



# 化学化工学院

School of Chemistry and Chemical Engineering

逸夫实验楼

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## 代斌-教授硕/博导师

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### 基本情况:

**代斌, 教授**, 石河子大学校长, 2018-2022年教育部高等学校化工类专业教学指导委员会委员, 教育部科技委化学化工学部委员, 中国高教学会高教管理分会副理事长, 兵团学位委员会副主任委员, 有突出贡献中年专家, 科技部“创新人才推进计划”中青年科技创新领军人才, 教育部新世纪优秀人才, 国务院特聘专家, 兵团学术技术带头人, 兵团杰青, 兵团英才, 石河子大学3152领军人才。主要围绕绿色化工过程新催化材料与新工艺开展相应的应用基础研究工作, 特别是在乙炔化工方面取得了突出成果; 先后主持国家自然科学基金等科研项目50项; 发表SCI/EI收录论文303篇, SCI引用超过3700次; 获国家发明专利授权16件, 兵团科技进步奖10项。

### 招生方向:

081700化学工程与技术

085216化学工程

### 联系方式:

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### 教育经历:

- 1988-1992 学士: 西南师范大学化学
- 1997-2000 硕士: 大连理工大学应用化学
- 2000-2002 博士: 大连理工大学应用化学

### 工作经历:

- 1.1992.07—1998.09, 石河子大学医学院药理学系, 助教
- 2.1998.10—2001.09, 石河子大学医学院药理学系, 讲师
- 3.2001.10—2004.09, 石河子大学师范学院化学系, 副教授
- 4.2004.09—2010.08, 石河子大学化学化工学院, 教授
- 5.2010.09—2013.12, 石河子大学化学化工学院, 三级教授
- 6.2014.01—至今, 石河子大学化学化工学院, 二级教授

### 科研方向:

- 1.乙炔绿色催化转化
- 2.环境友好催化

### 承担科研项目:

- 1.金属氮化物催化乙炔氢氯化物的基础研究, NSFC-新疆联合基金重点支持项目, U1403294, 215万元, 主持。
- 2.乙炔二聚合成乙烯基乙炔新催化体系研究, 国家自然科学基金, 21463021, 57万元, 主持。
- 3.燃气锅炉烟气低温催化脱硝的研究与示范应用, 2018AA002, 760万元, 主持

### 获奖情况:

- 1.胡萝卜素的提取及微胶囊、软胶囊化技术研究, 2009年兵团科技进步二等奖(第一)
- 2.电石法乙炔选择加氢制乙烯催化剂及反应工艺的研究, 2010年兵团科技进步二等奖(第一)
- 3.新疆棉籽油脱臭馏出物资源综合利用技术研究, 2013年兵团科技进步三等奖(第一)
- 4.路易斯碱-布朗酸双功能有机催化研究, 2015年度兵团科技进步二等奖(第六)

5. 过渡金属铜、钨催化偶联反应构建C-X键的研究, 2016年度兵团科技进步二等奖(第四)
6. 燃料油超深度脱硫高效催化剂的研究, 2017年度兵团科技进步二等奖(第二)。

#### 代表性论文:

1. Liu, N., Xie, Y. F., Wang, C., Li, S. J., Wei, D., Li, M., & Dai, B.. Cooperative Multifunctional Organocatalysts for Ambient Conversion of Carbon Dioxide into Cyclic Carbonates. **ACS Catalysis**, 2018, 8(11), 9945-9957
2. Huang, P., Liu, A., Kang, L., Zhu, M., & Dai, B.. Heteropoly acid supported on sodium dodecyl benzene sulfonate modified layered double hydroxides as catalysts for oxidative desulfurization. **New Journal of Chemistry**, 2018, 42(15), 12830-12837.
3. Xing, F., Feng, Z. N., Wang, Y., Du, G. F., Gu, C. Z., Dai, B., & He, L.. N-Heterocyclic Carbene-Catalyzed Double Michael Addition: Stereoselective Synthesis of Spirofluorenes and Multisubstituted Indanes. **Advanced Synthesis & Catalysis**, 2018, 360(8), 1704-1710.
4. Wang, Q., Zhu, M., Xu, C., Zhang, H., Wang, X., Dai, B., & Zhang, J.. Zn-Cu bimetallic catalysts supported on pure silica MCM-41 for acetylene hydration reaction. **New Journal of Chemistry**, 2018, 42(8), 6507-6514.
5. Cong, Z. S., Li, Y. G., Du, G. F., Gu, C. Z., Dai, B., & He, L.. N-Heterocyclic carbene-catalyzed sulfa-Michael addition of enals. **Chemical Communications**, 2017, 53(98), 13126. Chen, F., Liu, N., & Dai, B.. Iron (II) Bis-CNN Pincer Complex-Catalyzed Cyclic Carbonate Synthesis at Room Temperature. **ACS Sustainable Chemistry & Engineering**, 2017, 5(10), 9065-9075.
7. Wu, X., He, P., Wang, X., & Dai, B.. Zinc acetate supported on N-doped activated carbon as catalysts for acetylene acetoxylation. **Chemical Engineering Journal**, 2017, 309, 172-177.
8. Chen F., Chen D., Shi L., Liu N., & Dai B. "Fiddler crab-type" imidazolium salt as remote substituents tuning organocatalyst for the cycloaddition of epoxides with carbon dioxide. **Journal of CO<sub>2</sub> Utilization**, 2016, 16, 391-398.
9. Wang Gang, Peng Jun, Zhang Lili, Zhang Jun, Dai Bin, Zhu Mingyuan, Xia Lili, Yu Feng. Two-dimensional SnS<sub>2</sub>@PAN nanoplates with high capacity and excellent stability for lithium-ion batteries. **Journal of Materials Chemistry A**, 2015, 3, 3659-3666
10. Sheng W., Li B., Dai B., Yu B., Jia X., & Zhou F.. Brushing up from "Anywhere" under Sunlight: A Universal Surface-Initiated Polymerization from Polydopamine-Coated Surfaces. **Chemical Science**, 2015, 6(3):2068-2073
11. Li W., Ma Z., Bai G., Hu J., Guo X., Dai B.\*, & Jia X.\* Dopamine-assisted one-step fabrication of Ag@ AgCl nanophotocatalyst with tunable morphology, composition and improved photocatalytic performance. **Applied Catalysis B: Environmental**, 2015, 174-175, 43-48,
12. Zhang J., Ajitha M. J., He L\*, Liu K., Dai B\*, & Huang, K. W\*. Enantioselective Organocatalyzed Oxa-Michael-Aldol Cascade Reactions: Construction of Chiral 4H-Chromenes with a Trifluoromethylated Tetrasubstituted Carbon Stereocenter. **Advanced Synthesis & Catalysis**, 2015, 357(5):967-973,
13. Bin Dai, Kun Chen, Yang Wang, Lihua Kang, and Mingyuan Zhu, Boron and nitrogen doping in graphene for the catalysis of acetylene hydrochlorination, **ACS Catalysis**, 2015, 5:2541-2547
14. Bin Dai; Xiaoyan Li; Jinli Zhang; Feng Yu; Mingyuan Zhu\*, Application of mesoporous carbon nitride to support Au catalysts for acetylene hydrochlorination, **Chemical Engineering Science**, 2015, 135(2):472-478
15. Zhu M., Wang Q., Chen K., Wang Y., Huang C., Dai H., Yu F., Kang L & Dai, B\*. The development of a heterogeneous non-mercury catalyst for acetylene hydrochlorination. **ACS Catal.**, 2015, 5 (9), pp 5306-5316
16. Guo H., Xing F., Du G. F.\*\*, Huang K. W., Dai B.\*, & He L.\* N-Heterocyclic Carbene-Catalyzed Diastereoselective Vinylogous Michael Addition Reaction of  $\gamma$ -Substituted Deconjugated Butenolides. **The Journal of organic chemistry**, 2015, 80(24), 12606-12613.
17. Feng Yu\*, Lili Zhang, Mingyuan Zhu, Yongxin An, Lili Xia, Xugen Wang, Bin Dai\* Overwhelming microwave irradiation assisted synthesis of olivine-structured LiMPO<sub>4</sub> (M=Fe, Mn, Co and Ni) for Li-ion batteries, **Nano Energy**, 2014, 3: 64-79
18. Li Xiaoyan, Wang Yang, Kang Lihua, Zhu Mingyuan\*, Dai Bin\*, A novel, non-metallic graphitic carbon nitride catalyst for acetylene hydrochlorination, **Journal of Catalysis**, 2014, 311:288-294
19. Xu Caixia, Du Weiyuan, Zeng Yi, Dai Bin\*, Guo Hao\*, Reactivity Switch Enabled by Counterion: Highly Chemoselective Dimerization and Hydration of Terminal Alkynes, **Organic Letters**, 2014, 16 (3) : 948-951
20. He Lin\*; Guo Hao; Gu Cheng-Zhi; Du Guang-Fen; Dai Bin\*, N-Heterocyclic Carbene-Catalyzed Formal Cross-Coupling Reaction of  $\alpha$ -Haloenals with Thiols: Organocatalytic Construction of sp<sup>2</sup> Carbon-Sulfur Bonds, **Chemical Communications**, 2014, 50, 3719-3721
21. Pian Jixin, He Lin\*, Du Guangfen, Guo Hao and Dai Bin\*, Diastereoselective Synthesis of N-aryl Tetrahydroquinolines and N-aryl Indolines by the Tandem Reaction of Arynes, **The Journal of Organic Chemistry**, 2014, 79(12):5820-5826
22. Haiyang Zhang; Bin Dai\*; Wei Li; Xugen Wang; Jinli Zhang\*; Mingyuan Zhu; Junjie Gu. Non-mercury catalytic acetylene hydrochlorination over ternary Au-Co(III)-Cu(II)/SAC catalysts, **Journal of Catalysis**, 2014, 316: 141-148
23. Li Xiaoyan, Zhu Mingyuan\*, Dai Bin\*. AuCl<sub>3</sub> on polypyrrole-modified carbon nanotubes as acetylene hydrochlorination catalysts, **Applied Catalysis B: Environmental**, 2013, 142-143: 234-240
24. Haiyang Zhang, Bin Dai\*, Xugen Wang, Wei Li, You Han, Junjie Gu and Jinli Zhang\*, Non-mercury catalytic acetylene hydrochlorination over bimetallic Au-Co(III)/SAC catalysts for vinyl chloride monomer production, **Green Chemistry**, 2013, 15 (3) : 829-836

