



# AUM

American University Of The Middle East

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Organic Chemistry I – CHM261

**Assignment 3 (7%)**

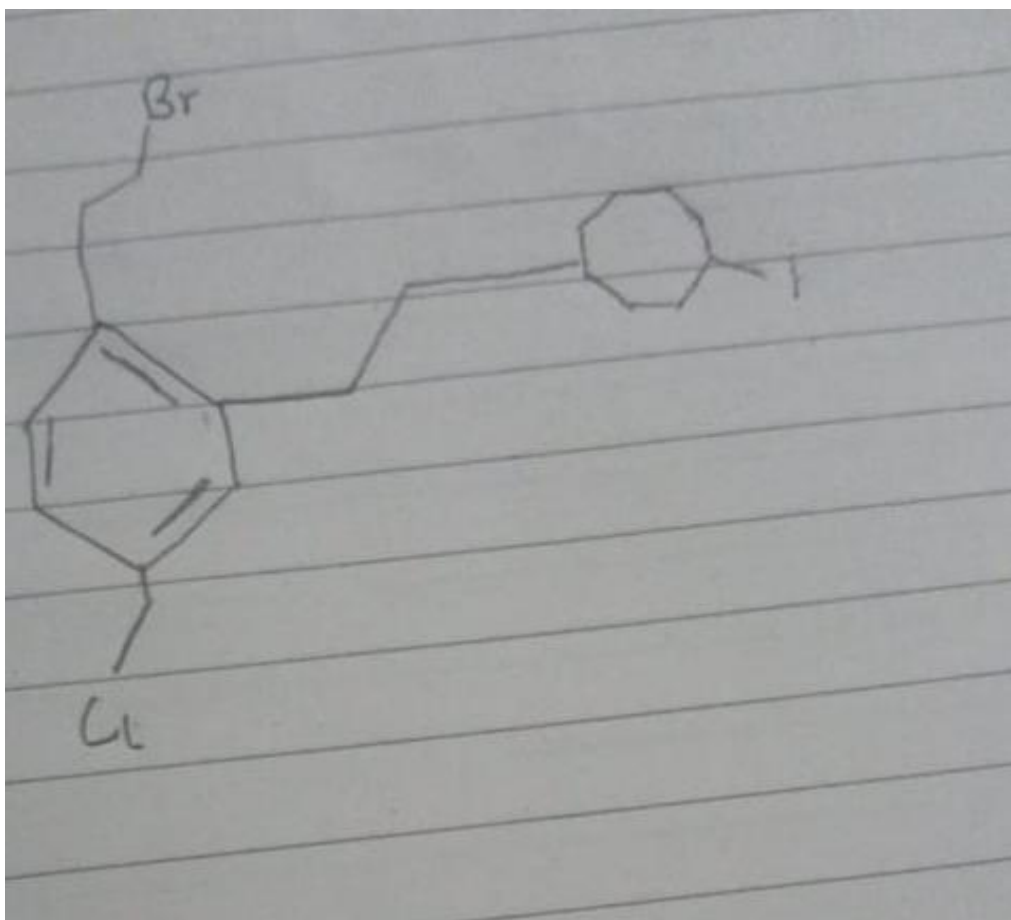
**Student name:**

**Student ID:**

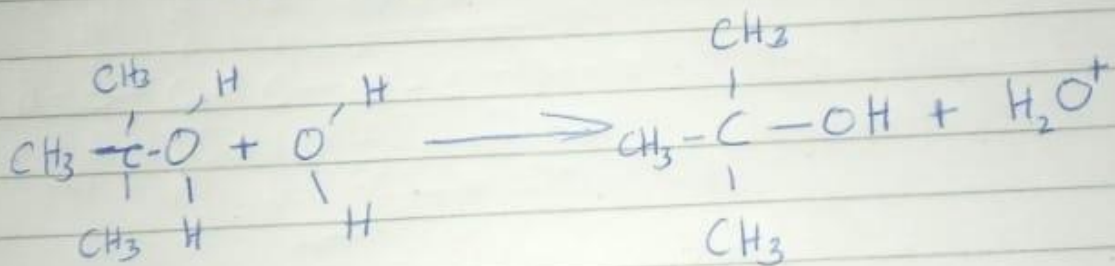
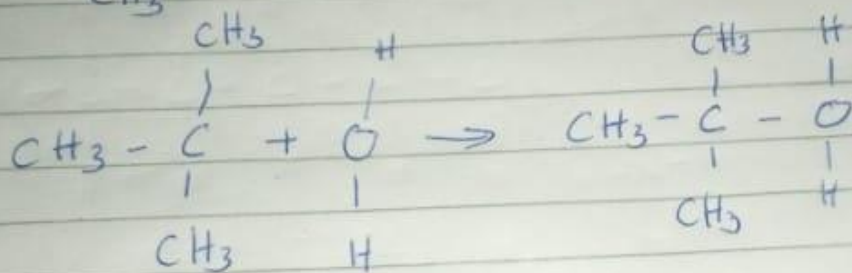
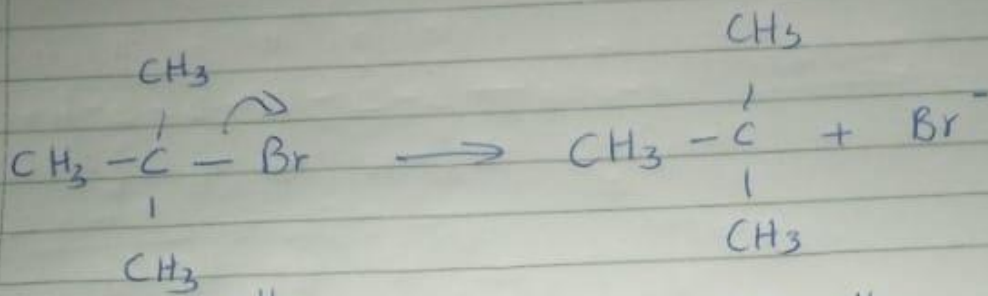
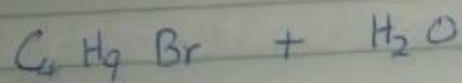
## **Guidelines:**

1. Your submitted assignment must be hand written.
2. You may print this assignment as a hard copy.
3. **Write** your name and your ID# in the space above.
4. Write your detailed answers on the **hard copy** in the designated space for each question.
5. Use blue pen for handwriting your answers.
6. If you cannot print a hard copy of the assignment, then you may write your answers on white paper. **However**, you need to make sure that your answers are very clear and organized. You need to redraw required tables and graphs whenever applies. If your answers are related to a figure, then you must mention it clearly.
7. Scan the assignment (hard copy) with your detailed answers and save it as **one pdf file.**
8. Submit the **pdf (only one file)** file through the assignment link on your Moodle section page before the announced deadline below.
9. You can submit your assignment no more than twice. So make it count.
10. Students are fully responsible for the correctness of the submitted file. Students are fully responsible to make sure that their file is not corrupted and it is readable and clear. Any unclear answer wouldn't be graded.
11. Unreadable corrupted files would result in a zero grade if not resubmitted correctly before the deadlines specified below.
12. **Deadline:** May 10, 2021, midnight. Late submission will be allowed with penalty (check the dates below):
  - i. Delay by 1 calendar Day – 40% Deduction (grade is multiplied by 0.6)
  - ii. Delay by 2 calendar Days – 60% Deduction (grade is multiplied by 0.4)
  - iii. Delay by 3 calendar Days or more – zero grade. No submission is accepted

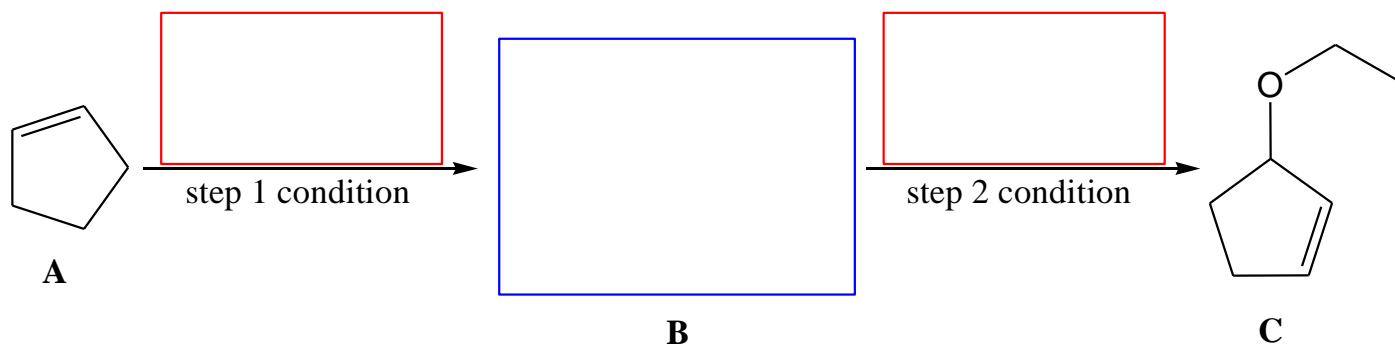
- 1) [20 points] Draw the structure of 3-(1-bromoethyl)-5-(chloromethyl)-1-iodocyclooctane.



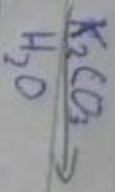
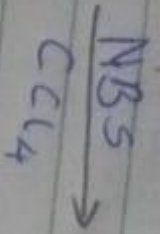
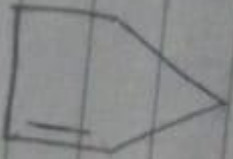
- 2) [30 points] Draw the full SN1 reaction mechanism for sec-butyl bromide with water. Draw a transition state structure for each mechanism step.



- 3) [20 points] Given the scheme for a two steps synthesis of compound C from A. Provide the proper two steps reaction conditions that would make it possible to transform A into C. Draw the structure of intermediate product B based on step 1 reaction conditions.

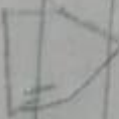


A

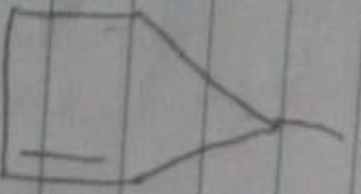


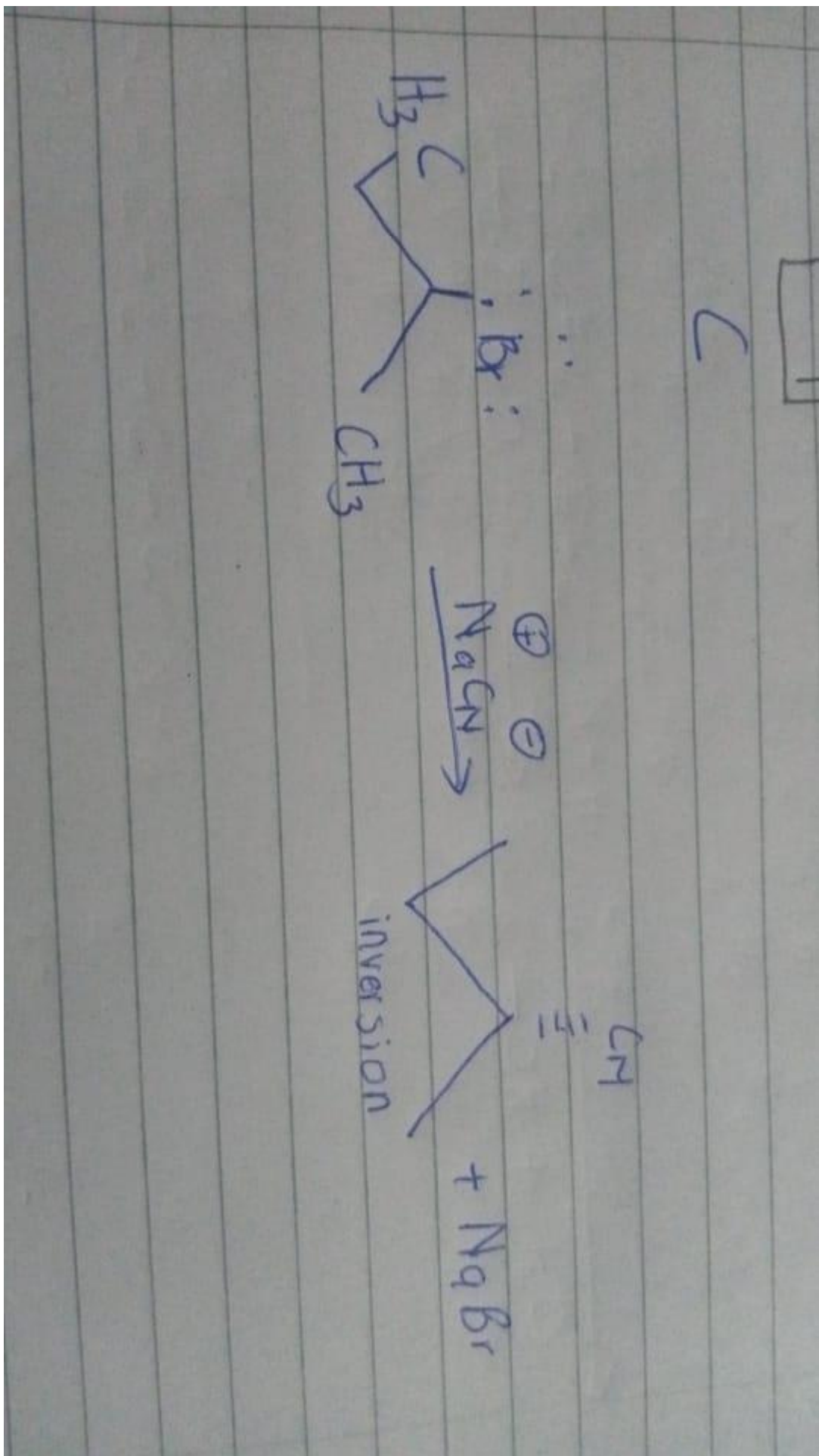
B

Base

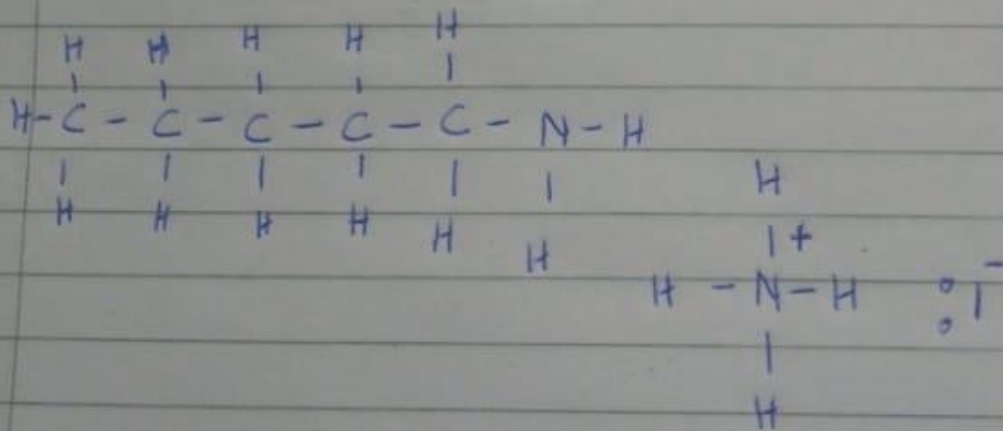
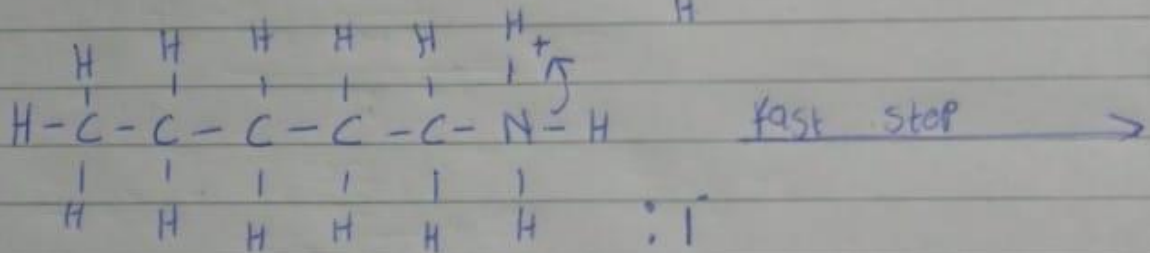
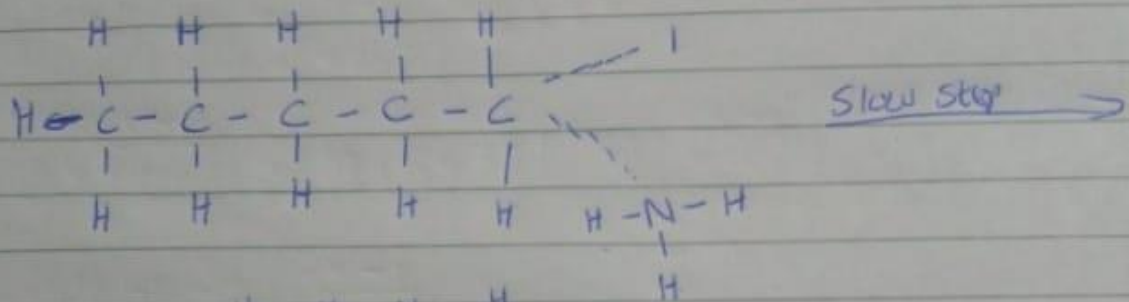
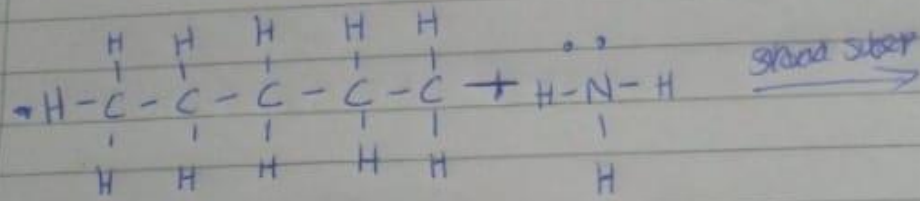
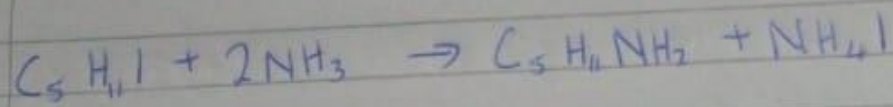


C





- 4) [20 points] Draw the full SN2 reaction mechanism for isopentyl iodide with ammonia. Draw a transition state structure for each mechanism step.



5)

