

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	高等有机化学实验 Advanced organic Chemistry Laboratory				
2.	授课院系 Originating Department	化学系 Department of Chemistry				
3.	课程编号 Course Code	CH309				
4.	课程学分 Credit Value	2				
5.	课程类别 Course Type	专业选修课 Major Elective Courses				
6.	授课学期 Semester	秋季 Fall				
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 II (CH206), 有机化学实验 (CH208)
13. 后续课程、其它学习规划 Courses for which this course is a pre-requisite	无 NA
14. 其它要求修读本课程的学系 Cross-listing Dept.	无 NA

教学大纲及教学日历 SYLLABUS

15. 教学目标 Course Objectives

高等有机化学实验是化学专业本科三年级学生的一门专业选修实验课。本课程以操作技术练习和设计为主, 尽可能表现出实验室工作的完整性。其目的是使这些学生在进入研究实验室进行毕业论文研究工作之前, 通过专门的实验课程进行训练和提高实际操作能力, 以适应将来的实验工作。

The very organic experiments selected for this course are designed to teach the techniques and skills necessary to carry out experimental work in organic chemistry. Furthermore, the students' independent experimental ability in the organic laboratory will be improved through operating some common instruments and consulting literature skillfully.

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 1,1'-二联-2-萘酚的合成与拆分 (10 学时)

Exp 1. Synthesis and Optical Resolution of Racemic 1,1'-Bi-2-naphthol (BINOL) (10 credit hours)

实验二 托品酮的合成 (10 学时)

Exp 2. Synthesis of Tropinone (10 credit hours)

实验三 手性磷酸催化的吲哚与亚胺的不对称 Friedel-Crafts 反应 (10 学时)

Exp 3. Catalytic Asymmetric Friedel-Craft Reaction of Indole with Imine by Chiral Phosphoric Acids (10 credit hours)

实验四 CBS (Corey-Bakshi-Shibata) 不对称还原合成手性醇 (10 学时)

Exp 4. Enantioselective Synthesis of Chiral Alcohol via CBS (Corey-Bakshi-Shibata) Reductio (10 credit hours)

实验五 微波促进下的色酮衍生物的合成 (10 学时)

Exp 5. Synthesis of 3-Carbonylchromones Derivative under microwave irradiation (10 credit hours)

实验六 钯催化的芳基羧酸的 sp² C-H 键甲基化反应 (10 学时)

Exp 6. Palladium-Catalyzed Methylation of sp² C-H Bond in Aryl Carboxylic Acid (10 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. 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		30		
小测验 Quiz		15		
课程项目 Projects				
平时作业 Assignments		50		
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)

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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

