyang, Henan Province, China. She received her B.S. degree from Xinyang Normal University in 2013, and then she entered State Key Laboratory of Elemento-Organic Chemistry, Nankai University, after five years, she obtained her PhD degree in organic chemistry. Her PhD work mainly focused on the design, synthesis, and bioactivity research of novel bioactive small molecules and analogues of natural products. Afterwards, she continued her post-doctor research collaborated with Pro. Julius Rebek, Jr. and Pro. Yang Yu at Shanghai University and started a new research field Supramolecular Chemistry. Her current research interests include supramolecular recognition, self-assembling systems and molecular behavior in small spaces, synthesis of new water-soluble functionalized cavitand and their catalytic properties.</p>	
学位论文 Thesis for Degree	学士论文题目：开展硫酸改性膨润土的制备、表征及催化酯化反应研究 (导师：朱建君教授)。 B.S. Dissertation: Sulfuric acid modified bentonite preparation, characterization and the reaction of research catalytic esterification. (Directed by Professor Jianjun Zhu). 博士论文题目：基于噻唑嘧啶和稠三环的分子设计合成和农药生物活性研究 (导师：范志金教授)。 M.S. Dissertation: Molecular design, synthesis and biological activity of thiazole-containing	

	piperidines and fused tricycles (Directed by Professor Zhijin Fan).	
获奖情况 Awards	2017.09-2018.06: 南开大学凯莱英奖学金; Nankai University Kailaiying Scholarship. 2016.09-2017.10: 南开大学万香优秀奖学金; Nankai University Fragrance Excellent Scholarship. 2014.09-2015.10: 南开大学万香优秀奖奖学金; Nankai University fragrance excellent scholarship. 2012.09-2013.10: 信阳师范学院二等奖学金; Xinyang Normal University 2nd-class scholarship. 2011.09-2012.10: 信阳师范学院励志奖学金; Xinyang Normal University National motivational Scholarship. 2010.09-2011.10: 信阳师范学院励志奖学金; Xinyang Normal University National Motivational Scholarship.	
联系方式	邮箱: zyj40008764@shu.edu.cn ; 手机号: 18516124169	
<b>霍静倩 (20141130038) (2014 级) HUO Jingqian</b> <b>南开大学与河北农业大学联合培养</b> <b>Jointly trained by Agricultural University of Hebei and Nankai University</b>		
简历 Curriculum Vitae	1986 年 10 月生于河北省邢台市, 汉族, 中共党员。 分别于 2011 年 7 月, 2014 年 7 月和 2017 年 7 月在河北农业大学植物保护学院获农学学士学位, 农学硕士学位和农学博士学位; 2015 年 7 月-2016 年 9 月在南开大学元素有机化学国家重点实验室从事农药化学的学习和研究, 合作指导教师: 范志金教授。2017 年毕业后到加州大学戴维斯分校博士后工作 2 年, 合作导师 Bruce D.	
	Hammock 教授, 2019 年以青年才俊被人才引进到河北农业大学副教授岗位工作。 HuoJingqian was born in Xingtai, Hebei Province in October 1986, Han Nationality, and Chinese Communist Party Member. Studied in Agricultural University of Hebei from 2007 to 2017 and received the Bachelor degree of Science in Agriculture, Master degree of Science in Agriculture and doctor degree of Science in Agriculture in July 2011, July 2014 and July 2017 respectively. From July 2015 to September 2016, she came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University for collaboration studies on the novel pesticide development under the co-direction of Professor Fan Zhijin. After graduation in 2017, she moved to UC Davis for 2 years of Post Doctor working with the guidance of professor Bruce D. Hammock, from 2019 on, she was introduced as a Talented Youth working for Hebei Agricultural University at associate professor.	
学位论文 Thesis for Degree	学士论文题目: 田旋花对草甘膦的耐药性研究 (导师: 张金林教授)。 B.S. Dissertation: The resistance study of <i>Convolvulus arvensis</i> to glyphosate (Directed by Professor Zhang Jinlin). 硕士论文题目: 黄顶菊中除草活性物质分离鉴定及作用机理研究 (导师: 张金林教授)。 M.S. Dissertation: Isolation, structural identification and herbicidal action mechanism of component from <i>Flaveria bident</i> (L.) Kuntze (Directed by Professor Zhang Jinlin). 博士论文题目: 新型杂环化合物的合成、表征及生物活性 (导师: 张金林教授, 范志金教授)。 Ph. D. Dissertation: Synthesis, characterization and biological activity of heterocyclic compounds (Directed by Professor Zhang Jinlin and Fan Zhijin).	
获奖情况 Awards	2012-2013 国家奖学金; 2015-2016 国家奖学金。 2012-2013 National Scholarship; 2015-2016 National Scholarship.	
联系方式	huojingqian@163.com	

**毛武涛 (Grade 2009 级, 2013 年 7 月毕业) MAO Wutao**  
**天津大学-南开大学联合培养 Jointly trained by Tianjin University and Nankai University**

简历 Curriculum Vitae	<p>1981 年 11 月生于山东省济宁市, 汉族, 中共党员。分别于 2004 年 7 月和 2007 年 7 月在曲阜师范大学化学学院获理学学士学位和无机化学硕士学位; 2010 年 9 月考入天津大学药物科学与技术学院, 攻读博士学位; 2011 年 10 月进入南开大学元素有机化学国家重点实验室, 从事农药化学的学习和研究, 合作指导教师: 范志金教授。2013 年 7 月获理学博士学位后分配到南阳师范学院任教。</p>	
	<p>Wutao Mao was born in Jining Shandong Province, China in Nov. 1981. He got his bachelor and master degree of science from College of Chemistry Qufu Normal University in July 2004 and July 2007 respectively. From Sep. 2010 on, he studied for PH D at School of Science, Tianjin University. Came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University for collaboration studies on the novel pesticide development under the co-direction of Professor Fan Zhijin 2011 October for two years. From July 2013 on, he worked as a docent in Nanyang Normal University.</p>	
学位论文 Thesis for Degree	<p>博士论文: 具诱导抗病活性的农药先导优化及生物活性 (导师: 崔岫教授, 范志金教授)          Ph. D. Dissertation: Synthesis and transformation of 1,2,3-thiadiazole derivatives (Directed by Professor Shen Cui and Zhijin Fan Professor).</p>	
获奖情况 Awards	无	
联系方式	<a href="mailto:maowutao@126.com">maowutao@126.com</a>	


**Tatiana A. Kalinina (Grade 2009 级)**  
**Jointly trained by The Ural Federal University Named After**  
**The First President of Russia B. N. Yeltsin and Nankai University**

简历 Curriculum Vitae	<p>Tatiana A. Kalinina was born in Ekaterinburg Sverdlovsk Region, Russia in July 1987, Russian Nationality, got her master degree of science from The Ural Federal University Named After The First President of Russia B. N. Yeltsin July 2009. From 2009 on, she studied for Ph degree at Department of Technology for Organic Synthesis, The Ural Federal University Named After The First President of Russia B. N. Yeltsin major in organic chemistry. Came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University for collaboration studies on the novel pesticide development under the</p>	
	<p>co-guidance of Professor Fan Zhijin 2011 October for one year by the supporting of Scholarship of Russian President. She now works in The Ural Federal University as a lecture.</p>	
学位论文 Thesis for Degree	<p>Ph. D. Dissertation: Synthesis and transformation of 1,2,3-thiadiazole derivatives (Directed by Professor Morzherin Yuri Yu and Zhijin Fan).</p>	
获奖情况 Awards	<p>2009: Grant of Foundation for Business Development.          2011: The grant of the Russian Federation for studying in foreign higher educational institutions and research organizations in 2011/2012 academic year.</p>	
联系方式	<a href="mailto:tasika06@mail.ru">tasika06@mail.ru</a>	

<b>王守信 (1008213008) (2008 级) WANG Shouxin</b> <b>南开大学与天津大学联合培养; Jointly trained by Tianjin University and Nankai University</b>		
简历 Curriculum Vitae	<p>1982 年 4 月生于山东省济宁市，汉族，中共党员。分别于 2005 年 7 月和 2008 年 7 月在曲阜师范大学化学学院获理学学士学位和有机化学硕士学位；2008 年 9 月考入天津大学药物科学与技术学院，攻读博士学位；2009 年 9 月进入南开大学元素有机化学国家重点实验室，从事农药化学的学习和研究，合作指导教师：范志金教授。2011 年 7 月获工学博士学位后到济宁医学院任教。</p>	
<p>Wang Shouxin was born in Jining, Shandong Province in April 1982, Han Nationality, and Chinese Communist Party Member. Studied in Qufu Normal University from 2001 to 2008 and received the Bachelor degree of Chemistry and Master degree major in Organic Chemistry in July 2005 and July 2008 respectively. From September 2008 on, he enrolled in The School of Pharmaceutical Science and Technology, Tianjin University for doctor degree, and came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University in September 2009 for collaboration studies on the novel pesticide development under the co-guidance of Professor Fan Zhijin. After getting his doctor degree of engineering in July 2011, he went to Jining Medical University as a teacher.</p>		
学位论文 Thesis for Degree	<p>学士论文题目：四氟邻苯二甲酸的合成及其与金属铜 (II) 配合物的结构表征 (导师：怀其勇副教授)。            B.S. Dissertation: The synthesis and characterization of 3, 4, 5, 6-tetrafluorophthalic acid and its copper complexes (Directed by Associate Professor Huai Qiyong).</p> <p>硕士论文题目：酰亚胺酸及有机锡羧酸酯的微波合成、表征及性质研究 (导师：田来进教授)。            M.S. Dissertation: Microwave synthesis, characterization and properties study of imino acids and organotin carboxylate (Directed by Professor Tian Laijin).</p> <p>博士论文题目：1,2,3-噻二唑衍生物的合成、表征及生物活性 (导师：姜申德和范志金教授)。            Ph. D. Dissertation: Synthesis, characterization and biological activity of 1,2,3-thiadiazole derivatives (Directed by Professor Jiang Shende and Fan Zhijin).</p>	
获奖情况 Awards	<p>2007-2008 曲阜师范大学优秀研究生; 2007-2008 曲阜师范大学优秀研究生干部。            2007-2008 Excellent Graduate Student of Qufu Normal University; 2007-2008 Excellent Postgraduate Cadre of Qufu Normal University.</p>	
联系方式	<a href="mailto:shouxinwang@126.com">shouxinwang@126.com</a>	
<b>已毕业硕士研究生 (MASTER STUDENTS GRADUATED)</b>		
<b>周爽 (2120170836) (2017 级) Zhou Shuang</b>		
简历 Curriculum Vitae	<p>1994 年 8 月生于四川省彭州市，汉族，2017 年 6 月毕业于四川师范大学化学与材料科学学院，获理学学士学位，2017 年 9 月进入南开大学元素有机化学国家重点实验室，从事农药学的研究，主要开展基于植物免疫激活的新农药创制工作。</p> <p>Zhou Shuang was born in August 1994 in pengzhou, sichuan Province, Han Nationality. In June 2017, she graduated from school of chemistry and</p>	

	materials science of Sichuan Normal University with a Bachelor of Science degree. In September 2017, she entered State Key Laboratory of Elemento-Organic Chemistry, Nankai University as a master student major in Organic Chemistry conducting studies on the pesticide science under the direction of Professor Fan Zhijin, her main studies concentrated on the novel plant elicitor based pesticide development
学位论文 Thesis for Degree	硕士论文题目: 异噻唑联杂环衍生物的分子设计与合成及生物活性研究 (导师: 范志金教授)。 M.S. Dissertation: Design, Synthesis and Biological Activity of Isothiazolo-heterocyclic Derivatives (Directed by Professor Fan Zhijin).
获奖情况 Awards	2015-2016 国家励志奖学金; National Inspirational Scholarship; 2014-2015 国家励志奖学金; National Inspirational Scholarship; 2015-2016 学习一等奖学金; First class scholarship. 2018-2019 南开大学优秀学生干部荣誉称号; Honorary title of Excellent Student Cadre of Nankai University.
联系方式	<a href="mailto:1126507276@qq.com">1126507276@qq.com</a>

**于斌 (2120160807) (2016 级) Yu Bin**

简历 Curriculum Vitae	<p>1994 年 4 月生于山东省济南市, 汉族, 2016 年 7 月毕业于山东农业大学, 获工学学士学位, 2016 年 9 月考入南开大学元素有机化学国家重点实验室, 从事新农药创制的研究, 主要开展基于吡唑-芳基结构的新农药的创制工作。2019 年 6 月获理学硕士学位。</p> <p>Yu Bin was born in Jinan, Shandong Province, China in August 1994, Han Nationality, and got his bachelor degree of engineering from Shandong Agricultural University in July 2012. From September 2016 on, pursuing his further study for master degree at State Key Laboratory of Elemento-Organic Chemistry, Nankai University major in pesticide</p>	
	science under the direction of Professor Fan Zhijin, the main studies concentrated on pyrazole based novel pesticide development. He got his master degree of science in June 2019.	
学位论文 Thesis for Degree	<p>学士论文题目: 3-(4-甲基-1,2,3-噻二唑)-6-三氯甲基-1,2,4-均三唑并[3,4-b]-1,3,4-噻二唑合成工艺的研究 (导师: 刘峰教授)。 B.S. Dissertation: Study on synthesis technology of 3-(4-methyl-1,2,3-thiadiazole)-6-trichloromethyl-1,2,4-triazolo-[3,4-b]-thiadiazole (Directed by Professor Liu Feng).</p> <p>硕士论文题目: 新型吡唑类衍生物的合理设计合成及杀菌活性研究 (导师: 范志金教授)。 M.S. Dissertation: Rational Design, Synthesis and Fungicidal Activity of Novel Pyrazole Derivatives (Directed by Professor Fan Zhijin).</p>	
获奖情况 Awards	2012-2015 年度连续三年获得山东农业大学三等优秀学生奖学金; Third-Class Outstanding Student Scholarship of Shandong Agricultural University for 3 years. 2015-2016 山东农业大学优秀毕业生; Outstanding Graduate of Shandong Agricultural University	
联系方式	<a href="mailto:yubin@mail.nankai.edu.cn">yubin@mail.nankai.edu.cn</a>	

**吴启凡 (2120160841) (2016 级) Wu Qifan**

简历 Curriculum Vitae	<p>1994年9月生于江西省宜春市，汉族，中共党员，2011年9月进入河南工业大学材料科学与工程学院主修高分子材料，并于2015年7月获得工学学士学位。2016年9月进入南开大学元素有机化学国家重点实验室，在范志金老师课题组从事有机化学的研究，并于2019年6月获得工学硕士学位。2019年9月进入南开大学化学学院攻读博士学位，导师轩维民研究员。</p>	
	<p>Wu Qifan was born in September 1994 in Yichun city of Jiangxi Province, P. R. China, Han Nationality, Chinese Communist Party Member. He enrolled into the College of Material Science &amp; Engineering of Henan University of Technology majoring in polymer materials in September 2011, and he got the bachelor degree of Engineering in July 2015. From September 2016 on, he entered into State Key Laboratory of Elemento-Organic Chemistry, Nankai University as master student in Fan zhijin group undertaking studies in organic chemistry, and got the master of engineering in June 2019. Nankai University for his PH D studies major in chemical biology under the direction of Professor Weimin Xuan.</p>	
学位论文 Thesis for Degree	<p>学士学位论文题目：熔融缩聚法合成 PLA (导师：郑红娟副教授)。 B.S. Dissertation: Synthesis of poly (lactic acid) via direct melt polycondensation (Directed by associate professor Zheng Hongjuan).</p> <p>硕士论文题目：新型噻唑啉啶类杀菌剂的合理分子设计、合成和生物活性及其作用靶标的研究 (导师：范志金教授)。 M.S. Dissertation: Studies on the rational molecular design, synthesis, biological activity of novel piperidinylthiazole fungicide and its target (Directed by professor Fan Zhijin).</p>	
获奖情况 Awards	<p>2012-2013 国家励志奖学金；河南工业大学三好学生。2013-2014"第一届全国大学生高分子材料创新创业大赛"银奖；金龙鱼优秀学生奖学金。2014-2015 国家励志奖学金；河南省优秀应届毕业生。2018-2019 南开大学凯莱英奖学金。</p> <p>2012-2013 National Endeavor Scholarship; Merit student of Henan University of Technology. 2013-2014 Silver award of "The First Chinese Polymer Material Innovation &amp; Entrepreneurship Contest for College Students"; Arawana Excellent Student Scholarship. 2014-2015 National Endeavor Scholarship; Outstanding Graduates of Henan Province. 2018-2019 Kailaiying Scholarship of Nankai University.</p>	
联系方式	<p><a href="mailto:wuqf@mail.nankai.edu.cn">wuqf@mail.nankai.edu.cn</a></p>	
<b>王海霞 (2120150669) (2015 级) Wang Haixia</b>		
简历 Curriculum Vitae	<p>1989年10月生于山东省济南市，汉族，2014年7月毕业于山东大学(威海)，获理学学士学位，2015年9月考入南开大学元素有机化学国家重点实验室，从事有机化学的研究，主要开展基于噻唑、异噻唑结构的新农药的创制工作。2018年6月获理学硕士学位，导师范志金。</p> <p>Wang Hai-xia was born in Jinan, Shandong Province, China in October 1989, Han Nationality,</p>	
	<p>Chinese Communist Youth League Member, and got her bachelor degree of science from Shandong University at Weihai in July 2014. From September 2015 on, Pursuing further study for master degree at State Key Laboratory of Elemento-Organic Chemistry, Nankai University major in organic chemistry under the direction of Professor Fan Zhijin, the main studies concentrated on</p>	

	thiazole based novel pesticide development.	
学位论文 Thesis for Degree	<p>学士论文题目：甲苯达唑分子印迹聚合物的制备及其吸附性能研究 (导师：连子如讲师)。 M.S. Dissertation: Preparation of Mebendazole Molecularly Imprinted Polymer and Its Adsorption Properties (Directed by instructor Lian Zi-ru).</p> <p>硕士论文题目：含氮、硫五元杂环衍生物的分子设计、合成及生物活性研究 (导师：范志金教授)。 M.S. Dissertation: Design, Synthesis and Biological Activity of Five-membered Nitrogen and Sulfur Containing Heterocyclic Derivatives (Directed by Professor Fan Zhijin).</p>	
获奖情况 Awards	<p>2012-04 山东大学寒假社会实践二等奖; Second Prize of Shandong University Winter Social Practice.</p> <p>2013-04 山东大学科技立项三等奖; Third Prize of Shandong University Science and Technology Project.</p>	
联系方式	<a href="mailto:wanghaixia1023@163.com">wanghaixia1023@163.com</a> ; 17824835661.	
<p><b>时佳妹 (20142130291) (2014 级, 2017 年 7 月毕业) Shi Jiamei</b> 南开大学与河北农业大学联合培养 <b>Jointly trained by Hebei Agricultural University and Nankai University</b></p>		
简历 Curriculum Vitae	<p>1992 年 2 月生于河北省保定市, 汉族, 2014 年 6 月毕业于海南大学应用科技学院, 获工学学士学位, 同年考入河北农业大学, 在张金林教授的指导下攻读硕士学位。2015 年 9 月来到南开大学元素有机化学国家重点实验室从事有机化学的研究, 开展新农药创制工作的研究工作。合作指导教师: 范志金教授。2017 年 6 月获农学硕士学位。</p> <p>Jiamei Shi was born in Baoding, Hebei Province, China in February 1992, Han Nationality, she got her bachelor degree of engineering from College of Applied Science and</p>	
	<p>Technology, Hainan University in June 2014. And she enrolled into Hebei Agricultural University for master degree study under the direction of professor Jinlin Zhang. In September 2012, she came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University for collaboration studies on novel pesticide development under the co-guidance of Professor Fan Zhijin. She got her master degree of agronomy in June 2017.</p>	
学位论文 Thesis for Degree	<p>学士学位论文题目：斜纹夜蛾侧沟茧蜂对斜纹夜蛾幼虫行为的影响 (导师：林江教授)。 B.S. Dissertation: Effects on <i>Microplitis prodeniae</i> on the behaviors larvae of <i>Prodenia litura</i> (Directed by Jiang Lin).</p> <p>硕士学位论文题目：几种新颖结构的除草活性物质合成及生物活性(导师：张金林教授) M.S. Dissertation: Synthesis and bioactivity of several active novel structures (Directed by Professor Jinlin Zhang)</p>	
获奖情况 Awards	2016/11 硕士研究生国家奖学金; National Scholarship for master student	
联系方式	<a href="mailto:sjmickey@126.com">sjmickey@126.com</a> ; 0312-7528575 (Laboratory)	
<p><b>钱晓琳 (2120140673) (2014 级) Qian Xiaolin</b></p>		

简历 Curriculum Vitae	<p>1991年2月生于湖北省荆门市，汉族，中共党员，2014年7月毕业于湖北师范大学化学化工学院，获理学学士学位，2014年9月考入南开大学元素有机化学国家重点实验室，从事有机化学的研究，主要开展基于哌啶结构的新型抗植物病毒农用化学品的创制研究工作；并于2017年6月获得理学硕士学位。2017年8月进入美国密西西比州立大学化学系攻读博士学位，导师崔歆助理教授。</p>	
	<p>Qian Xiao-lin was born in February 1991 in Jingmen, Hubei Province, P. R. China, Han Nationality, Chinese Communist Party Member; she got her bachelor degree of science from Hubei Normal University in July 2014. From September 2012 on, she enrolled into State Key Laboratory of Elemento-Organic Chemistry, Nankai University as a master student major in organic chemistry under the direction of Professor Fan Zhijin, her main studies concentrated on piperidine based novel antiplant virus agrichemical development. And she got the master degree in June 2017. In August 2017, she started her Ph.D programs in chemistry department of Mississippi State University, USA major in organometallic chemistry under the direction of Assistant professor Dr. Xin Cui.</p>	
学位论文 Thesis for Degree	<p>学士学位论文题目：Pb<sup>2+</sup>印迹改性壳聚糖交联 SiO<sub>2</sub> 纳米材料的制备及其吸附性能研究 (导师：孙文兵副教授)。 B.S. Dissertation: The preparation and adsorption property of Pb<sup>2+</sup>-imprinting modified chitosan grafted SiO<sub>2</sub> nano-material (Directed by associate professor Sun Wenbing). 硕士论文题目：基于哌啶亚结构的新型抗植物病毒剂的创制 (导师：范志金教授)。 M.S. Dissertation: Piperidine based novel anti-virus agent development (Directed by Professor Fan Zhijin).</p>	
获奖情况 Awards	<p>2010-2011 湖北师范大学学习优秀一等奖学金；2011-2012 湖北师范大学学习优秀一等奖学金，国家励志奖学金；2012-2013 湖北师范大学学习优秀一等奖学金。 2010-2011 Hubei Normal University, Firth-Class of Excellent Learning Scholarship; 2011-2012 Hubei Normal University, First-class Excellent Learning Scholarship, National Motivational Scholarship; 2012-2013 Hubei Normal University, Firth-Class of Excellent Learning Scholarship. 2015-2016 南开大学万香优秀奖奖学金；Wan Xiang Merit-based Sholarship in Nankai University.</p>	
联系方式	<p><a href="mailto:xq25@msstate.edu">xq25@msstate.edu</a>; <a href="mailto:xlqian108@gmail.com">xlqian108@gmail.com</a></p>	
<p><b>马刘勇 (2120140670) (2014 级) MA Liuyong</b></p>		
简历 Curriculum Vitae	<p>1988年6月生于河南省商丘市，汉族，2013年6月毕业于信阳师范学院，获理学学士学位，2014年9月考入南开大学元素有机化学国家重点实验室，从事有机化学的研究，主要开展基于噻二唑和异噻唑结构的新农药的创制工作。2017年6月获理学硕士学位，2017年9月起从事中学化学教学工作。</p> <p>Ma Liuyong was born in shangqiu, Henan Province, P.R.China in March 1989, Han Nationality, Chinese Communist Party member, and got his bachelor degree of science from Xinyang normal University in June 2013. From September 2014 on, he pursued further study for master</p>	
	<p>degree at State Key Laboratory of Elemento-Organic Chemistry, Nankai University major in organic chemistry under the direction of Professor Fan Zhijin, the main studies concentrated on thiadiazole and isothiazole based novel pesticide development. After getting his master degree of</p>	


	science in June 2017, he worked as a chemistry teacher in a middle school since September 2017.
学位论文 Thesis for Degree	学士论文题目：季铵盐型双子表面活性剂的合成及表征(导师：张玉霞教授)。 B.S. Dissertation: Synthesis and characterization of bis-quaternary ammonium salt surfactant (Directed by Professor Zhang Yuxia). 硕士论文题目：新型除草剂安全剂及杂环杀虫剂的先导优化和生物活性研究 (导师：范志金教授)。 M.S. Dissertation: Lead optimization of herbicide safener and heterocyclic insecticide and their biological activity (Directed by Professor Fan Zhijin).
获奖情况 Awards	2009-2010 信阳师范学院三等奖学金； Xinyang Normal University, third-class scholarship; 2016年10月 南开大学泰达·凯莱英奖学金； Taida·Kailaiying Scholarship of Nankai University.
联系方式	<a href="mailto:maliuyong2009@163.com">maliuyong2009@163.com</a>

**李风云 (2120120667) (2012 级) LI Fengyun**

简历 Curriculum Vitae	1989年3月生于河北省唐山市，汉族，2012年7月毕业于河北北方学院理学院，获理学学士学位，2012年9月考入南开大学元素有机化学国家重点实验室，从事有机化学的研究，主要开展基于噻唑结构的新农药的创制工作。2015年6月获理学硕士学位，2015年9月进入南开大学化学学院攻读博士学位，导师郭玮研究员。	
	Li Feng-yun was born in Hebei, Tangshan Province, China in March 1989, Han Nationality, Chinese Communist Youth League Member, and got her bachelor degree of science from Hebei North University in July 2012. From September 2012 on, Pursuing further study for master degree at State Key Laboratory of Elemento-Organic Chemistry, Nankai University major in organic chemistry under the direction of Professor Fan Zhijin, the main studies concentrated on thiazole based novel pesticide development. After getting her master degree of science in June 2015, she went to College of Chemistry, Nankai University for her PH D studies major in analytical chemistry under the direction of Professor Weiwei Guo.	
学位论文 Thesis for Degree	学士论文题目：席夫碱及其金属配合物的合成及性能研究进展 (导师：王昌青讲师)。 B.S. Dissertation: Research progress in synthesis, performance of Schiff Base and its metal complexes (Directed by instructor Wang Chang-qing). 硕士论文题目：新型噻唑类衍生物的设计合成及生物活性研究 (导师：范志金教授)。 M.S. Dissertation: Design, synthesis and biological activity of novel thiazole derivatives (Directed by Professor Fan Zhijin).	
获奖情况 Awards	2008-2009 河北北方学院二等奖学金，三好学生； Hebei North University, second-class scholarship, excellent students; 2009-2010 河北北方学院一等奖学金，国家励志奖学金； Hebei North University, first-class scholarship, National motivational scholarship. 2013年11月 南开大学一等奖学金； The First-Class Scholarship of Nankai University. 2014年10月 南开大学泰达·凯莱英奖学金； Taida·Kailaiying Scholarship of Nankai University.	
联系方式	<a href="mailto:lifengyun0523@mail.nankai.edu.cn">lifengyun0523@mail.nankai.edu.cn</a>	

**宗广宁 (2120120730) (2012 级) ZONG Guangning**


<p>简历 Curriculum Vitae</p>	<p>1988年8月生于山东省济宁市，汉族，2012年7月毕业于烟台大学化学化工学院，获理学学士学位，2012年9月考入南开大学元素有机化学国家重点实验室，师从范志金教授从事有机化学的研究，主要开展异噻唑类农药先导的优化和生物活性研究工作。。2015年6月获理学硕士学位，2015年9月进入南开大学药物化学国家重点实验室攻读博士学位并开展糖基化转移酶 (UGT) 的结构和功能与钙离子通道的结构生物学研究，导师王小强教授。</p> <p>ZongGuang-ning was born in Jining, Shangdong Province, China in August 1988, Han Nationality, and got his of science from Yantai University in July 2012. From September 2012 pursuing further study</p>	
<p>学位论文 Thesis for Degree</p>	<p>学士论文题目：叶绿素-a 衍生物 A 环和 E 环的结构修饰 (导师：王进军教授)。 B.S. Dissertation: Chemical Modification of Chlorophyll-a Derivatives with A and E Heterocycle (Directed by professor Wang Jin-jun).</p> <p>硕士论文题目：具有生物活性的 3,4-二氯异噻唑类衍生物的合成及生物活性研究 (导师：范志金教授)。 M.S. Dissertation: Synthesis and bioactivity of 3,4-dichloroisothiazole derivatives (Directed by Professor Fan Zhijin).</p>	
<p>获奖情况 Awards</p>	<p>2008-2009 烟台大学二等奖学金; 2009-2010 烟台大学三好学生奖学金; 2010-2011 烟台大学优秀共青团员; 2011-2012 烟台大学优秀毕业生。</p> <p>2008-2009 Yantai University, Second-Class Scholarship; 2009-2010 Yantai University, Excellent Students; 2010-2011 Yantai University, Excellent Chinese Communist Youth League Member; Excellent Graduate of Yantai University.</p> <p>2013年11月南开大学永旺奖学金; 2013年11月南开大学万香会议奖学金; 2013年11月南开大学万香优秀奖学金，2015年获南开大学优秀共产党员称号。</p> <p>2013.11 Yongwang Scholarship of Nankai University; 2013.11 Wanxiang Meeting Scholarship of Nankai University; 2010.11 Wanxiang Excellent Scholarship of Nankai University, 2015 ExellentCommonist Party Member of Nankai University</p>	
<p>联系方式</p>	<p><a href="mailto:zongguangning163@163.com.cn">zongguangning163@163.com.cn</a></p>	
<p><b>姬晓恬 (2120110655) (2011 级) JI Xiaotian</b></p>		
<p>简历 Curriculum Vitae</p>	<p>1989年10月生于新乡市，汉族，2011年7月毕业于洛阳师范学院化学化工学院，获理学学士学位，2011考入南开大学元素有机化学国家重点实验室，从事有机化学的研究，开展天然产物的衍生和新农药创制研究工作。2014年6月获理学硕士学位，2014年9月进入南开大学化学学院攻读博士学位，导师赵汉英教授。</p> <p>Ji Xiaotian was born in Xinxiang, Henan, China in October 1989, Han Nationality, Chinese Communist Party member; she got her bachelor degree of science from Luoyang Normal University in July 2011. From September 2011 on, pursuing further study for master degree at State Key Laboratory of Elemento-Organic Chemistry,</p>	

	Nankai University major in organic chemistry, the main studies concentrated on derivation of natural product and novel pesticide development. After getting her master degree of science in June 2014, she went to College of Chemistry, Nankai University for her PH D studies major in Material Chemistry under the direction of Professor Hanying Zhao.	
学位论文 Thesis for Degree	学士论文题目：新型 Calix-ex TTF 衍生物的合成 (导师：赵邦屯)。 B.S. Dissertation: Synthesis of novel Calix-ex TTF derivatives (Directed by Professor Zhao Bangtun). 硕士论文题目：新型木脂素衍生物的合成和生物活性研究 (导师：范志金教授)。 M.S. Dissertation: Studies on the synthesis and biological activity of novel lignan derivatives (Directed by Professor Fan Zhijin).	
获奖情况 Awards	2007-2008 洛阳师范学院一等奖学金; 2008-2009 洛阳师范学院三好学生; 2008-2009 洛阳师范学院优秀团员; 2009-2010 洛阳师范学院三好学生; 2009-2010 洛阳师范学院三等奖学金。 2007-2008 First-Class Scholarship of Luoyang Normal University; 2008-2009 three good student Luoyang Normal University; 2008-2009 Outstanding Chinese Communist Youth League Member of Luoyang Normal University; 2009-2010 Triple A Student of Luoyang Normal University; 2009-2010 Third-Class Scholarship of Luoyang Normal University. 2011-2012 万香优秀奖学金; 2012-1013 南开大学陈茹玉奖学金。 2011-2012 Wanxiang Excellent Scholarship; 2012-1013 Chen Ruyu Scholarship.	
联系方式	jixiaotian2008@yeah.net	
<b>李娟娟 (S20112511) (2011 级) LI Juanjuan</b> <b>南开大学与四川农业大学联合培养</b> <b>Jointly trained by Sichuan Agricultural University and Nankai University</b>		
简历 Curriculum Vitae	1989 年 2 月生于四川省雅安市，汉族，2011 年 6 月毕业于西华大学生物工程学院，获工学学士学位，同年考入四川农业大学，在黄云教授的指导下攻读硕士学位；于 2012 年 7 月来到南开大学元素有机化学国家重点实验室从事农药生物学的研究，开展新农药作用机制的研究；合作指导教师：范志金教授。2014 年 6 月获理学硕士学位后到成都新朝阳作物科学有限公司工作。 Li Juanjun was born in Ya'an, Sichuan Province, China in February 1989, Han Nationality, and got her bachelor degree of Engineering from Xihua University in July 2011. She studied for master degree in Sichuan Agricultural University under the direction	
	of professor Huang Yun. In July 2012, she came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University for collaboration studies on the mode of action of novel pesticide under the co-guidance of Professor Fan Zhijin. After getting her master degree of science in June 2014, she worked in Chengdu New Sun Crop Science Co. Ltd..	
学位论文 Thesis for Degree	学士学位论文题目：氨基酸在迈克尔加成反应中的催化作用 (导师：王周玉教授)。 B.S. Dissertation: The catalytic function of amino acids in the Michael addition reaction ( <b>Directed by Professor Wang Zhouyu</b> ). 硕士论文题目：含 N 含 S 高活性农用衍生物作用机制的初步研究 (导师：黄云教授，范志金教授)。 M.S. Dissertation: Preliminary studies on the mode of action of novel N and S containing pesticide derivatives (Directed by Professor Huang Yun and Fan Zhijin).	
获奖情况 Awards	2010/04 校级优秀青年志愿者；Youth Volunteers of School Outstanding.	

联系方式	<a href="mailto:lijuanjuanqw1@163.com">lijuanjuanqw1@163.com</a>	
<b>华学文 (2120110842) (2011 级硕士生, 2013 年 7 月免试直博, 导师: 李正名院士) HUA Xuewen</b>		
简历 Curriculum Vitae	<p>1988 年 10 月生于山东省泰安市, 汉族, 2011 年 7 月毕业于青岛农业大学化学与药学院药理学系, 获理学学士学位, 2011 年考入南开大学元素有机化学国家重点实验室, 从事农药的研究, 主要进行基于鱼尼丁受体的新农药创制研究。2013 年 7 月免试进入南开大学元素有机化学国家重点实验室攻读博士学位, 导师: 李正名教授。</p> <p>Hua Xuewen was born in Taian, Shandong in Oct. 1986, Han Nationality, a member of Communist Party of China, got his bachelor degree of science from Qingdao Agricultural University in July 2011. From</p>	
	September 2011 on, he conduct further study for master's degree at State Key Laboratory of Elemento-Organic Chemistry, Nankai University major in pesticide chemistry under the direction of Professor Fan Zhijin, the main studies concentrated on ryanodine receptor based novel pesticide development. From September 2013 on, he was recommended to State Key Laboratory of Elemento-Organic Chemistry, Nankai University for PH D studies major in pesticide chemistry free of entrance examination under the direction of professor Zhengming Li.	
学位论文 Thesis for Degree	<p>学士论文题目: 噻唑类衍生物农药中间体的合成研究 (导师: 孙家隆 副教授)。 B.S. Dissertation: Research on Synthesis of Pesticide Intermediates of Several Thiazole Derivatives (Directed by Associate Professor Sun Jialong).</p> <p>硕士论文题目: 硕博连读不要求论文。 M.S. Dissertation: Master-PH D study requested no master dissertation.</p>	
获奖情况 Awards	<p>2007-2008 获六和奖学金、一等专业奖学金、三好学生、优秀学生干部; 2008-2009 获国家励志奖学金、三等专业奖学金、三好学生、优秀学生干部; 2009-2010 获国家奖学金、一等专业奖学金、三好学生、优秀学生干部、十大优秀学生; 2010-2011 获瀚生优秀毕业生奖学金、二等专业奖学金、三好学生、优秀学生干部、五四青年标兵、优秀共产党员、省优秀毕业生。</p> <p>2007-2008 Liuhe Scholarship, First Professional Scholarship, Three Merit Student, Outstanding Student Leader; 2008-2009 The National Encouragement Scholarship, Third Class Professional Scholarship, Three Merit Student, Outstanding Student Leader; 2009-2010 National Scholarship, First Professional Scholarship, Three Merit Student, Outstanding Student Leader, Toppest Ten Excellent Student; 2010-2011 Hansheng Excellent Graduate Student Scholarship, Second Professional Scholarship, Three Merit Student, Outstanding Student Leader, Model of Fifty-four Youth, Excellent Member of the Communist Party of China, Provincial Outstanding Graduate.</p>	
联系方式	<a href="mailto:internet19881015@163.com">internet19881015@163.com</a>	
<b>房震 (2120100652) (2010 级) FNAG Zhen</b>		
简历 Curriculum Vitae	<p>1988 年 9 月生于山东省滨州市, 汉族, 2010 年 6 月毕业于临沂师范学院化学与资源环境学院, 获理学学士学位, 9 月考入南开大学元素有机化学国家重点实验室, 在范志金课题组进行硕士学习, 开展 1,2,3-噻二唑衍生物的设计合成和生物活性研究。2013 年 6 月获理学硕士学位, 2014 年 8 月到美国 Kentucky University 攻读博士学位。</p> <p>Fang Zhen was born in Binzhou, Shandong Province P.</p>	

	R. China in September 1988, Han Nationality, and got his bachelor degree of science from Linyi Normal University in June 2010. Then study for master degree in The group of Professor Fan Zhijin State Key Laboratory of Elemento-Organic Chemistry, Nankai University from Sept., 2010 on. His main studies concentrated on the synthesis and biological activity of 1,2,3-thiadiazole derivatives. After getting his master degree of science in June 2013, he went abroad for further PH D studies at Kentucky University major in organic chemistry from August 2014 on.
学位论文 Thesis for Degree	学士论文题目：4-羟基-3-己酮的合成研究 (导师：彭安顺教授) B.S. Dissertation: Synthesis of 4-hydroxy-3-hexanone ( <b>Directed</b> by Professor Peng Anshun) 硕士论文题目：1,2,3-噻二唑活性结构的农药分子设计、合成和生物活性研究 (导师：范志金教授)。 M.S. Dissertation: 1,2,3-Thiadiazole containing pesticide molecular designation and synthesis and biological activity (Directed by Professor Fan Zhijin).
获奖情况 Awards	2007 年，临沂师范学院奖学金; 2007 年，山东省计算机二级证书; 2008 年，CET-6 证书; 2008 年，临沂师范学院奖学金。 2007 Comprehensive Scholarship of Linyi Normal University; 2007 Two-level Certificate in Computer Technology of Shandong Province; 2008 Comprehensive Scholarship of Linyi Normal University; 2008 The English CET-6 Certificate. 2010 年南开大学三等奖学金; 2011 年万香会议论文奖学金。 2010 Third-class Scholarship in Nankai University; 2011 Wanxiang Meeting Scholarship in Nankai University.
联系方式	<a href="mailto:fangzhen.-007@163.com">fangzhen.-007@163.com</a>

**李岳东 (2120100810) (2010 级) LI Yuedong**

简历 Curriculum Vitae	<p>1987 年 8 月生于四川巴中市，汉族，2010 年 6 月毕业于海南大学制药工程系，获工学学士学位，同年考入南开大学。2010 年 7 月到南开大学元素有机化学国家重点实验室从事农药学研究，指导教师：范志金教授。2013 年 6 月获理学硕士学位后到利尔化学股份有限公司从事农药研究开发工作。</p> <p>Li Yuedong was born in Bazhong, Sichuan, China, in August 1987, Han Nationality, and got the bachelor degree of Engineering from Hainan University in July 2010. From then on, came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University, for master study on</p>	
	pesticide science under the direction of Professor Fan Zhijin. After getting his master degree of science in June 2013, he went to Lier Chemical Co. Ltd. for studies on the pesticide development.	
学位论文 Thesis for Degree	学士论文题目：喜树碱类化合物对斜纹夜蛾幼虫的生物活性 (导师：冯岗助理研究员)。 B.S. Dissertation: Camptothecin compounds on the biological activity of <i>Spodoptera litura</i> (Directed by Assistant researcher Feng Gang). 硕士论文题目：具诱导抗病活性的 1,2,3-噻二唑农药先导的优化 (导师：范志金教授)。 M.S. Dissertation: Systemic acquired resistance based 1,2,3-thiadiazole type of pesticide lead optimization (Directed by Professor Fan Zhijin).	
获奖情况 Awards	2008 学年和 2009 学年两次获得海南大学一等综合奖学金; 2008 学年获得计算机 C 程序设计二级证书; 2009 学年获得计算机数据库技术三级证书; 2008 学年获得英语 CET-6 证书。 In 2008 and 2009 The First-Class of Comprehensive Scholarship of Hainan University respectively; In 2008 The computer C Programming II Certificate; In 2009 The Three-Level Certificate in Computer Database Technology; In 2008 The English CET-6 Certificate. 2012 年南开大学研究生一等奖学金和万香会议奖学金; 2013 年，获得万香优秀奖奖学金。	

2012 First-class of Excellent Graduate Scholarship in Nankai University and Wanxiang Conference Scholarship of Nankai University; 2013 Wang Xiang Excellent Scholarship of Nankai University.

联系方式 [lyuedong@163.com](mailto:lyuedong@163.com)

**王盾 (S20102501) (2010 级) WANG Dun**  
南开大学与四川农业大学联合培养  
[Jointly trained by Sichuan Agricultural University and Nankai University]

简历 Curriculum Vitae  
1987 年 3 月生于山东省青岛市，汉族，2010 年 7 月毕业于德州学院农学系，获农学学士学位，同年考入四川农业大学，在黄云教授的指导下攻读硕士学位。2011 年 7 月到南开大学元素有机化学国家重点实验室从事农药学研究，合作指导教师：范志金教授。2013 年 6 月获农学硕士学位后到青岛赛尼赫管理咨询有限公司从事管理工作。

Wang Dun was born in Qingdao, Shandong Province, China in March 1987, Han Nationality, and got his bachelor degree of agronomy from Dezhou University in July 2010. And then, from



September 2010 on, pursuing further study for master's degree at Sichuan Agriculture University under the direction of professor Huang Yun. In July 2011, came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University for collaboration studies on the novel pesticide development under the co-guidance of Professor Fan Zhijin. After getting his master degree of agronomy in June 2013, he worked for Sainihe Management Consult Co. Ltd..

学位论文 Thesis for Degree  
学士论文题目：转基因玉米苗无菌生根条件优化 (导师：刘丽霞)。  
B.S. Dissertation: Optimization of the differentiation and rhizogenesis conditions for maize genetic transformation mediated (Directed by Liu Lixia).  
硕士论文题目：基于 1,2,3-噻二唑的四氮唑衍生物的合成及生物活性 (导师：范志金教授)。  
M.S. Dissertation: The synthesis and biological activity of 1,2,3-thiadiazole based tetrazole derivatives (Directed by Professor Huang Yun and Fan Zhijin).

获奖情况 Awards  
2009-2010 德州学院学习优秀一等奖学金; First-Class Scholarship of Excellent Studies in Dezhou University.

联系方式 [wangdun87@hotmail.com](mailto:wangdun87@hotmail.com)

**国丹丹 (2120090690) (2009 级) GUO Dandan**

简历 Curriculum Vitae  
1986 年 11 月生于天津市，汉族，共青团员，2009 年 7 月毕业于中国农业大学理学院化学系，获理学学士学位，2009 保送到南开大学元素有机化学国家重点实验室，从事有机化学的研究，开展新农药创制及 1,2,3-噻二唑的合成和性质的研究。2012 年 6 月获理学硕士学位后考入美国 Suny Upstate Medical University 攻读有机化学博士学位。

Guo Dandan was born in Tianjin, China in November



1986, Han Nationality, Chinese Communist Youth League Member, and got her bachelor degree of science from China Agricultural University in July 2009. From September 2009 on, pursuing further study for master's degree at State Key Laboratory of Elemento-Organic Chemistry, Nankai University major in organic chemistry under the direction of Professor Fan Zhijin, the main studies concentrated on novel pesticide development and studies on the chemistry and characteristics of

	1,2,3-thiadiazole derivatives. After getting her master degree of science in June 2011, she went abroad to Suny Upstate Medical University in July 2012 for her further studies major in organic chemistry.	
学位论文 Thesis for Degree	<p>学士论文题目：取代苯氧嘧啶氨基甲酸酯的合成 (导师：袁德凯 副教授)。 B.S. Dissertation: Synthesis of substituted phenoxy pyrimidine carbamate (Directed by Associate Professor Yuan Dekai).</p> <p>硕士论文题目：具有杀虫及诱导抗病活性的新型 1,2,3-噻二唑生物物的合成和生物活性研究 (导师：范志金教授)。 M.S. Dissertation: Studies on the synthesis and biological activity of novel 1,2,3-thiadiazole derivatives with both insecticidal activity and systemic acquired resistance (Directed by Professor Fan Zhijin).</p>	
获奖情况 Awards	<p>2005-2006 中国农业大学学习优秀三等奖学金; 2006-2007 中国农业大学学习优秀三等奖学金; 2007-2008 中国农业大学学习优秀二等奖学金; 2007-2008 中国农业大学学习进步奖学金; 2007-2008"金正大"奖学金; 2007-2008 中国农业大学优秀团员。</p> <p>2005-2006 CAU 3rd Scholarship of Excellent Studies; 2006-2007 Third-Class Scholarship of Excellent Studies; 2007-2008 Second-Class Scholarship of Excellent Studies; 2007-2008 CAU Learning Progress Scholarship; 2007-2008"Jin Zhengda" Scholarship; 2007-2008 CAU Outstanding Chinese Communist Youth League Member.</p> <p>2009-2010 南开大学学习一等奖学金; 2010-2011 南开大学学习三等奖学金; 2010-2011 南开大学万香优秀奖奖学金。</p> <p>2009-2010 First-Class Scholarship of Nankai University; 2010-2011 Third-Class Scholarship of Nankai University; 2010-2011 Wang Xiang Excellent Scholarship of Nankai University.</p>	
联系方式	<a href="mailto:nancygdd@hotmail.com">nancygdd@hotmail.com</a>	
<b>赵晖 (2120090815) (2009 级) ZHAO Hui</b>		
简历 Curriculum Vitae	<p>1986 年 7 月生于江苏扬州，汉族，中共党员，2009 年 6 月毕业于南京农业大学理学院(理学学士学位)，2009 考入南开大学元素有机化学国家重点实验室从事农药化学的研究。2012 年 6 月获农学硕士学位后到江苏扬农化工集团有限公司工作，从事农药开发工作。</p> <p>Zhao Hui was born in Yangzhou, Jiangsu Province, China in July 1986, Han Nationality, CPC Member, got his bachelor degree of science from Nanjing Agricultural</p>	
	<p>University in June 2009. From Sept. 2009 on, pursuing further study for master's degree at State Key Laboratory of Elemento-Organic Chemistry, Nankai University major in pesticide chemistry under the direction of Professor Fan Zhijin. After getting his master degree of science in June 2012, he conducted studies on pesticide development for Jiangsu Yangnong Chemical Group Co., Ltd..</p>	
学位论文 Thesis for Degree	<p>学士论文题目：细交链孢菌酮酸脲类生物物的合成与生物活性研究 (导师：杨春龙教授)。 B.S. Dissertation: Synthesis and bioactivity of hydrazone derivatives of tenuazonic acid (Directed by Professor Yang Chunlong).</p> <p>硕士论文题目：具有生物活性的 5-甲基-1,2,3-噻二唑类杂环化合物的合成 (导师：范志金教授)。 M.S. Dissertation: Synthesis of biological active 5-methyl-1,2,3-thiadiazole heterocyclic compounds (Directed by Professor Fan Zhijin).</p>	
获奖情况	2006-2007 南京农业大学理学院优秀志愿者; 2009-2010 南开大学万香优秀奖奖学金。	

Awards	2006-2007 Outstanding volunteer of College of Science, Nanjing Agricultural University; 2009-2010 Wanxiang Excellent Scholarship of Nankai University.
联系方式	<a href="mailto:zhaohui-njnd@163.com">zhaohui-njnd@163.com</a>


**黄杰 (S20092824) (2009 级) HUANG Jie**

南开大学与四川农业大学联合培养

**[Jointly trained by Sichuan Agricultural University and Nankai University]**

简历 Curriculum Vitae	<p>1986 年 8 月生于湖北省随州市，汉族，2009 年 6 月毕业于长江大学生命科学学院，获理学学士学位，同年考入四川农业大学，在黄云教授的指导下攻读硕士学位。于 2010 年 7 月来到南开大学元素有机化学国家重点实验室从事农药学研究，合作指导教师：范志金教授。2011 年 10 月起先到先正达实习半年，2012 年 6 月获农学硕士学位后到联化科技股份有限公司工作，从事分析测试工作。</p> <p>Huang Jie was born in Suizhou, Hubei Province, China in August 1986, Han Nationality, and got her bachelor degree of science from Yangtze University in July 2009. And then studying for master degree in Sichuan Agricultural University under the</p>	
	<p>direction of professor Huang Yun. In July 2010, came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University for collaboration studies on the novel pesticide development under the co-guidance of Professor Fan Zhijin. From October, 2010 on, she went to Syngenta (Nantong Base) for practical training. After getting her master degree of agronomy in June 2012, she went to Lianhe Chemical Technology Co. Ltd. for analysis work.</p>	
学位论文 Thesis for Degree	<p>学士学位论文题目：甘蓝型油菜与野芥杂交 F1 代的遗传分析 (导师：赵福永教授)。 B.S. Dissertation: Heredity Analysis of F1 Derived From the Hybrids between <i>B.napus</i> and <i>Sinapis arvensis</i> L (<b>Directed</b> by Professor Zhao Fuyong).</p> <p>硕士学位论文题目：具有杀菌活性的 1,2,3-噻二唑衍生物作用机制的初步研究 (导师：黄云教授，范志金教授)。 M.S. Dissertation: Preliminary studies on the mode of action of novel 1,2,3-thiazole based fungicide derivatives (Directed by Professor Huang Yun and Fan Zhijin).</p>	
获奖情况 Awards	2007-2008 长江大学二等奖学金。 2007-2008 Second-Class Scholarship of Yangtze University.	
联系方式	<a href="mailto:huangjiesj30502@sina.com">huangjiesj30502@sina.com</a>	

**王 唤 (2120080676) (2008 级) WANG Huan**

简历 Curriculum Vitae	<p>1984 年 12 月生于吉林省长春市，汉族，2008 年 7 月毕业于吉林师范大学化学学院，获理学学士学位，2008 年 9 月考入南开大学元素有机化学国家重点实验室，从事有机化学的研究，主要进行新农药的创制工作。2011 年 6 月获理学硕士学位后考入美国圣母大学学习，从事抗生素的生物化学的研究。</p> <p>Wang Huan was born in Changchun, Jilin Province, China in December 1984, Han Nationality, Chinese Communist Youth League Member, and got her bachelor degree of science from Jilin Normal University in July 2008. From September 2008 on, pursuing further study for master degree at State Key Laboratory of</p>	
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	Elemento-Organic Chemistry, Nankai University major in organic chemistry under the direction of Professor Fan Zhijin, the main studies concentrated on novel pesticide development. After getting her master degree of science in June 2011, she went to University of Notre Dame in July 2011 for further PH D studies on biochemistry concentrated antibiotic researches.	
学位论文 Thesis for Degree	学士论文题目：乙酰基二茂铁-2-吡啶甲酰肼的合成研究 (导师：张秀才副教授)。 B.S. Dissertation: Synthesis and study of acetyl ferrocene-2-pyridineformylhydrazones (Directed by Associate professor Zhang Shou-cai). 硕士论文题目：基于 4-甲基-1,2,3-噻二唑的双酰肼衍生物的合成及生物活性研究 (导师：范志金教授)。 M.S. Dissertation: Synthesis and biological activity of diacylhydrazine derivates containing 1,2,3-thiadiazole (Directed by Professor Fan Zhijin).	
获奖情况 Awards	2005-2006 吉林师范大学一等奖学金; 2006-2007 吉林师范大学二等奖学金; 2006-2007 吉林师范大学三好学生。 2005-2006 Jilin Normal University first-class scholarship; 2006-2007 Jilin Normal University second-class scholarship; 2006-2007 Jilin Normal University excellent students. 2009 年 11 月南开大学凯兰英奖学金; 2009 年 12 月南开大学三等奖学金; 2010 年 11 月南开大学万香优秀奖奖学金; 2011 年 6 月, 南开大学优秀硕士毕业生。 2009.11 Kailaiying Scholarship of Nankai University; 2009.12 The Third-Class Scholarship of Nankai University; 2010.11 Wanxiang Excellent Scholarship of Nankai University; 2011.06 Excellent Postgraduate of Nankai University.	
联系方式	<a href="mailto:wanghuan2003@yahoo.com.cn">wanghuan2003@yahoo.com.cn</a> ; <a href="mailto:hwang11@nd.edu">hwang11@nd.edu</a>	
<b>米娜 (2120080812) (2008 级) MI Na</b>		
简历 Curriculum Vitae	1985 年 7 月生于山东省临沂市, 汉族, 2008 年 7 月毕业于聊城大学生命科学学院, 获理学学士学位, 2008 年考入南开大学元素有机化学国家重点实验室, 从事农药生物学的研究。2011 年 6 月获理学硕士学位后进入南开大学周其林教授课题组工作。 Mi Na was born in LinYi, Shandong Province, China in July 1985, Han Nationality, Chinese Communist Youth League	
	Member, she got her bachelor degree of science from Liaocheng University in July 2008. From Sept. 2008 on, she enrolled in State Key Laboratory of Elemento-Organic Chemistry, Nankai University for further study on pesticide biology for master degree under the direction of Professor Fan Zhijin. She got her Master degree of science; she worked in the research team of professor Qilin Zhou of Nankai University in July 2011 as assistance.	
学位论文 Thesis for Degree	学士论文题目：苦菜的药用价值及开发利用 (导师：朱红亮副教授)。 B.S. Dissertation: The medicinal value of <i>Momordica charantia</i> Linn and its development and application. 硕士论文题目：甲噻诱胺诱导烟草抗 TMV 作用机制的研究 (导师：范志金教授)。 M.S. Dissertation: The mode of action of methiadinil by induction of tobacco against TMV (Directed by Professor Fan Zhijin).	
获奖情况 Awards	2005.9 聊城大学一等奖学金; 国家奖学金; 2006.9 聊城大学一等奖学金; 国家奖学金; 2006.4 全国大学生英语竞赛二等奖; 2007. 4 全国大学生英语竞赛一等奖; 2007.9 聊城大学二等奖学金; 2008.6 聊城大学校级优秀毕业生; 2009.7 南开大学全额学业奖学金; 2009.1 南开大学万香会议奖学金; 2010.7 南开大学全额学业奖学金; 2010.10 南开大学优秀研究生奖学金一等奖; 2011.6 南开大学校级三好学生。	

2005.9 Liaocheng University first-class scholarship; National scholarship; 2006.9 Liaocheng University first-class scholarship; National scholarship; 2006.4 Students of the National English Competition second prize; 2007.4 Students of the National English Competition first prize; 2007.9 Liaocheng University second-class scholarship; 2008.6 Liaocheng University Outstanding field grade graduate; 2009.7 Academic Scholarship of Nankai University; 2009.12 Wanxiang Conference Scholarship of Nankai University; 2010.7 Academic Scholarship of Nankai University; 2010.12 First-class of Excellent Graduate Scholarship; 2011.6 Triple A Student of Nankai University.

联系方式 [mnbetter@126.com](mailto:mnbetter@126.com)

**付一峰 (S20083005) (2008 级) FU Yifeng**

**南开大学与四川农业大学联合培养**

**[Jointly trained by Sichuan Agricultural University and Nankai University]**

简历  
Curriculum Vitae

1984 年 11 月生于四川省资阳市，汉族，2008 年 6 月毕业于四川农业大学农学院，获理学学士学位，而后在四川农业大学黄云教授的指导下攻读硕士学位。于 2009 年 7 月来到南开大学元素有机化学国家重点实验室从事农药学研究，合作指导教师：范志金教授。2011 年 7 月获农学硕士学位后分配到四川广播电视大学工作(招生专员)。

Fu Yifeng was born in Ziyang, Sichuan, China in Nov. 1984, Han Nationality, and got his bachelor degree of science



from Sichuan Agricultural University in July 2008. And then studying for master degree in Sichuan Agricultural University guided by professor Huang Yun. In July 2009, came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University for collaboration studies on the novel pesticide development under the co-guidance of Professor Fan Zhijin. After getting his master degree of agronomy in July 2011, he went to Sichuan Radio and TV University working for recruit students.

学位论文  
Thesis for Degree

学士论文题目：不同生育阶段遮阴对水稻籽粒充实和产量的影响 (导师：任万军教授)。  
B.S. Dissertation: Effects of different-growing-stage shading on rice grain-filling and yield (Directed by Professor Ren Wanjun).

硕士论文题目：新型高活性杀菌先导化合物 YZK-C-22 作用机制的初步研究 (导师：黄云教授，范志金教授)。  
M.S. Dissertation: Studies on the preliminary mode of action of novel fungicide lead YZK-C-22 (Directed by Professor Huang Yun and Fan Zhijin).

获奖情况  
Awards

无

联系方式 [78897629@qq.com](mailto:78897629@qq.com)

**张海科 (2120070727) (2005 级) ZHANG Haike**

简历 Curriculum Vitae	<p>1985年1月生山东省淄博市，汉族，2007年7月毕业于曲阜师范大学生命科学学院，获理学学士学位，2007年9月进入南开大学元素有机化学国家重点实验室攻读硕士学位，从事农药学研究。2009年3月到9月在先正达（南通基地）实习；2010年7月获理学硕士学位后进入中化宁波（集团）有限公司，从事农药研发工作。</p> <p>Zhang Haike was born in Zibo, Shandong Province, China</p>	
学位论文 Thesis for Degree	<p>学士论文题目：中学生物学教学中的演示实验（导师：燕艳副教授）。 B.S. Dissertation: Demonstration experiments in biological teaching for middle school students (Directed by Associate Professor Yan Yan).</p> <p>硕士论文题目：新型植物激活剂氟噻酰菌胺作用机制的初步研究（导师：范志金教授）。 M.S. Dissertation: Preliminary studies on the mode of action of novel elicitor WQ-C13 (Directed by Professor Fan Zhijin).</p>	
获奖情况 Awards	2009. 年获南开大学万香优秀奖奖学金 2009. Wanxiang Excellent Scholarship, Nankai University	
联系方式	<a href="mailto:zhanghaike1222@163.com">zhanghaike1222@163.com</a>	
<b>马琳 (2120060770) (2006级) MA Lin</b>		
简历 Curriculum Vitae	<p>1980年6月生于河北怀来县，2005年毕业于河北经贸大学，获工学学士学位；2005年8月至2006年9月任职于伊利实业集团北京乳品厂品控部；2006年9月考入南开大学元素化学研究所，从事化学生物学的学习和研究，导师：范志金副教授；2009年7月获理学硕士学位后到上海市农业技术推广服务中心工作，职称为农艺师。</p> <p>Ma Lin was born in June 1980 in Huailai County, Hebei</p>	
学位论文 Thesis for Degree	<p>Province. Graduated in Heibei University of Economics and Business, and received the Bachelor degree of Engineering in 2005. Worked at QC Department inner Mongolia Yili Industrial Group Co., Ltd. from Aug. 2005 to Sep. 2006. She came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University for master study major in Chembiology under the direction of Professor Fan Zhijin. After getting her master degree of science in July 2009, she went to Shanghai Agriculture Technology Extension &amp; Service Centre as an agronomist.</p> <p>学士论文题目：复合果蔬汁乳酸菌饮料的研制（指导教师：马同锁副教授）。 B.S. Dissertation: Study on the development of lactobacillus containing fruit and vegetable juicy beverage (Directed by Associate Professor Ma Tong suo).</p> <p>硕士论文题目：创制植物激活剂甲噻酰胺作用机制初步研究（导师：范志金教授）。 M.S. Dissertation: Preliminary studies on the mode of action of novel plant elicitor methiadinil (Directed by Professor Fan Zhijin).</p>	
获奖情况 Awards	万香优秀奖奖学金 (2008.12) Wanxiang Excellent Scholarship (2008.12)	


联系方式	<a href="mailto:ml800617@yahoo.com.cn">ml800617@yahoo.com.cn</a>	
<b>左翔 (2120060686) (2006 级) ZUO Xiang</b>		
简历 Curriculum Vitae	<p>1985 年 8 月生于四川成都, 汉族, 共青团员, 2006 年 7 月毕业于南开大学, 获理学学士学位; 同年 9 月考入南开大学元素化学研究所, 从事有机化学和农药化学的学习和研究。2009 年 7 月获得理学硕士学位。</p> <p>Zuo Xiang was born in Chengdu, Sichuan China in August 1985, Han Nationality. Chinese Communist Youth League Member. He studied in Nankai University from 2002</p>	
	to 2006 and received his Bachelor degree of Chemistry in July, 2006, after this, he came to State Key Laboratory of Elemento- Organic Chemistry of Nankai University in September, 2006 for master study on organic chemistry major in pesticide science. He got his bachelor degree of Science in July, 2009.	
学位论文 Thesis for Degree	<p>学士论文题目: 桥联双核金属有机化合物的合成与结构 (指导教师: 孙怀林教授)。 B.S. Dissertation: Synthesis and structure of bridged dinucleus organometallic compounds (Directed by Professor Sun Huailin).</p> <p>硕士论文题目: 基于 Ugi 反应的 1,2,3-噁二唑衍生物的分子设计及生物活性研究 (导师: 范志金教授)。 M.S. Dissertation: Studies on the biological activity and molecular designation of novel of 1,2,3-thiadiazole derivatives via Ugi reaction (Directed by Professor Fan Zhijin).</p>	
获奖情况 Awards	<p>2004 南开大学专项奖学金; 2003 南开大学基础奖学金; 2002 南开大学新生三等奖学金。 2004 Specialized Scholarship of Excellent Achievements, Nankai University; 2003 Fundamental Disciplines Scholarship, Nankai University; 2002 Third-Class of Specialized Scholarship of Excellent Fresher, Nankai University.</p>	
联系方式	<a href="mailto:eboueahleb@163.com">eboueahleb@163.com</a>	
<b>杨知昆 (2006000038) (2006 级, 2009 年 7 月毕业) [南开大学与曲阜师范大学联合培养]</b> <b>YANG Zhikun (2006 grade and graduated in July 2009)</b> <b>[Jointly Trained by Qufu Normal University and Nankai University]</b>		
简历 Curriculum Vitae	<p>1984 年 2 月生于山东济宁, 共青团员, 2006 年毕业于烟台师范学院, 获理学学士学位; 同年考入曲阜师范大学进行硕士研究生学习, 导师: 尤进茂; 2007 年进入南开大学元素有机化学国家重点实验室, 从事农药化学的学习和研究, 合作指导教师: 范志金副教授。2009 年 7 月获理学硕士学位后到天津药明康德新药开发有限公司工作, 职位为有机合成研究员。</p>	
	<p>Yang Zhikun was born in Feb. 1984 in Jining, Shandong Province. Chinese Communist Youth League Member. He studied in Yantai Normal University from 2002 to 2006 and received the Bachelor degree of Chemistry, came to Qufu Normal University in 2006 for master study on organic chemistry major in organic synthesis and came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University in 2007 for collaboration study on novel pesticide development under the direction of associate Professor Fan Zhijin. After getting his master degree of science in July 2009, he went to WuXi AppTec Co., Ltd. as a synthetic chemist.</p>	
学位论文	学士论文题目: 接枝壳聚糖的合成和性能的测定 (指导教师: 刘淑芬 教授)。	

Thesis for Degree	B.S. Dissertation: Grafting copolymerization of methyl acrylate onto chitosan and the study of the adsorptivity ( <b>Directed</b> by Professor Liu Shufen). 硕士论文题目: 1,2,3-噻二唑衍生物的分子设计、合成及生物活性研究 (导师: 尤进茂教授, 范志金教授). M.S. Dissertation: Studies on the design, synthesis and biological activity of 1,2,3-thiadiazole derivatives (Directed by Professor You Jinmao and Fan Zhijin).
获奖情况 Awards	2009 山东省优秀毕业生。 2009 Excellent Post Graduate Student of Shandong Province.
联系方式	<a href="mailto:2002g110326@163.com">2002g110326@163.com</a>

**郑琴香 (2120060700) (2006 级, 2009 年 7 月毕业) Qinxiang Zheng (2006 grade and graduated in July 2009)**

简历 Curriculum Vitae	<p>1982 年 12 月生于福建省长乐市, 2006 年 6 月在南开大学化学学院化学系获理学学士学位, 并保送至南开大学化学学院有机化学专业继续学习, 2008 年 2 月开始从事农药化学的学习和研究。2009 年获得理学硕士学位后到扬子江药业股份有限公司从事新药创制的研究。</p> <p>Qinxiang Zheng was born in Changle city Fujian province, China in December 1982, graduated from Nankai University and received bachelor degree of science in June</p>	
	2006. In the same year, he was chosen to College of Chemistry for further study as a master student free of examination, and turned to work on pesticide science from Feb 2008 under the direction of Professor Fan Zhijin. After getting his master degree of Science in July 2009, he went to Yangtze River Pharmaceutical Company Limited for work as a research scientist for novel drug development.	
学位论文 Thesis for Degree	<p>学士论文题目: 含芳香氨基酸的类肽受体的设计与研究 (导师: 杨池明教授)。 B.S. Dissertation: The designation and studying on peptide-simulated receptor including aromatic amino acid (Directed by Professor Chiming Yang).</p> <p>硕士论文题目: 四组分 Ugi 缩合合成 1,2,3-噻二唑衍生物及其生物活性的研究 (导师: 范志金教授)。 M.S. Dissertation: Studies on the biological activity and synthesis of novel 1,2,3-thiadiazole derivatives via 4 components Ugi condensation (Directed by Professor Fan Zhijin).</p>	
获奖情况 Awards	2003.9 南开大学三等奖学金; 2004.9 南开大学三等奖学金; 2005.9 南开大学单项奖学金。 2003.9 Nankai University third-class scholarship; 2004.9 Nankai University third-class scholarship; 2005.9 Nankai University basic scholarship.	
联系方式	<a href="mailto:yuanxiao00@yahoo.cn">yuanxiao00@yahoo.cn</a>	

**贾俊超 (2120050773) (2005 级, 2008 年 7 月毕业) JIA Junchao (2005 grade and graduated in July 2008)**


简历 Curriculum Vitae	<p>1983 年 7 月生于山东省费县, 汉族, 中共党员。2001 年 9 月-2005 年 7 月就读于华中农业大学植物保护系, 获得农学学士学位; 2005 年 9 月-2008 年 7 月硕士研究生就读于南开大学元素有机化学研究所, 研究方向为农药生物学, 2008 年 7 月获得理学硕士学位, 毕业后先后就职于中化进出口总公司上海公司、中化农化有限公司、中化作物保护品有限公司和一帆生物科技集团有限公司, 从事农药的合规管理、新产品开发和国际市场拓展, 现任一帆生物科技集团有限公司 市场总监。</p>	
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	<p>Jia Junchao was born in July, 1983 in Fei County of Shandong Province, Chinese Communist Party Member. He studied in Huazhong Agricultural University from Sep. 2001 to July. 2005 and obtained the Bachelor degree of Agronomy; then he came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University for master study on pesticide biology in Sep.2005, and graduated in July, 2008, with Master degree of Science. After graduation, he worked in Sinochem Shanghai Coparation, Sinochem Agro Co., Ltd, Sinochem Crop Protection Co., Ltd, and Yifan Biotechnology Group Co., Ltd. successively. His career is mainly related to the pesticide regulatory management, new pesticide product development and international pesticide market development. Now he is the Marketing Director of Yifan Biotech Group.</p>	
学位论文 Thesis for Degree	<p>学士学位论文题目：几种杀菌剂对番茄早疫和灰霉病菌的活性研究 (导师：游红讲师，朱福兴副教授)。 Title of B.S. Dissertation: Study on biological activity of several fungicides on <i>Alternaria solani</i> and <i>botrytis cinerea</i> Pers (Directed by Lecture You Hong, Associate Professor Zhu Fuxing). 硕士学位论文题目：创制杀菌剂唑菌酯作用机制的初步研究 (导师：范志金副教授)。 Title of M.S. Dissertation: Preliminary studies on the mode of action of novel fungicide pyrazoxystrobin (SYP-3343) (Directed by Associate Professor Fan Zhijin).</p>	
获奖情况 Awards	<p>2006.10 南开大学三等奖学金 Nankai Scholarship (Third Class) (2006.10). 2007.10 万香奖学金 Wanxiang Scholarship (2007.10).</p>	
联系方式	<p><a href="mailto:jjajunchao_2001@163.com">jjajunchao_2001@163.com</a></p>	
<p><b>吴琼 (2120050774) (2005 级, 2008 年 7 月毕业) WU Qiong (2005 grade and graduated in July 2008)</b></p>		
简历 Curriculum Vitae	<p>1981 年 7 月生于内蒙古自治区包头市，汉族，共青团员。2004 年 7 月毕业于内蒙古大学化学化工学院，获理学学士学位，2005 考入南开大学元素有机化学所，攻读硕士学位，从事农药化学的相关研究。2008 年毕业后前往北京赛高咨询有限公司葱蒜农药登记工作。</p> <p>Wu Qiong was born in Inner Mongolia Autonomous Region, China in July 1981, Han Nationality, Chinese Communist Youth League Member, got her bachelor degree of science from Inner Mongolia University in July 2004. From September 2005 on, she studied for master</p>	
	<p>degree at State Key Laboratory of Elemento-Organic Chemistry, Nankai University on pesticide science. After graduation, she worked in Beijing Sail-Go Consulting Co., Ltd. for pesticide registration from October, 2008 on.</p>	
学位论文 Thesis for Degree	<p>学士学位论文题目：以柱撑膨润土为载体的 CuO、BaO 催化剂的催化活性研究 (导师：苗茵教授)。 Title of B.S. Dissertation: Study on Catalyzing Activity of CuO、BaO Catalyst Carried by Pillared Interlayered Clay (Directed by Professor Miao Yin). 硕士学位论文：1,2,3-噻二唑衍生物的分子设计和合成及生物活性研究(导师：范志金副教授)。 Title of M.S. Dissertation: Studies on molecular design and synthesis and biological active of 1,2,3-thiadiazole derivatives (Directed by Associate Professor Fan Zhijin).</p>	
获奖情况 Awards	<p>2000年 获内蒙古大学基地专业入学奖学金；Enrollment into Chemistry Teaching Base of Department of Education Scholarship of Inner Mongolia University. 2000—2001年度获内蒙古大学三等奖学金；Academic Excellence Scholarship (Third ranking) of Inner Mongolia University. 2001—2002年度获内蒙古大学三等奖学金；Academic Excellence Scholarship (Third ranking) of Inner Mongolia University.</p>	

	2002—2003年度获内蒙古大学三等奖学金; Academic Excellence Scholarship (Third ranking) of Inner Mongolia University. 2003—2004 年度获内蒙古大学三等奖学金; Academic Excellence Scholarship (Third ranking) of Inner Mongolia University.
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联系方式	<a href="mailto:qiongw@mail.nankai.edu.cn">qiongw@mail.nankai.edu.cn</a>
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**石祖贵 (040782) (2004 级, 2007 年 7 月毕业) SHI Zugui (2004 grade and graduated in July 2007)**


简 历 Curriculum Vitae	<p>1981 年 12 月 20 日生, 汉族, 2004 年毕业于长江大学化学与环境工程学院应用化学专业, 获得工学学士学位; 2004 年 9 月进入南开大学元素有机化学研究所攻读硕士学位, 从事具有农药分子设计及合成的研究工作, 设计合成并发现了植物激活剂甲噻诱胺的生物活性。毕业后前往新加坡国立大学攻读博士学位。</p> <p>Shi Zugui was born in on 20th December 1981, and received bachelor degree of Applied Chemistry in College of Chemistry and Environmental Engineering, Yangtze University. With the honor of</p>	
	<p>Excellent Graduate of Yangtze University, from 2004 to 2007, he came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University to pursue his major studies in Pesticide Science. His research field was in the designation and synthesis of bioactivity molecules, during this time, he synthesized and discovered the biological activity of novel plant elicitor methiadinil. After graduation from Nankai University, he went to National University of Singapore for PH. D. major in organic chemistry.</p>	

学位论文 Thesis for Degree	<p>学士学位论文题目: 复合催化剂一步法合成烷基糖苷(导师: 于兵川副教授)。 Title of B.S. Dissertation: Synthesis of APG with compounded catalyst by one-pot method (Directed by Associate Professor Yu Binchuan).</p> <p>硕士学年论文题目: 具有生物活性的 1,2,3-噻二唑衍生物的分子设计和合成 (导师: 范志金副教授)。 Title of M.S. Dissertation: Design and synthesis of biological activie 1,2,3-thiadiazole derivatives (Directed by Associate Professor Fan Zhijin).</p>
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获奖情况 Awards	<p>2000-2003 一等奖学金 First-class Scholarship.</p> <p>2002 优秀团员 Excellent League Member.</p> <p>2004 长江大学优秀毕业生 Excellent graduate of Yangtze University.</p>
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联系方式	<a href="mailto:shizugui@hotmail.com">shizugui@hotmail.com</a>
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**苑建勋 (040781) (2004 级, 2007 年 7 月毕业) YUAN Jianxun (2004 grade and graduated in July 2007)**

简 历 Curriculum Vitae	<p>汉族, 1979 年 7 月生于河北邯郸。2003 年 7 月毕业于河北农业大学, 获得农学学士学位, 在本科学习期间担任学习委员, 曾于 1999 年获得年度二等奖学金。2004 年考入南开大学元素有机化学研究所, 从事农药生物学方向的学习和研究。毕业后留校药学院办公室工作。</p> <p>Yuan Jianxun was the Han Nationality and born in August 23, 1981. Got his agriculture bachelor from Hebei Agricultural University in July 2003, he was a committeeman of student union and got full scholarship in 1999. After graduation, he enrolled as Master student in State Key</p>	
	<p>Laboratory of Element-Organic Chemistry of Nankai University for his study on pesticide biology, concentrated on the study of mechanism of plant virus, after graduation, he stayed in College of Medicine in Nankai University as an office staff from July, 2007 on.</p>	

学位论文 Thesis for Degree	学士学位论文：不同 pH 值下玉米大斑病菌 HT-毒素萃取液的致毒活性研究 (导师：刘颖超副教授)。 Title of B.S. Dissertation: The toxicity of HT-toxin extraction under the different pH (Directed by Associate Professor Liu Yingchao). 硕士学位论文：几种药剂抗烟草花叶病毒(TMV)作用机制的初步研究 (导师：范志金副教授)。 Title of M.S. Dissertation: Studies on the preliminary mode of action of several pesticides against tobacco mosaic virus (TMV) (Directed by Associate Professor Fan Zhijin).	
联系方式	<a href="mailto:yuanjianxun@nankai.edu.cn">yuanjianxun@nankai.edu.cn</a>	
<b>鲍丽丽 (030604) (2003 级, 2006 年 7 月毕业) BAO Lili (2003 grade and graduated in July 2006)</b>		
简历 Curriculum Vitae	<p>1979 年 1 月生于黑龙江省海伦市，汉族，中共党员。2003 年 7 月毕业于西南师范大学化学化工学院，获理学学士学位，同年考入南开大学元素有机化学所攻读硕士研究生学位，从事精细有机合成和农药化学的研究。毕业后前往中国药科大学任教。</p> <p>Bao Lili was born in Hailun County, Heilongjiang Province China in January 1979, the Han Nationality, and Chinese Communist Party Member. She got bachelor</p>	
学位论文 Thesis for Degree	<p>degree from Southwest China Normal University in July, 2003 and came into State Key Laboratory of Elemento-Organic Chemistry, Nankai University, as a master student major in organic chemistry, concentrated on the studies on synthesis and pesticide chemistry. After graduation, she went to China Pharmaceutical University as a lecture.</p> <p>学士学位论文题目：槲皮素对铝(III)-Triton X-100 体系共振瑞利散射的淬灭作用及其应用研究；导师：李念兵教授。          Title of B.S. Dissertation: Study on the quenching effect of resonance Rayleigh scattering and its application in aluminium (III)-Triton X-100 system (Directed by Professor Li Nianbing).          硕士学位论文题目：苯并噻二唑先导结构的优化及其生物活性研究(导师：范志金副教授)。          Title of M.S. Dissertation: Study on the synthesis and biological activity of leading structure of plant elicitor benzothiadiazole (Directed by Associate Professor Fan Zhijin).</p>	
获奖情况 Awards	<p>1999—2000 年度获校专业一等奖学金； The First Ranking Scholarship.          2000—2001 年度获校专业一等奖学金； The First Ranking Scholarship.          2000—2001 年度获院级优秀学生干部称号； “Excellent Student Cadre” of the College.          2000—2001 年度获“校优秀学生”称号； “Excellent Student” of the University.          2000—2001 年度获“绿色科技奖学金”； The Scholarship of “Green Science and Technology”.          2000—2002 年度获“重庆市三好学生”称号； “Excellent Student” of Chongqing Municipality.          2001—2002 年度获西南师范大学“科技学术创新奖”一等奖； First-Ranking Award of “Creativity Award of Science and Technology”, Southwest China Teacher’s University.          2002 年 4 月“获校优秀实习生”称号； “Excellent Teaching Practice Student” of Southwest China Teacher’s University.          2001-2002 年度获“校优秀学生”称号； “Excellent Student” of Southwest China Teacher’s University.          2002-2003 年度获“重庆市优秀毕业生”称号； “Excellent Graduate Student” of Chongqing Municipality.          2005 年度 陈茹玉奖学金； Chen Ruyu Scholarship in 2015.</p>	
联系方式	<a href="mailto:lotus-bll@163.com">lotus-bll@163.com</a>	

<b>张永刚 (030697) (2003 级, 2006 年 7 月毕业) ZHANG Yonggang (2003 grade and graduated in July 2006)</b>	
简 历 Curriculum Vitae	<p>1982 年 11 月出生, 汉族, 中共党员, 2003 年 7 月毕业于山东农业大学, 同年考入南开大学化学学院元素有机化学研究所学习。在山东农业大学学习期间, 曾多次获得一、二、三等奖学金, 并于 2002 年被评为“三好学生”及“优秀团员”称号。在 2002-2003 年专业课学习期间, 曾协助老师做农药剂型加工、农药有机合成、农药生物测定等科研工作。毕业后前往中国科学院微生物所攻读博士学位。</p> 
	<p>Zhang Yonggang was born in Shengdong Province, P. R. China in November 1982, the Han Nationality, and Chinese Communist Party Member. Got his bachelor degree from Shandong Agriculture University in July 2003, came to State Key Laboratory of Elemento-Organic Chemistry, Nankai University for master degree study on pesticide science. After graduation, he went to Institute of Microbiology, Chinese Academy of Science for PH. D. study major in Chemistry of Natural Products.</p>
学位论文 Thesis for Degree	<p>学士学位论文题目: 工厂实习。 Title of B.S. Dissertation: Practice in pesticide factory.</p> <p>硕士学位论文题目: 植物激活剂诱导黄瓜抗炭疽病的作用机理 (导师: 范志金副教授)。 Title of M.S. Dissertation: Induction of systemic acquired resistance against <i>Colletotrichum lagenarium</i> by plant elicitor (Directed by Associate Professor Fan Zhijin).</p>
获奖情况 Awards	<p>2001—2002 年度获校专业一等奖学金; The First Ranking Scholarship of Shandong Agriculture University.</p> <p>2000—2001 年度获校专业三等奖学金; The Third Ranking Scholarship Shandong Agriculture University.</p>
联系方式	<a href="mailto:zhangygcq@yahoo.cn">zhangygcq@yahoo.cn</a>
<b>聂开晟 (030703) (2003 级, 2006 年 7 月毕业) NIE Kaisheng (2003 grade and graduated in July 2006)</b>	
简 历 Curriculum Vitae	<p>1976 年出生于辽宁省丹东市, 汉族, 1994 年就读兰州大学化学系有机化学专业学, 曾任班长, 化学系学习部部长, 系学生会副主席, 1998 年 7 月毕业并获理学学士学位; 同年分配到沈阳化工研究院新药室从事新化合物的合成和新农药的开发研究; 2003 年考入南开大学化学学院元素有机所攻读农药学硕士学位, 同年获得工程师职称; 1998 年参与并完成国家自然科学基金项目—嘧啶类化合物的合成及生物活性的研究; 2006 年毕业后回沈阳化工研究院工作。</p> 
	<p>Nie Kaisheng was born in Dandong Liaoning Province P. R. China in January 1976, the Han Nationality. Got bachelor degree from College of Chemistry and Engineer, Lanzhou University in July 1998, during the period in Lanzhou University, he was once a monitor and study minister and vice-president of student union of the college, after graduation he came to Shenyang Research Institute of Chemical Industry China undertaking research and development of novel pesticide and took part in the program founded by the National Natural Science Foundation of China (“Study on Synthesis and Biological Screening for Pyrimidine Compounds”). From 2003 on, he came into State Key Laboratory of Elemento-Organic Chemistry, Nankai University for master degree study on heterocyclic pesticide synthesis. At this time he got his Engineering Position in Shenyang Research Institute of Chemical</p>

	Industry China. After graduation, he worked for Shenyang Research Institute of Chemical Industry China as a researcher.
学位论文 Thesis for Degree	学士学位论文题目：树枝状大分子的合成和性质研究 (导师：曹小平 教授)。 Title of B.S. Dissertation: Study on the synthesis and properties of large branch molecular. (Directed by Professor Cao Xiaoping). 硕士学位论文题目：氨基乙腈衍生物的合成与生物活性研究 (导师：范志金副教授)。 Title of M.S. Dissertation: Study on synthesis and biological activity of novel aminoacetonitrile derivatives (Directed by Associate Professor Fan Zhijin).
获奖情况 Awards	1994—1995 年在兰州大学获三等奖学金; The Third Ranking Scholarship in Lanzhou University. 1996—1997 年在兰州大学被评为优秀学生干部; “Excellent Student Cadre” of the College in Lanzhou University. 2000 年在沈阳化工研究院被评为先进工作者; “Excellent Scientific Research” of Shenyang Research Institute of Chemical Industry China.
联系方式	<a href="mailto:nksh2000@sina.com">nksh2000@sina.com</a>

**李永强 (030601) (2003 级, 2006 年 7 月毕业) LI Yongqiang (2003 grade and graduated in July 2006)**

简 历 Curriculum Vitae	<p>1977 年 10 月生, 汉族, 2001 年毕业于兰州大学生命科学学院, 获理学学士学位; 1997-1998 和 1998-1999 连续两次获兰州大学三等奖学金。2001 年 7 月至今在南开大学化学学院元素有机化学研究所生测室工作, 主要从事农药筛选和新化合物活性确定, 2003 年 7 月考入南开大学元素有机化学研究所农药学硕士研究生, 主要研究方向是计算机虚拟筛选和生物活性的研究。毕业后留校工作。</p> <p>Li Yongqiang was born in Oct. 1977, the Han Nationality, and got bachelor degree from school of life science Lanzhou University in July 2001. After graduation he worked in bioassay department at Institute of Elemento-Organic Chemistry, Nankai University conducting studies on biological screening. Since July 2003, he came into the Institute of Elemento-Organic Chemistry, Nankai University for master degree major in pesticide screening in silica and pesticide biology. After graduation, he stayed in Department of Bioassay, Nankai University as a researcher.</p>	
学位论文 Thesis for Degree	学士学位论文：高寒植物抗寒遗传力的分析 (导师：陈雄副教授)。 Title of B.S. Dissertation: Genetic force analysis of high plants resistant against cold (Directed by Associate Professor Chen Xiong). 硕士学位论文题目：基于乙酰胆碱酯酶杀虫剂筛选方法的研究 (导师：范志金副教授)。 Title of M.S. Dissertation: Studies on acetylcholine esterase based insecticide screening method (Directed by Associate Professor Fan Zhijin).	
联系方式	<a href="mailto:liyongq-1@163.com">liyongq-1@163.com</a>	

**刘凤丽 (020466) (2002 级, 2005 年 7 月毕业) LIU Fengli (2002 grade and graduated in July 2005)**

简历 Curriculum Vitae	<p>1976年7月生于河北，汉族，1999年7月毕业于河北师范大学化学系，获理学学士学位，同年分配到天津铁厂第二中学任教，2002考入南开大学元素有机化学所攻读硕士研究生学位。研究方向：精细有机合成和农药化学。毕业后前往新加坡国立大学攻读博士学位，从事金属有机化学的研究。</p> <p>Liu Fengli was born in Hebei Province, P. R. China in July, 1976, the Han Nationality. Got bachelor degree from Hebei Normal University in July 1999. Taught chemistry in the No.2 Middle School of Tianjin Iron</p>	
	<p>Corporation for 3 years. She came into State Key Laboratory of Elemento-Organic Chemistry, Nankai University for master degree study in Sep. 2002, undertook studies on organic synthesis of fine chemicals and pesticide chemistry. After graduation, she went to National University of Singapore for PH. D. study major in organometal chemistry.</p>	
学位论文 Thesis for Degree	<p>学士学位论文题目：酸催化合成酯(导师：康汝洪教授)。 Title of B.S. Dissertation: Synthesis of ester by acid catalyze (Directed by Kang Ruhong Professor). 硕士学位论题目：苯并噻二唑衍生物的合成及诱导抗病活性研究 (导师：范志金副教授)。 Title of M.S. Dissertation: Study on synthesis and systemic acquired resistance of benzothiadiazole derivatives (Directed by Associate Professor Fan Zhijin).</p>	
获奖情况 Awards	<p>1995—1996年度获二等奖学金，被评为系级三好学生；The Second Ranking Scholarship and “Three Good Student”(Excellent Student). 1996—1997年度获二等奖学金，被评为系级三好学生；The Second Ranking Scholarship and “Three Good Student”(Excellent Student).</p>	
联系方式	<p><a href="mailto:liufengli@eyou.com">liufengli@eyou.com</a></p>	

### 正在毕业实习的本科同学 (Undergraduate Students Conducting Their Practice)

姓名	时间	学生来源	论文题目
Name	Time	Source of Student	Title of B.S. Dissertation

### 已毕业本科实习同学 (Graduated Undergraduate Students Completed Their Practice)

姓名	时间	学生来源	论文题目
Name	Time	Source of Student	Title of B.S. Dissertation
张思佳 1610621	2019.10-	南开大学化学学院	新型琥珀酸脱氢酶抑制剂的设计合成
Zhang Sijia	2000.5	College of Chemistry, Nankai University	Design and Synthesis of Novel Succinate Dehydrogenase Inhibitors
柏慧云 1610539	2019.10-	南开大学化学学院	丁烯内酯衍生物的合成及生物活性评估
Bai Huiyun	2000.5	College of Chemistry, Nankai University	Studies on the synthesis and biological evaluation of butenolide derivatives
孙耀正 160461	2019.10-	南开大学化学学院	豆素衍生物的合成及其抗真菌活性
Sun Yaozheng	2000.5	College of Chemistry, Nankai University	Synthesis and antifungal activity of coumarin derivatives
王立凡 1510460	2018.5-	南开大学化学学院	含异噻唑基团的香豆素衍生物的合成
Wang Lifan	2019.5	College of Chemistry, Nankai University	Synthesis of Coumarin Derivatives Containing Isothiazole Groups

胡文昊 1510385	2018.5-	南开大学化学学院	基于吡唑含氟农药的分子设计合成
Hu Wenhao	2019.5	College of Chemistry, Nankai University	The Design and Synthesis of Pyrazole Based Fluorinated Pesticides
陈浩崑 1510353	2018.5-	南开大学化学学院	Succinate dehydrogenase inhibitors based fungicides design and synthesis
Chen Haoyin	2019.5	College of Chemistry, Nankai University	基于琥珀酸脱氢酶抑制剂的杀菌分子设计合成
李翔 1310957	2016.12-	南开大学化学学院	基于六氢茛酮的天然产物中间体及衍生物的合成
Li Xiang	2017.4	College of Chemistry, Nankai University	Synthesis of intermediates and derivatives of hexahydroindanone
秦忠翔 1310959	2016.12-	南开大学化学学院	三取代噻唑羧酸类衍生物的合成及生物评估
Qin Zhongxiang	2017.4	College of Chemistry, Nankai University	Synthesis and biological evaluation of trisubstitued thiazole carboxamide derivatives
徐京华 1210929	2014.5-	南开大学化学学院	新型磺酰亚胺衍生物的合成和生物活性
Xu Jinghua	2016.5	College of Chemistry, Nankai University	Biological activity and synthesis of novel sulfonimide derivatives
宋胤奇 1210925	2014.5-	南开大学化学学院	氢茛酮类化合物的合成与生物活性
Song Yinqi	2016.5	College of Chemistry, Nankai University	Biological activity and synthesis of hexahydroindanones
张秩鸣 1210868	2015.10	南开大学化学学院	新型异噻唑肟醚甲氧基丙烯酸酯衍生物的合成与生物活性研究
Zhang Zhiming	2016.5	College of Chemistry, Nankai University	Biological activity and synthesis of novel isothiazole oxime ether strobilurin derivatives
杨俊超 1010842	2013.11-	南开大学化学学院	新型异噻唑衍生物的合成及生物活性
Yang Junchao	2014.5	College of Chemistry, Nankai University	Synthesis and biological activity of novel isothiazole derivatives
石凯 1010829	2013.11-	南开大学化学学院	新型噻唑衍生物的合成和生物活性研究
Shi Kai	2014.5	College of Chemistry, Nankai University	Studies on the synthesis and biological activity of novel thiazole derivatives
周漓珂 0910818	2012.11-	南开大学化学学院	新型鱼尼丁受体类化合物的合成与生物活性
Zhou Like	2013.5	College of Chemistry, Nankai University	Biological activity and synthesis of novel ryanodine receptor inhibition compounds
王志文	2011.3-	四川农业大学	未要求论文
Wang Zhiwen	2011.6	Sichuan Agricultural University	No thesis requested
张正财 0610851	2010.3-	南开大学化学学院	新型 1,2,3-噻二唑衍生物的合成与生物活性研究
Zhng Zhengcai	2010.7	College of Chemistry, Nankai University	Synthesis and biological activity of novel 1,2,3- thiadiazole derivatives
张聚方 0610842	2010.3-	南开大学化学学院	Ugi 反应合成新型 1,2,3-噻二唑衍生物
Zhng Jufang	2010.7	College of Chemistry,	Synthesis of novel 1,2,3-thiadiazole derivatives via Ugi

		Nankai University	reaction
钱仁云	2010.3-	天津医科大学	中草药中农药残留分析方法的初步研究
Qian Renyun	2010.7	Tianjin Medical University	Study on techniques on analysis of pesticide residues in traditional Chinese herbal medicines
孟庆森 0411018	2008.3-	南开大学化学学院	甲噻酰胺理化性质的测定
Meng Qingsen	2008.7	College of Chemistry, Nankai University	Determination of physicochemical properties of methyl thiadiazole formamide
黎 锐 0410305	2008.3-	南开大学化学学院	杀菌剂复配制剂的研究
Li Rui	2008.7	College of Chemistry, Nankai University	Study on fungicide mixture.
郑 夺 04072502026	2008.4-	天津医科大学	保胎药材中有机氯农药残留量的测定
Zheng Duo	2008.7	Tianjin Medical University	The determination of organochlorine pesticide residue in the fetus protection Chinese medicine
夏 倩 0310839	2007.3-	南开大学化学学院	甲噻酰胺作用方式的研究
Xia Qian	2007.7	College of Chemistry, Nankai University	Study on the mode of action of methyl thiadiazole formamide
杨绍祥 0310803	2007.3-	南开大学化学学院	甲噻酰胺衍生物的合成及生物活性
Yang Shaoxing	2007.7	College of Chemistry, Nankai University	Synthesis of derivatives of methyl thiadiazole formamide and their biological activity.
徐政专 0210823	2006.4-	长江大学植物保护学院	几种抗病毒药剂抗烟草花叶病毒 (TMV) 侵染活性的比较及其作用机制的初步研究
Xu Zheng zhuan	2006.8	College of Plant Protection, Yangtze University	Preliminary study on mode of action of several antiviral compounds and comparison of their activity for anti-TMV
王 刚 0210823	2006.3-	南开大学化学学院	1,2,3-噻二唑衍生物的合成及其生物活性初探
Wang Gang	2006.7	College of Chemistry, Nankai University	Synthesis of 1,2,3-thiadiazole derivatives and preliminary study on their biological activity.
钟增明 0210823	2005.4-	长江大学植物保护学院	植物激活剂诱导抗病筛选体系的研究
Zhong Zengming	2005.8	College of Plant Protection, Yangtze University	Study on screening system of systemic acquired resistance of plant elicitor
吴伟华 0110736	2005.4-	南开大学化学学院	苯并噻二唑衍生物的合成和表征
Wu Weihua	2005.7	College of Chemistry, Nankai University	Synthesis and structure identification of derivatives of benzo-1,2,3-thiadiazole
郑炳才 0210823	2003.4-	南开大学生命科学学院	植物激活剂诱导抗病的初步研究
Zheng Bingcai	2003.7	College of Life Science, Nankai University	Preliminary study on systemic acquired resistance of plant elicitor

### 短期学习或交流人员 (Short Time Study or Communication Persons)

姓名	时间	来源	项目
Name	Time	Source	Program
Khazhieva Inna	2015.4.3-5.4	TOSLab., The Ural Federal University Named After the First President of Russia B. N. Yeltsin, Russia	Collaboration study
Kalinina Tatiana	2014.7.29-8.11	TOSLab., The Ural Federal University Named After the First President of Russia B. N. Yeltsin, Russia	Collaboration study
Glukhareva Tatiana	2014.7.29-8.11	TOSLab., The Ural Federal University Named After the First President of Russia B. N. Yeltsin, Russia	Collaboration study
Prokhorova Polina	2014.7.29-8.11	TOSLab., The Ural Federal University Named After the First President of Russia B. N. Yeltsin, Russia	Collaboration study
Lugovik Ksenia	2014.7.3-8.1	TOSLab., The Ural Federal University Named After the First President of Russia B. N. Yeltsin, Russia	Collaboration study
Tatiana A. Kalinina	2011.10.1-2012.7.19	TOSLab., The Ural Federal University, Russia	Russian President Scholarship
Polina Kroptina	2006.10.30-11.24	TOSLab., The Ural State Technical University	Foreign Experts Visiting Scholar Program

课题组部分合影

南开化学百年华诞聚会期待中



Current members



2019-6 硕士生毕业生合影



2020-8 硕士生毕业合影



2020-12 博士生毕业合影



2018 年毕业合影



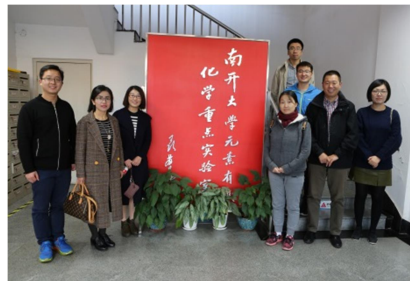
2019-4 南开百年大讲坛



2019-6 毕业生合影



2017 年毕业生合影



2018 年部分毕业同学返校



2018 年组里成员合影



2014 年毕业生合影



2015 年元旦聚会



2016 年组会后合影



2011 级-2013 级同学合影



2009 级-2011 级同学合影



2007 级-2009 级同学合影



2005 级-2007 级同学合影



2004 级-2006 级同学合影



2002 级-2003 级同学合影

Updated in 1<sup>st</sup>, March 2021