COURSE INFORMATION

Course Description: This is a one-semester, that provides an organic laboratory experience. It includes techniques of isolating and handling organic substances, as well as biological materials.

Prerequisite: CHE 133; CHE 134 or CHE 154. Pre- or Corequisite: CHE 321 or 331. 2 credits

COURSE LEARNING OBJECTIVE AND ASSESSMENTS

This course aims to equip students with essential techniques for isolating and analyzing pure organic compounds efficiently and safely while maintaining accurate scientific records. The learning objectives and corresponding assessments are as follows:

1. **Adherence to Safety Protocols and Laboratory Etiquette**. Objective: Students will demonstrate proficiency in following standard chemical handling protocols and laboratory etiquette. Assessment: Evaluated through observations of lab etiquette during sessions.
2. **Recording Observations and Data**. Objective: Students will develop the skill of accurately documenting observations and experimental data. Assessment: Regular review of entries in the electronic lab notebook (ELN).
3. **Execution of Standard Synthetic Laboratory Techniques**. Perform key techniques, including crystallization (small/large scale), melting point, extractions (solid-liquid, liquid-liquid), rotary evaporation, TLC, column chromatography, reflux, and distillation. Assessment: Quality of products evaluating: yield and purity.
4. **Analyzing Purity and Calculating Metrics**. Objective: Students will analyze product purity, calculate retention factors (Rf), and determine percent recovery/yield with precision. Assessment: Performance on lab reports, lecture quizzes, and theory quizzes.

INSTRUCTORS AND STAFF

Instructor: **Dr. Sajjad Hossain**
Email: saj.hossain@stonybrook.edu
Office hours: Tu and Th 12:30-1 pm, Chemistry Rm 370C
Stockroom Manager: Ms. Yenhui Kuan
Email: yenhui.kuan@stonybrook.edu
Teaching Assistants: TBA.

COURSE STRUCTURE

R01: Lectures (Video): Lecture videos will be available on electronic lab manual/notebook [ELN].
Lab (in-person): Enter your assigned lab trough Chemistry room 344.
Meeting times for Lab Sections L11 and L12: Tu/Th: 8:30 am-12:30 pm
Meeting times for Lab Sections L13 and L14: Tu/Th: 1:00- 5:00 pm
In-Person Theory Quizzes: The in-person theory quizzes will be administered on **Mon, June 9th** and **Mon**, **June 30th** from **12-12:50 PM**. The exact location will be announced on the Brightspace.

Before each experiment, a quiz on the electronic lab manual/notebook [ELN] covering background reading and related lectures is due. On your scheduled lab day, you'll attend in person, record data and observations in the ELN (accessible only during the session and closing 10 minutes before it ends), and submit products for grading. A short post-lab report is due after each experiment that you will complete at home and submit before the due date as it appears on your ELN. **Student Responsibility:** Each student is responsible for knowing all procedures and course expectations detailed: in this document, the Electronic Lab Manual (ELN), on the Brightspace, those announced in the lectures or during the lab by the teaching assistants. It is your responsibility to find out about all the course information.

REQUIRED MATERIALS

- **CHE 327 ELECTRONIC LAB MANUAL/NOTEBOOK (ELN).** This will be purchased electronically from labflow.com, which comes as a bundle of an Electronic Laboratory Manual and Notebook (ELN). If you need technical assistant with your electronic lab manual/notebook contact labflow support directly (support@labflow.freshdesk.com).

  A. Labflow Account - Creation or Log-In
  1. Go to labflow.com. Click on **CREATE ACCOUNT**
  2. Username - Enter your Stony Brook University email address.

  B. Enrolling in a Lab Section
  1. Search for your course: **Stony Brook - CHE 327**
  2. Enter enrollment code. Your enrollment code is the lab section you registered for that starts with the letter L followed by two numbers, e.g. L11. Click **Continue**.
  3. Chose the **first day of the week** that your lab section meets.
  4. Click **COMPLETE ENROLLMENT**.

- **CHEMICAL SPLASH PROOF SAFETY GOGGLES [ANSI Z87.1].** Standard for Occupational and Educational Eye and Face Protection established by ANSI**.** Be sure you purchase chemical splash goggles and not a less effective kind of eye protection. Example: Link1, Link 2.

- **CHEMICAL RESISTANT HEAVY-DUTY GLOVES.** Lab Safety Supply Neoprene Gloves are recommended as they resist a broad range of organic and inorganic chemicals. Playtex Living Gloves are also satisfactory and probably the cheapest available. They can be found at a grocery store or home improvement store. Example: Link.

- **COMBINATION PADLOCK.** This will be used to lock your lab drawer. A padlock requiring a key to open it will not be accepted. Example: Link.

- **APPROPRIATE CLOTHING FOR THE LAB.** You should wear clothing and shoes that will cover your entire body. You will be provided a lab coat during check-in, which you will be required to wear during lab.

- **LABELING MARKER.** Black or Blue ink fine tip Sharpie marker.

- **A WEB ENABLED DEVICE.** You will be taking lab notes directly to your electronic lab notebook and submitting the post lab reports electronically. The stockroom will provide equipment if you need it.

- **DISPOSABLE NITRILE GLOVES (not required but recommended).** Disposable gloves to keep your hands clean when conducting experiments. They can be found at any superstore or home improvement store. Example: Link.

COMMUNICATION

BRIGHTSPACE: Important announcements and updates will be communicated through Brightspace. These updates will cover any modifications to your electronic lab manual and other essential course-related details, including grades. It is your responsibility to regularly check these announcements on Brightspace to stay up-to-date. The Brightspace course site can be accessed at https://it.stonybrook.edu/services/brightspace.

EMAIL: *Email is generally a very inefficient and time-consuming means of answering chemistry questions, thus answering chemistry questions in person is preferred.* For personal matters, your Stony Brook University email is the primary channel for all university-related communications. When sending emails, ensure to include your name, semester, course, and lab section in the subject line. Emails lacking this information may not receive a response. All communication from instructors will be directed to your SBU email account. Access Stony Brook Google Mail at mycloud.stonybrook.edu using your NetID and password. Please expect a response time of 24-48 hours for emails, with potential delays over weekends and holidays.

GRADING (SUBJECT TO MINOR CHANGES)

You can earn a total of 400 points in this course. You will be graded relative to other students. Final grades will be calculated based on the class average.

Lab Attendance Requirement: Successful completion of all lab hours is required to pass the course. If you miss one of the first six experiments, you can make it up by attending the makeup lab which is distinct form the missed experiment. If you miss any portions of the EXP 7 or EXP 8, you will catch up by completing that portion in the subsequent lab session. If you are in good standing but fail to complete a required makeup or catch-up lab, you will receive an Incomplete (I) grade for the course. Missing more than one lab will result in an automatic F grade. Notify your TA and instructors promptly if you miss a lab.

Theory Quizzes (100 points, 25%): There will be two 50-minute quizzes covering both theory and practical concepts (see schedule for dates). Each quiz will include multiple-choice and free-response questions. You'll receive a question booklet and a scantron answer sheet; only answers recorded on the scantron will be graded. Both the booklet and answer sheet must be submitted at the end of the quiz. Practice quizzes will be posted on Brightspace. If you miss a theory quiz and have a valid excuse, you may take a cumulative makeup quiz consisting of free-response questions only. Only one missed quiz may be made up; missing both will result in a zero for the second quiz.

Prelab Quizzes (20 points, 5%): Before each lab, a quiz will be due on the ELN, covering the background reading and lecture videos related to the upcoming experiment.

Lab Notebook Checks (80points, 20%): Your note-taking will be assessed through regular notebook checks. All entries must be completed and submitted in the ELN at least 10 minutes before the end of your lab session, as access will be locked afterward. Lab data or observations will not be accepted via email.

Products (90 points, 22.5%): For each experiment (except simple distillation), you must submit a product or TLC plate for evaluation. Purity is prioritized over yield. If you must choose between purity and yield, prioritize purity, as it holds more value. If you request a stockroom refill, your yield grade will be zero.

Post-Lab Assignments (85 points, 21.25%): After each experiment, a post-lab assignment with questions will be available on the ELN. Deadlines are listed within the ELN.

Lab Etiquette (20 points, 5%): Maintaining proper lab etiquette is essential for a safe and productive environment. Arrive on time, work independently, come prepared, and prioritize safety and respect for others. Stop lab work 10 minutes before the session ends and clean your bench before leaving. Your TA will assess your lab etiquette throughout the semester, though grades may not be released until the end.

IMPORTANT COURSE POLICIES

Token Economy Policy: This course will utilize a *Token Economy* system where you earn "tokens" (like points, stars, or virtual credits) for completing certain tasks or showing certain behaviors. You can then use those tokens to "buy" choices or perks in the course. Please read the following carefully for how to utilize tokens in this Labflow course:

Token earning opportunities:

- Completing the Introduction Quiz with a score of 80% or higher *(10 tokens)*
- Watching Prelab Lecture Videos in their entirety *(2 tokens each)*
- Submitting Postlab Reports before their due dates *(1 token)*

Token spending opportunities:

- A second attempt on Prelab Quizzes *(1 token, must be requested before the quiz due date)*
- A 24-hour extension on Post lab Reports *(2 tokens, must be requested before the report cut-off date)*
- A one-time product refill for the first six experiment *(10 tokens)*
- Extra TLC-Plate *(1 token will be removed from account)*
- Drop the lowest lab total for the first six experiment with the average of the first six experiment *(20 tokens required).*
- At the end of the semester, leftover tokens can be redeemed for a Trophy.

Late Submissions Policy: In this course we strictly adhere to no late submissions policy. There is no makeup for any missed prelab quizzes, No extension is granted past the cutoff deadline. Plan accordingly and communicate any potential issues or concerns with deadlines in advance. Exceptions to this policy will only be made in cases of documented emergencies or extenuating circumstances, and approval must be obtained from the instructor prior to the deadline.

Lab Cleanup Policy: To maintain a safe and organized laboratory environment, all students are required to participate in a thorough cleanup of their workspace. Ten minutes before the scheduled end of each lab session, students must begin the cleanup process. This includes properly storing equipment, disposing of materials as instructed, and leaving the workspace in a tidy condition. Failure to adhere to the lab cleanup policy may result in penalties, including point deductions, token removal or restrictions on future lab participation.

Stockroom Policy: Equipment you borrow should be returned to the stockroom as soon as practical during the same lab period. Keep in mind that the stockroom **closes fifteen minutes before the scheduled end of the lab** period. The stockroom reserves the right to open your drawer anytime during the semester.

Penalties: Points will be deducted from your overall course total for not having safety goggles or heavy-duty gloves, arriving with inappropriate clothing, forgetting to bring a padlock or forgetting its combination more than once. It is important to adhere to course requirements to avoid any deductions.

Grade Adjustment Policy: No grades will be dropped. Your final grade is reflective of your earned performance. Final grades are non-negotiable. Be mindful of your performance throughout the course to achieve the desired outcome.

Extra Credit Policy: No extra credit opportunities will be offered to alter your grade. Plan your time and resources accordingly, as there will be no additional opportunities for extra assignments or projects.

Recommendation Letters Policy: The instructors do not provide recommendation letters for students in this course due to limited day-to-day interactions. A letter written by a teaching assistant will not be co-signed by the instructors.

SUMMER SESSION SCHEDULE

If the University cancels a class, it will be rescheduled, and the **new date will be announced on Brightspace**. Attendance on the rescheduled day will be mandatory. This may also affect the rest of the schedule, so you should ensure your availability for any designated class day, including those originally assigned to the other group or any scheduled makeup days.

SESSION #1 PREPARATION: CHECK IN & EXP 1 PARTS A+B

PURCHASE [SEE REQUIRED MATERIAL SECTION]
1. ELN (labflow.com)
2. Combination lock, Chemical Resistant Splashproof Goggles, Heavy Duty Gloves, Fine Tip Sharpie Marker and bring to the lab check-in.

READING ASSIGNMENTS FROM ELN
Part I: Introduction. How to Succeed in Organic Chemistry Laboratory and chapters 1.1-1.4.
Part II: Techniques. Read Chapter 2.1. Crystallization [PDF]
Part III: Experiments. Read EXP1. Crystallization of Benzoic Acid [PDF]

LECTURE VIDEO- ELN– LECTURE VIDEOS
Watch L01. Introduction/Lab safety/Lab check in.
& L02. Crystallization

DUE BEFORE THE START OF THE LAB:
1. ELN – "Introduction Quiz" TAB → Introduction Quiz [10 tokens]
2. PRELAB QUIZ DUE BEFORE THE START OF THE LAB – ELN – "PRELAB QUIZZES" TAB
PLQ1-BA (from the prelab quiz tab on your ELN)

SESSION #1. TU 5/26/25. IN – PERSON LAB.

Failure to check-in will result in deregistration.
1. Check In: Bring your goggles, heavy duty gloves, sharpie, and combination lock. Go to **Chemistry Room 344** and wait for your name to be called to get entry to your assigned lab.
Access the ELN activity "Notebook - Inventory Check-In" from the folder "Lab Activity".
Complete ELN Activity and submit the page once completed.

DUE following the lab check in:
ELN ASSIGNMENT/S DUE AT HOME. ELN → "POSTLAB ASSIGNMENT" TAB
Safety Voucher

2. EXP1: Crystallization of Benzoic Acid.
Benzoic acid experiment requires two sessions. During this lab, you will complete parts A and B of the benzoic acid experiment. **For this experiment we will perform Part B followed by Part A.** Session 2 (Part C) of the benzoic acid experiment will be conducted during your next lab.

Follow the step by step procedure and record your data and observation by accessing the following ELN page from the Lab Activity" folder: "E1N. - Crystallization of Benzoic Acid Part A and B [8 points]"
NOTE: Your lab observation page will be graded.

ELN ASSIGNMENT/S DUE AT HOME. ELN → "POSTLAB ASSIGNMENT" TAB
NONE

SESSION #2 PREPARATION: EXP 2 PARTS A + B & EXP 1 PART C

READING ASSIGNMENTS FROM THE ELN
From Part II: Techniques. Read Chapter 2.2. Solid Liquid Extraction (Pages: Ext.1-2).
From Part II: Techniques. Read Chapter 2.2. Removing Solvent (Pages: Ext.8-9).
From Part I: Instrumentation. Read Chapter 1.3. Buchi Rotary Evaporator (Pages: GLE. 7-8).
From Part II: Techniques. Read Chapter 2.3. Small Scale crystallization (Page: CRY. 16).
From Part III: EXP2. Extraction of Trimyristin from Nutmeg [PDF]
From Part III: EXP1. Crystallization of Benzoic Acid [PDF] Part C.

PRERECORDED LECTURE VIDEO- BRIGHTSPACE– CONTENT – LECTURE VIDEOS
Watch L03. Solid Liquid Extraction, melting point

DUE: ELN ASSIGNMENTS BEFORE THE START OF YOUR LAB
PLQ2-Trim (from the prelab quiz tab on your ELN)

SESSION #2. TH, 05/29/25. IN – PERSON LAB

LAB EXP 2: Extraction of Trimyristin from Ground Nutmeg & complete EXP 1.
Trimyristin experiment requires two sessions. During this lab, you will complete Parts A and B of the trimyristin experiment, as well as Part C of your benzoic acid experiment. Session 2 (Part C) of the trimyristin experiment will be conducted during your next lab.

Follow the step by step procedure and record your data and observation by accessing the following ELN page from the Lab Activity" folder:
1. E2N. Notebook - Extraction of Trimyristin from Nutmeg Part A and B
2. E1P. Product - Crystallization of Benzoic Acid Part C → **Submit benzoic acid product.**
→If you were absent for the Parts A and B of the benzoic acid experiment, you will not open E1P.
REMEMBER: Your lab observation notebook page will be graded.

ELN ASSIGNMENT/S DUE AT HOME. ELN → "POSTLAB ASSIGNMENT" TAB
E1R. Postlab - Crystallization of Benzoic Acid [10 points].
→If you were absent for EXP 1, do Not Submit E1R.

SESSION #3 PREPARATION: EXP 3 PARTS A + B & EXP 2 PART C

READING ASSIGNMENTS FROM THE ELN
From Part II: Techniques. Read Chapter 2.4. Reflux.
From Part II: Techniques. Read Chapter 2.2. Acid-Base Extraction (Pages: Ext.7)
From Part II: Techniques. Review Chapter 2.1. Vacuum Filtration (Pages: CRY. 9-15).
From Part II: Techniques. Read Chapter 2.3. Melting Point.
From Part III: EXP3. Myristic Acid Synthesis [PDF]
From Part III: EXP2. Extraction of Trimyristin from Nutmeg [PDF] Part C.

PRERECORDED LECTURE VIDEO- BRIGHTSPACE– CONTENT – LECTURE VIDEOS
Watch L04. Ester Hydrolysis, Reflux, Separation of Layers and Celite Filtration.

DUE: ELN ASSIGNMENTS BEFORE THE START OF YOUR LAB
Prelab Quizzes Folder: PLQ3

SESSION #3. TU 6/03/25. IN – PERSON LAB

LAB EXP 3: Myristic Acid Synthesis [HEAVY DUTY GLOVES REQUIRED] & Finish EXP 2. Part C.
Myristic acid experiment requires two sessions. During this lab, you will complete Parts A and B of the myristic acid experiment, as well as Part C of your trimyristin experiment. Session 2 (Part C) of the myristic acid experiment will be conducted during your next lab.

Follow the step by step procedure and record your data and observation by accessing the following ELN page from the Lab Activity" folder:
1. E3N. Notebook - Myristic Acid Synthesis Part A and B [8 points]
2. E2P. Product - Extraction of Trimyristin from Nutmeg Part C [10 points] → **Submit product.**

→Do not open E2P if you were absent for the Parts A and B of the EXP2, trimyristin experiment.
→If you missed EXP2 but completed Parts A and B (E1N) of EXP1, Benzoic Acid Experiment, you should now complete Part C (E1P) of EXP1 and submit your benzoic acid product.

ELN ASSIGNMENT/S DUE AT HOME. ELN → "POSTLAB ASSIGNMENT" TAB
E2R. Postlab - Extraction of Trimyristin [10 points].
→Do Not Submit E2R if you were absent for the Parts A and B of EXP2 trimyristin experiment.
→ If you missed EXP2 but completed Part C (E1P) of EXP1 during this lab, you must submit the E1R by 11:59 PM on the same day you completed Part C of the Benzoic Acid Experiment.

SESSION #4 PREPARATION: EXP 4 & EXP 3 PART C

READING ASSIGNMENTS FROM THE ELN
From Part II: Techniques. Read Chapter 2.5. Distillation.
From Part I: Review How to read thermometer. Chapter 1.3 (Pages: GLE.11).
From Part II: Techniques. Review Chapter 2.3. Melting Point.
From Part III: EXP4. Simple Distillation [PDF]
From Part III: EXP3. Myristic Acid Synthesis [PDF] Part C

PRERECORDED LECTURE VIDEO- BRIGHTSPACE– CONTENT – LECTURE VIDEOS
Watch L05. Distillation

DUE: ELN ASSIGNMENTS BEFORE THE START OF YOUR LAB
From the Prelab Quizzes Folder: PLQ4

SESSION #4. TH 06/05/25. IN – PERSON LAB

LAB EXP 4: Simple Distillation & Finish EXP 3. Part C.
Simple Distillation experiment is a one session lab. During this lab, you will complete all parts of the simple distillation experiment and Part C of your trimyristin experiment.

Follow the step by step procedure and record your data and observation by accessing the following ELN page from the Lab Activity" folder:
1. E4N. Notebook - Simple Distillation Parts A and B [8 points]
2. E3P. Product - Myristic Acid Synthesis Part C [10 points] → **Submit product.**

→Do not open E3P if you were absent for the Parts A and B of the EXP3, myristic acid experiment.
→If you missed EXP3 but completed Parts A and B (E2N) of the EXP2, trimyristin experiment, you will need to complete Part C of EXP2, ELN page E2P and submit your trimyristin product.

ELN ASSIGNMENT/S DUE AT HOME. ELN → "POSTLAB ASSIGNMENT" TAB
1. E3R. Postlab - Myristic Acid Synthesis [10 points]
→Do Not Submit E3R if you were absent for the Parts A and B of the EXP3, myristic acid lab.
→ If you missed EXP3 but completed Part C (E2P) of EXP2 during this lab, you must submit the E2R by 11:59 PM on the same day you completed Part C of the Trimyristin Experiment.
2. E4R. Postlab - Simple Distillation [10 points]

MON 6/09/25 FROM 12-12:50 PM. IN -PERSON THEORY QUIZ 1

Theory Quiz 1 on Safety, Crystallization of Benzoic Acid, Extraction of trimyristin, Myristic Acid Synthesis and Simple Distillation EXPs. 50 minutes long. The exact location will be announced on the Brightspace.

SESSION #5 PREPARATION: EXP 5

PREPARATION. READING ASSIGNMENTS FROM THE ELN
From Part II: Techniques. Read Chapter 2.6.TLC (Pages CRM.1-10)
From Part III: EXP5. Isomerization of Dimethyl Maleate to Dimethyl Fumarate [PDF]

PRERECORDED LECTURE VIDEO- BRIGHTSPACE– CONTENT – LECTURE VIDEOS
Watch L06. Isomerization. TLC.

DUE: ELN ASSIGNMENTS BEFORE THE START OF YOUR LAB
From the Prelab Quizzes Folder: PLQ5

SESSION #5. TU 6/10/25. IN – PERSON LAB

LAB EXP 5: Isomerization of Dimethyl Maleate to Dimethyl Fumarate
Isomerization experiment is a one session lab. During this lab, you will complete all parts of the Isomerization experiment

ELN page from the Lab Activity" folder:
1. E5N. Notebook - Isomerization of Dimethyl Maleate to Dimethyl Fumarate [8 points]
2. E5P. Product - Isomerization of Dimethyl Maleate to Dimethyl Fumarate [10 points]→ **Submit TLC.**

→If you missed last session but completed Parts A and B (E3N) of the EXP3, myristic acid experiment, you will need to complete Part C of EXP3, ELN page E3P and submit your myristic acid product.

ELN ASSIGNMENT/S DUE AT HOME. ELN → "POSTLAB ASSIGNMENT" TAB
E5R. Postlab - Isomerization [10 points]
→ If you missed last session but completed Part C (E3P) of EXP3 during this lab, you must submit the E3R by 11:59 PM on the same day you completed Part C of the Trimyristin Experiment.

SESSION #6 PREPARATION: EXP 6

PREPARATION. READING ASSIGNMENTS FROM THE ELN
From Part II: Techniques. Read Chapter 2.6.TLC (Pages CRM.1-10)
From Part II: Techniques. Read Chapter 2.6. Column Chromatography (Pages CRM.11-14)
From Part III: EXP6. Quinone Synthesis [PDF]

PRERECORDED LECTURE VIDEO- BRIGHTSPACE– CONTENT – LECTURE VIDEOS
L07. Quinone Synthesis. Column Chromatography.

DUE: ELN ASSIGNMENTS BEFORE THE START OF YOUR LAB
From the Prelab Quizzes Folder: PLQ6

SESSION #6. TH 6/12/25. IN – PERSON LAB

LAB EXP 6: Quinone Synthesis
This is a one session lab. During this lab, you will complete all parts of the experiment

ELN page from the Lab Activity" folder:
1. E6N. Notebook - Quinone Synthesis [8 points]
2. E6P. Product - Quinone Synthesis [10 points] → **Submit TLC.**

ELN ASSIGNMENT/S DUE AT HOME. ELN → "POSTLAB ASSIGNMENT" TAB
E6R. Postlab - Quinone Synthesis [10 points]

IMPORTANT – MAKE UP LAB

If you missed any of the first six experiments, you must attend the makeup lab distinct form the one you missed (schedule provided below). Details about the makeup lab will be revealed close to the makeup lab week. Completing the makeup lab will allow you to earn the points lost from missing one of these experiments. If you have any questions, please visit your instructor during office hours for clarification.

IMPORTANT – CATCH UP LAB

If you miss any lab sessions for the last two experiments (Ester and Lidocaine Synthesis), you will make up the missed sessions by catching up during the following lab session. If you have any questions, please visit your instructor during office hours for clarification.

SESSION #7 PREPARATION: EXP7 PART A

PREPARATION. READING ASSIGNMENTS FROM THE ELN
From Part II: Techniques. Review Chapter 2.4. Reflux
From Part II: Techniques. Read Chapter 2.2. Extraction
From Part I: Instrumentation. Review Chapter 1.3. Buchi Rotary Evaporator (Pages: GLE. 7-8).
From Part III: EXP7. Ester Synthesis [PDF] Part A

PRERECORDED LECTURE VIDEO- BRIGHTSPACE– CONTENT – LECTURE VIDEOS
Watch L08.Ester Synthesis, Extraction and Drying Organic Solution

DUE: ELN ASSIGNMENTS BEFORE THE START OF YOUR LAB
From the Prelab Quizzes Folder: PLQ7Q1

SESSION #7. TU 6/17/25. IN – PERSON LAB

LAB EXP 7: Ester Synthesis
This is a two sessions lab. During this lab, you will complete Part A of the experiment.

ELN page from the Lab Activity" folder:
1. E7N1. Notebook - Ester Synthesis Part A [8 points]

POST LAB ASSIGNMENT/S
None.

SESSION #8 ON FRIDAY 6/20/25 FOLLOWS THE THURSDAY SCHEDULE

Th, 6/19/25 is Juneteenth. The Friday 6/20/25 follows the Th schedule

SESSION #8 PREPARATION: EXP 7 PARTS B-D

READING ASSIGNEMNTS
From Part II: Techniques. Review Chapter 2.5. Distillation.
From Part II: Techniques. Read Chapter 2.6. GC (Pages: CRM. 2 and CRM. 15-20).
From Part II: Techniques. Read Chapter 2.7. IR
From Part III: EXP7. Ester Synthesis [PDF] Parts B-D

PRERECORDED LECTURE VIDEO- BRIGHTSPACE– CONTENT – LECTURE VIDEOS
Watch L09. Ester Purification and Spectroscopy (GC and IR).

DUE: ELN ASSIGNMENTS BEFORE THE START OF YOUR LAB
From the Prelab Quizzes Folder: PLQ7Q2

SESSION # 8. FRI 6/20/25. IN – PERSON LAB.

LAB EXP 7: Ester Purification and Instrumentation

ELN page from the Lab Activity" folder:
1. E7N2. Notebook - Ester Synthesis Part B [8 points]
2. E7P. Product - Ester Synthesis Part C and D [20 points] → **Submit Product**

ELN ASSIGNMENT/S DUE AT HOME. ELN → "POSTLAB ASSIGNMENT" TAB
E7R. Postlab - Ester Synthesis [15 points]

SESSION #9 PREPARATION: EXP 8 PARTS A AND B

READING ASSIGNEMNTS
From Part I: Review how to use a Burette. Chapter 1.3. Page GLE.10.
From Part II: Techniques. Review Chapter 2.4. Reflux
From Part II: Techniques. Review Chapter 2.1. Vacuum Filtration (Pages: CRY. 9-15).
From Part III: EXP8. Multistep Synthesis of Lidocaine [PDF] Parts A and B

PRERECORDED LECTURE VIDEO- BRIGHTSPACE– CONTENT – LECTURE VIDEOS
Watch L10. Lidocaine Synthesis

DUE: ELN ASSIGNMENTS BEFORE THE START OF YOUR LAB
From the Prelab Quizzes Folder: PLQ8Q1

SESSION #9. TU 6/24/25. IN - PERSON LAB

LAB EXP 8: Multistep Synthesis of Lidocaine
This is a three sessions lab. During this lab, you will complete Parts A and B of the experiment.

ELN page from the Lab Activity" folder:
E8N1. Notebook - Multistep Synthesis of Lidocaine Parts A and B [8 points]

ELN ASSIGNMENT/S DUE AT HOME. ELN → "POSTLAB ASSIGNMENT" TAB
None.
→ **Catchup students:** If you caught up with your Ester Parts C-D this session, the E7R. Postlab - Ester Synthesis [15 points] is due by 11:59 PM on the same day.

SESSION #10 PREPARATION: EXP 8: PART C & CHECK OUT

READING ASSIGNEMNTS
From Part II: Techniques. Review Chapter 2.2. Extraction
From Part II: Techniques. Review Chapter 2.3. Small Scale crystallization (Page: CRY. 16).
From Part II: Techniques. Read Chapter 2.8. NMR.
From Part III: EXP8. Multistep Synthesis of Lidocaine [PDF] Parts C

PRERECORDED LECTURE VIDEO- BRIGHTSPACE– CONTENT – LECTURE VIDEOS
NMR and Trophy Winner Announcement

DUE: ELN ASSIGNMENTS BEFORE THE START OF YOUR LAB
From the Prelab Quizzes Folder: PLQ8Q2

SESSION #10. TH 6/26/25. IN - PERSON LAB

LAB EXP 8: Multistep Synthesis of Lidocaine
ELN page from the Lab Activity" folder:
E8N2. Notebook - Multistep Synthesis of Lidocaine Parts C and D [8 points]
E8P. Product - Multistep Synthesis of Lidocaine Parts E [20 points] → **Submit Product**

Check Out - everyone except those who need to return to the lab for makeup and catch-up lab.
ELN Activity – Notebook. Inventory Check-Out.
Clean your glassware and take an inventory of your drawer. Get replacement as needed.

ELN ASSIGNMENT/S DUE AT HOME. ELN → "POSTLAB ASSIGNMENT" TAB
E8R. Postlab - Multistep Synthesis of Lidocaine [10 points]

MON 6/30/25 FROM 12-12:50 PM. IN -PERSON THEORY QUIZ 2

Theory Quiz 2 on isomerization, quinone synthesis, ester and lidocaine EXPs including GC, IR, NMR and related safety. 50 minutes long. The exact location will be announced on the Brightspace.

SESSION #11 PREPARATION: MAKEUP/CATCH UP & CHECK OUT

READING ASSIGNEMNTS
Makeup lab related PDFs

PRERECORDED LECTURE VIDEO- BRIGHTSPACE– CONTENT – LECTURE VIDEOS
NONE.

DUE: ELN ASSIGNMENTS BEFORE THE START OF YOUR LAB
NONE

SESSION #11. TU 7/1/25. IN - PERSON LAB

Makeup Lab (for those who missed one of the first six experiments) and **Catch-Up lab** (for those students who missed any one session of the ester or lidocaine experiments).

Check Out
ELN Activity - Inventory Check-Out.
Clean your glassware and take an inventory of your drawer. Get replacements as needed.

ELN ASSIGNMENT/S DUE AT HOME. ELN → "POSTLAB ASSIGNMENT" TAB

No Postlab for the makeup lab

→ **Catchup students:** If you caught up with the Lidocaine part C this session your E8R. Postlab - Multistep Synthesis of Lidocaine [10 points] is due by 11:59 on the same day.

WED 7/03/25 FROM 12-12:50 PM. IN -PERSON MAKEUP THEORY QUIZ

Cumulative Makeup Theory Quiz - offered to those who missed one of the quizzes due an acceptable excuse. 50 minutes long. The exact location will be announced on the Brightspace.

TH 7/3/25 RESERVE

In case there is a cancellation of a lab it will be rescheduled on this day.

UNIVERSITY POLICIES

Student Accessibility Support Center Statement:

If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact the Student Accessibility Support Center, 128 ECC Building, (631) 632-6748, or at sasc@stonybrook.edu. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Students who require assistance during emergency evacuation are encouraged to discuss their needs with their professors and the Student Accessibility Support Center. For procedures and information go to the following website: https://ehs.stonybrook.edu/programs/fire-safety/emergency-evacuation/evacuationguide-people-physical-disabilities and search Fire Safety and Evacuation and Disabilities.

Academic Integrity Statement:

Each student must pursue his or her academic goals honestly and be personally accountable for all submitted work. Representing another person's work as your own is always wrong. Faculty is required to report any suspected instances of academic dishonesty to the Academic Judiciary. Faculty in the Health Sciences Center (School of Health Technology & Management, Nursing, Social Welfare, Dental Medicine) and School of Medicine are required to follow their school-specific procedures. For more comprehensive information on academic integrity, including categories of academic dishonesty please refer to the academic judiciary website at http://www.stonybrook.edu/commcms/academic_integrity/index.html

Important Note: Any form of academic dishonesty, including cheating and plagiarism, will be reported to the Academic Judiciary.

Critical Incident Management:

Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of University Community Standards any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, or inhibits students' ability to learn. Faculty in the HSC Schools and the School of Medicine are required to follow their school-specific procedures. Further information about most academic matters can be found in the Undergraduate Bulletin, the Undergraduate Class Schedule, and the Faculty-Employee Handbook.

Understand When You May Drop This Course:

It is the student's responsibility to understand when they need to consider withdrawing from a course. Refer to the Stony Brook Academic Schedule for dates and deadlines for registration: http://www.stonybrook.edu/commcms/registrar/calendars/academic_calendars.

- Undergraduate Course Load and Course Withdrawal Policy
- Graduate Course Changes Policy

STUDENT RESOURCES

Academic and Major Advising (*undergraduate only*): Have questions about choosing the right course? Contact an advisor today. Phone and emails vary-please see website for additional contact information; website: https://www.stonybrook.edu/for-students/academic-advising/

Academic Success and Tutoring Center *(undergraduate only)*: https://www.stonybrook.edu/tutoring/

Amazon @ Stony Brook: Order your books before classes begin. Phone: 631-632-9828; email: Bookstore_Liaison@stonybrook.edu; website: http://www.stonybrook.edu/ bookstore/

Bursar: For help with billing and payment. Phone: 631-632-9316; email: bursar@stonybrook.edu; website: http://www.stonybrook.edu/bursar/

Career Center: The Career Center's mission is to support the academic mission of Stony Brook University by educating students about the career decision-making process, helping them plan and attain their career goals, and assisting with their smooth transition to the workplace or further education. Phone: 631-6326810; email: sbucareercenter@stonybrook.edu; website: http://www.stonybrook.edu/career-center/ Counseling and Psychological Services: CAPS staff are available by phone, day or night. http://studentaffairs.stonybrook.edu/caps/

Ombuds Office: The Stony Brook University Ombuds Office provides an alternative channel for confidential, impartial, independent and informal dispute resolution services for the entire University community. We provide a safe place to voice your concerns and explore options for productive conflict management and resolution. The Ombuds Office is a source of confidential advice and information about University policies and procedures and helps individuals and groups address university-related conflicts and concerns.
http://www.stonybrook.edu/ombuds/

Registrar: Having a registration issue? Let them know. Phone: 631-632-6175; email: registrar_office@stonybrook.edu; http://www.stonybrook.edu/registrar/

SBU Libraries: access to and help in using databases, ebooks, and other sources for your research.

- Research Guides and Tutorials: http://guides.library.stonybrook.edu/
- Getting Help: https://library.stonybrook.edu/research/ask-a-librarian/

Support for Online Learning: https://www.stonybrook.edu/online/