

课程详述

COURSE SPECIFICATION

以下课程信息可能根据实际授课需要或在课程检讨之后产生变动。如对课程有任何疑问，请联系授课教师。

The course information as follows may be subject to change, either during the session because of unforeseen circumstances, or following review of the course at the end of the session. Queries about the course should be directed to the course instructor.

1.	课程名称 Course Title	有机化学实验 Organic Chemistry Laboratory				
2.	授课院系 Originating Department	化学系 Department of Chemistry				
3.	课程编号 Course Code	CH208				
4.	课程学分 Credit Value	2				
5.	课程类别 Course Type	专业基础课 Major Foundational Courses				
6.	授课学期 Semester	春季 Spring				
7.	授课语言 Teaching Language	中英双语 English & Chinese				
8.	授课教师、所属学系、联系方式 (如属团队授课, 请列明其他授课教师) Instructor(s), Affiliation & Contact (For team teaching, please list all instructors)	房芳, 化学系 Fangfang, Chemistry 0755-8801-8731 于月娜, 化学系 Yuyuena, Chemistry 0755-8801-8378				
9.	实验员/助教、所属学系、联系方式 Tutor/TA(s), Contact	无 NA				
10.	选课人数限额(可不填) Maximum Enrolment (Optional)					
11.	授课方式 Delivery Method	讲授 Lectures	习题/辅导/讨论 Tutorials	实验/实习 Lab/Practical	其它(请具体注明) Other (Please specify)	总学时 Total
	学时数 Credit Hours	4		60		64

12. 先修课程、其它学习要求 Pre-requisites or Other Academic Requirements	有机化学 I (CH203), 化学原理实验 A (CH102-17)
13. 后续课程、其它学习规划 Courses for which this course is a pre-requisite	高等有机化学实验 (CH309)
14. 其它要求修读本课程的学系 Cross-listing Dept.	无 None

教学大纲及教学日历 SYLLABUS

15. 教学目标 Course Objectives

有机化学实验是化学专业本科二年级学生的一门基础实验课。其目的是使学生准确掌握有机化学实验的基本技能，了解和掌握有机实验室常用仪器的使用方法，培养学生查阅文献，完成实验报告的能力，培养学生实事求是的科学态度以及良好的科学素养。

The organic experiments selected for this course are designed to teach students the basic skills and techniques in organic chemistry experiments, the ability to consult literature by using literature retrieval software (SciFinder) and use common chemical drawing software (ChemDraw). Furthermore, students will understand how to analyze and summarize the results of the experiment. These will lay a good foundation for the students before going into the scientific research laboratory.

16. 预达学习成果 Learning Outcomes

学生熟练掌握有机化学实验的操作技能，熟练使用常用检测仪器，熟练地查阅文献，具有独立科研的能力。

After completing this course, students should master the basic methods, necessary skills, and instrument operation related to organic chemistry experiments. They should be also familiar with laboratory safety rules.

17. 课程内容及教学日历 (如授课语言以英文为主, 则课程内容介绍可以用英文; 如团队教学或模块教学, 教学日历须注明主讲人)

Course Contents (in Parts/Chapters/Sections/Weeks. Please notify name of instructor for course section(s), if this is a team teaching or module course.)



绪论 实验室安全、实验内容、评分标准 (4 学时)

INTRODUCTION Laboratory Safety, Experiment Contents and Scoring Criteria. (4 credit hours)

实验一、阿司匹林的合成 (5 学时)

Exp.1 preparation of Aspirin (5 credit hours)

实验二、查尔酮的合成 (5 学时)

Exp.2 Synthesis of Chalcones (5 credit hours)

实验三、溴乙烷的制备 (5 学时)

Exp.3 Preparation of ethyl bromide (5 credit hours)

实验四、苯甲酸乙酯的制备 (5 学时)

Exp.4 Experiment 6: Synthesis of ethyl benzoate (5 credit hours)

实验五、呋喃甲醇和呋喃甲酸的制备 (5 学时)

Exp.5 The Cannizzaro Reaction: Synthesis of 2-Furanmethanol and 2-furancarboxylic acid (5 credit hours)

实验六、乙酰苯胺的制备 (5 学时)

Exp.6 Synthesis of N-acetylaniline (5 credit hours)

实验七、格式试剂：2-甲基-2-丁醇的制备 (5 学时)

Exp.7 Grignard reagents: Synthesis of 2-methyl-butanol (5 credit hours)

实验八、Suzuki-Miyaura 偶联反应 (5 学时)

Exp.8 The Suzuki-Miyaura reaction (5 credit hours)

实验九：L-脯氨酸催化的不对称 Aldol 缩合反应 (5 学时)

Exp.9 L-proline catalyzed Aldol Reaction of 4-nitrobenzaldehyde with acetone (5 credit hours)

实验十：Hantzsch(汉斯酯)1, 4-二氢吡啶类化合物的合成 (5 学时)

Exp.10 Synthesis of Hantzsh ester (5 credit hours)

实验十一：脯氨酸衍生的有机小分子催化剂的合成 (5 学时)

Exp.11 Synthesis of The L-Prolinol Derivative Catalyst (5 credit hours)

实验十二：铜催化的炔烃和叠氮化物的环加成反应 (Click 反应) (5 学时)

Exp.12 Copper (II) - Catalyzed Azide-Azide Cycloaddition (5 credit hours)

18. 教材及其它参考资料 Textbook and Supplementary Readings

1. Comprehensive Organic Chemistry Experiments for the Laboratory Classroom
2. Experimental Organic Chemistry (laboratory manual)
3. Advanced Practical Organic Chemistry

课程评估 ASSESSMENT

19. 评估形式 Type of Assessment	评估时间 Time	占考试总成绩百分比 % of final score	违纪处罚 Penalty	备注 Notes
出勤 Attendance		5		
课堂表现 Class Performance		35		
小测验 Quiz		10		
课程项目 Projects				
平时作业 Assignments		20		
期中考试 Mid-Term Test				
期末考试 Final Exam				
期末报告 Final Presentation				
其它（可根据需要 改写以上评估方 式） Others (The above may be modified as necessary)		30		报告/ 实验操作考试 Presentation / experimental operation test

20. 记分方式 GRADING SYSTEM

- A. 十三级等级制 Letter Grading
 B. 二级记分制（通过/不通过） Pass/Fail Grading

课程审批 REVIEW AND APPROVAL

21. 本课程设置已经过以下责任人/委员会审议通过
 This Course has been approved by the following person or committee of authority

化学系教学指导委员会
 Teaching committee of the chemistry department