

CH352B: Chemistry Major Lab II (Friday Session)

Important notice:

All students are required to attend the orientation either on March 10 (students enrolled in CH352A) or 12 (students enrolled in CH352B). Missing the orientation will result in significant point deduction in the total score (Maximum A⁻ grade). Orientation session will be delivered via Zoom (<https://kaist.zoom.us/j/4217755535>)

Course Description:

This organic chemistry laboratory course is intended to provide students majoring in chemistry with fundamental and essential experimental skills and concepts in organic chemistry.

Course Prerequisites

Organic Chemistry I (CH221) and II (CH223)

Class:

Fri (CH352B) 13:00-19:00.

Laboratory:

Goong-ri Laboratory Building (E6-5), room# 502 or 506.

Instructor:

한순규 (Sunkyu Han, CH352B, sunkyu.han@kaist.ac.kr)

홍순혁 (Soon Hyeok Hong, CH352A, soonhyeok.hong@kaist.ac.kr)

Teaching Assistant:

- 장영호(Head TA, Youngho Jang), 이슬찬(Seulchan Lee), 강규민(Gyumin Kang),
권정욱(Jeonguk Kweon),

Website:

<http://www.chemlabinkaist.net/>

Grading Policy

25%: Pre-lab reports (hand-writing)

30%: Experiments and Results (Experiments and Results PPT files)

20%: Mid-term paper

25%: Final paper

Course Schedule (subject to change due to COVID-19 related issues)

Week	Date	Contents
1	03/05	No Class (Enjoy the first week of the semester)
2	03/12	Introduction to Organic Chemistry Lab (Orientation: Mandatory!). Safety, organic chemistry literatures, chemdraw, scifinder and more. Tips on how to ACE this course will be revealed on this day by Prof. Sunkyu Han. (https://kaist.zoom.us/j/4217755535)
3	03/19	No labs (COVID-19 Positive case at KAIST)
4	03/26	Diels-Alder Reaction
5	04/02	No labs (COVID-19 Positive case at KAIST)
6	04/09	No labs (COVID-19 Positive case at KAIST)
7	04/16	No labs (COVID-19 Positive case at KAIST)
8	04/23	No labs (Good luck with the midterm exams) Midterm Paper Due: 04/26 10 pm
9	04/30	Biginelli Reaction & Converting Aniline to Brominated Acetylide
10	05/07	Menthol Purification– Thin-Layer Chromatography and Column Chromatography
11	05/14	Menthol esterification–Setting up a reaction and conducting work-up & Separation of Unknown Compounds by Distillation
12	05/21	Aldol Reaction Between Unknown Compounds
13	05/28	No labs (Potential make-up experiments for COVID19-related issues)
14	06/04	No labs (Potential make-up experiments for COVID19-related issues)
15	06/11	No labs (Potential make-up experiments for COVID19-related issues)
16	06/18	No labs (Good luck with your finals) Final Paper Due: 06/21 10 pm

Pre-Lab Reports (25%)

Download the lab manual from the website. Read the manual and answer the pre-lab questions.

Refer to references for answers to the pre-lab reports.

Hand-writing only (typing is not acceptable).

Use your pre-lab report during the lab and **SUBMIT to your TA** when you leave the lab.

Your TA will inspect the cleanness of your hood, bench, and glasswares. Only after the approval of your TA, your pre-lab report will be accepted. Pre-lab reports that are not properly submitted won't be graded and will get to credit.

Grading Policy

- A: ~80% 이상 **이** reasonable answer 일 경우
- B: ~60% 이상 **이** reasonable answer 일 경우
- C: ~40% 이상 **이** reasonable answer 일 경우
- D: ~40% 이하 **만** 이 reasonable answer 일 경우

Experiments and Results PPT Files (30%)

Follow the instructions of the manual.

Adhere to the safety rules.

During the course of experiments, take notes of experimental set up, observations, data etc.

You may take photo of experimental set ups and result.

After finishing the labwork, generate a PPT file (**maximum 5 pages**) that contains the experimental data.

Submission of a text light, scheme (Chemdraw, see below on how to install it) and photo heavy PPT file is encouraged. That will make your life easier.

Submit your ppt file using turnitin before the next lab starts.

Grading Policy

- A: ~80% 이상 적어야 할 데이터를 충실히 적은 경우
- B: ~60% 이상 적어야 할 데이터를 충실히 적은 경우
- C: ~40% 이상 적어야 할 데이터를 충실히 적은 경우
- D: ~40% 이하로 적어야 할 데이터를 충실히 적지 않은 경우

Midterm and Final Papers (20, 25%, respectively)

1. Online submission: www.turnitin.com
2. Create your account. Enter Class ID and Password (Provided by TA)
3. Use ACS style template from
<http://pubs.acs.org/paragonplus/submission/templates/acsPageWide-MSW2010.dotx>
4. Enter your name in Korean (한글로 이름과 성 입력). English for foreign students.

5. Submission due: Midterm paper: April 26, 10 pm; Final paper: June 21, 10 pm.
6. For chemical drawing, use ChemBioDraw software.
7. Reports should contain general contents: introduction, data & results, actual experimental procedures, discussion, and references.
8. Post-lab questions should be included in the paper.
9. Plagiarism results in zero for all reports involved (Determined by Chief TA and Professor, turnitin platform are very good at detecting similarity between reports. Copy and paste of published paper will also be detected in the turnitin platform. So don't do that!).
10. Late submission is not allowed in Turnitin website. You should send your lab report to Chief TA. The maximum score for the late report is B+.

Grading Criteria

Each items determined by A,B,C,D grade

Title: Succinct and clear title (5)

Abstract: (15)

Introduction: with background information, referencing (20)

Results: Data presentation, chemdraw (25)

Discussion: Data interpretation, chemdraw (25)

Conclusion: (10)

How to Download and Install Chemdraw Software

A. Go to

<http://www.cambridgesoft.com>

and create an ID and sign-in

B. Go to

<http://sitelicense.cambridgesoft.com/sitelicense.cfm?sid=2207>

Log-in using your KAIST email and obtain the Serial Number via email.

Serial number can be obtained only once by the KAIST email account. Be careful about the privacy of your account.

Laboratory Makeup Policy

- Make-ups are only for those who missed labs for a legitimate reason and got permission to make up lab. (Give a written documentation to Chief TA)
- In any cases, contact Chief TA before your lab for permission.**
- Missed labs without a valid excuse, shall count as zero (no credit for the prelab and

experimental and results PPT) and the student will not be allowed to make up this missed lab.

- Students are not allowed to make up late Experimental and Results PPT or to make up more than two experiments during the scheduled lab make-up time. Re-doing labs is not possible.
- Missed scheduled make-ups will be counted as zero and will not be rescheduled unless exceptional circumstances exist.
- If more than two labs are missed with or without valid excuse student shall fail the course.
- Your lab TA will let you know the make-up schedule and the due dates for make-up reports.