

LeAP: Epoxides

- Due Oct 24, 2024 at 11:59pm
- Points 5
- Questions 5
- Available Oct 6, 2024 at 12am - Oct 28, 2024 at 11:59pm
- Time Limit None
- Allowed Attempts 2

Instructions

Lecture Application Practices (LeAPs) serve as initial opportunities for students to apply the information they've gathered from the pre-lecture videos and in-person lectures/lecture videos.

Students are strongly encouraged to complete LeAPs on the same day that the corresponding topic is completed in class. However, to provide consistent due dates, sets of LeAPs will be due on Thursdays at 11:59 PM - Chicago time. See the Weekly Schedules or Course Calendar for specific due dates for each activity.

Each LeAP is worth 5 points. Credit will be awarded based on accuracy. There is no time limit. Students will receive two attempts for each assignment and the highest score will be recorded in the gradebook. LeAPs may consist of multiple-choice, calculation, ranking, choose all that apply, and fill in the blank type questions.

This quiz was locked Oct 28, 2024 at 11:59pm.

Attempt History

	Attempt	Time	Score
LATEST	<u>Attempt 1</u>	4,657 minutes	5 out of 5

🚫 Correct answers are hidden.

Score for this attempt: 5 out of 5

Submitted Oct 24, 2024 at 6:09pm

This attempt took 4,657 minutes.



Question 1

1 / 1 pts

What functional group is a precursor (ie. starting material) to an epoxide?

- ☐ aldehyde
- ☒ halohydrin
- ☐ ketone

☐ ester



Question 2

1 / 1 pts

Ethers are usually inert toward strong bases. Why are strong base/good nucleophile species able to attack and open epoxides?

- ☐ Negatively charged oxygens are great leaving groups.
- ☐ There is a lot of transannular strain between the two carbon atoms of the epoxide ring.
- ☐ The lone pairs on the epoxide oxygen attract good nucleophiles.
- ☒ Epoxides are very small rings that possess much angle strain.



Question 3

1 / 1 pts

Which reagent(s) will result in the nucleophile attacking the more substituted side of an epoxide?

Choose all that apply.

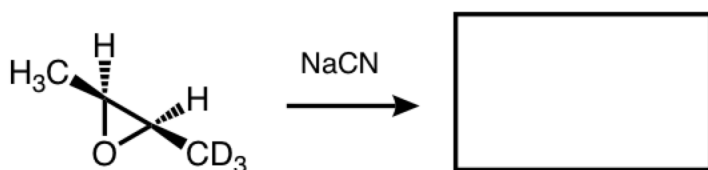
- ☒ H_2O , H_2SO_4
- ☒ HCl
- ☐ LiCH_2CH_3
- ☐ LiAlH_4



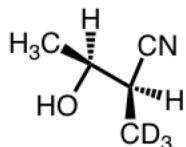
Question 4

1 / 1 pts

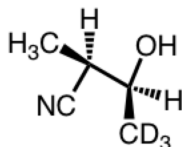
What is(are) the major organic product(s) of the reaction shown below?



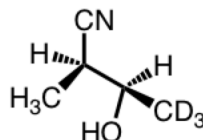
A.



B.



C.



- ☐ A
- ☐ B
- ☐ C
- ☐ A and B

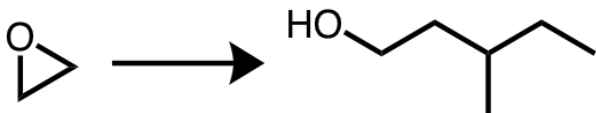
☒ A and C



Question 5

1 / 1 pts

Provide the organometallic reagent that is needed to perform the transformation shown below. The reagent should be formatted as LiR or BrMgR, where R is an alkyl group written as a Condensed Formula. Do not use subscripts. (Use the [Reagent Cabinet List](https://docs.google.com/document/d/1RGMriYLL_vMpFFJwR9g6cNQAAUpIRSXUXcZQaINLY3Y/edit?usp=sharing) https://docs.google.com/document/d/1RGMriYLL_vMpFFJwR9g6cNQAAUpIRSXUXcZQaINLY3Y/edit?usp=sharing) as a reference for correct formatting of your answer.)



LiCH(CH₃)CH₂CH₃

Quiz Score: 5 out of 5