

Unit 7 - Week 6

Course outline

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Week 6

Lecture 25 : Heavy Atom Isotope Effects

Lecture 26 : Equilibrium Isotope Effects

Lecture 27 : Isotope Labelling

Lecture 28 : Trapping Intermediates: Part A

Lecture 29 : Trapping Intermediates: Part B

Quiz : Assignment 6

Assignment 6 solutions

Weekly Feedback

Week 7

Week 8

Live Sessions

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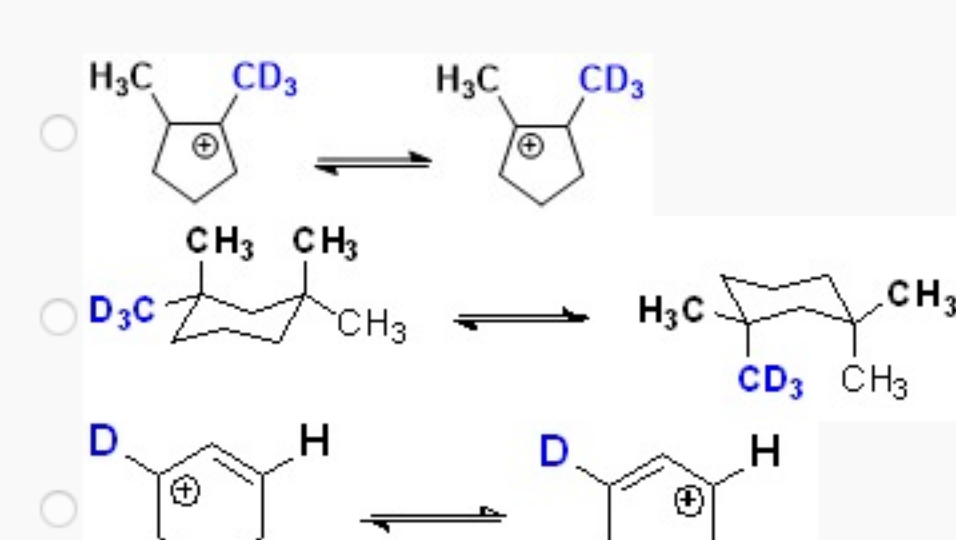
Assignment 6

The due date for submitting this assignment has passed. As per our records you have not submitted this assignment.

Due on 2019-09-11, 23:59 IST.

1) In which of the following equilibria do you not observe an isotopic perturbation of equilibrium?

1 point



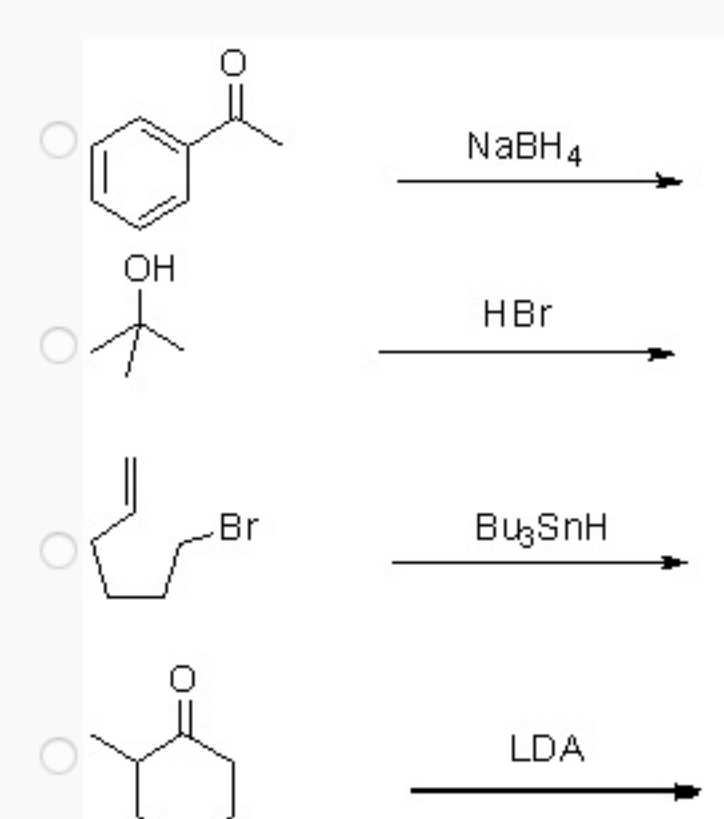
No, the answer is incorrect. Score: 0

Accepted Answers:



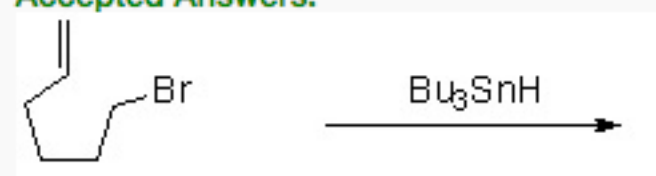
2) TEMPO can be used as a trapping reagent for which of the following reactions?

1 point



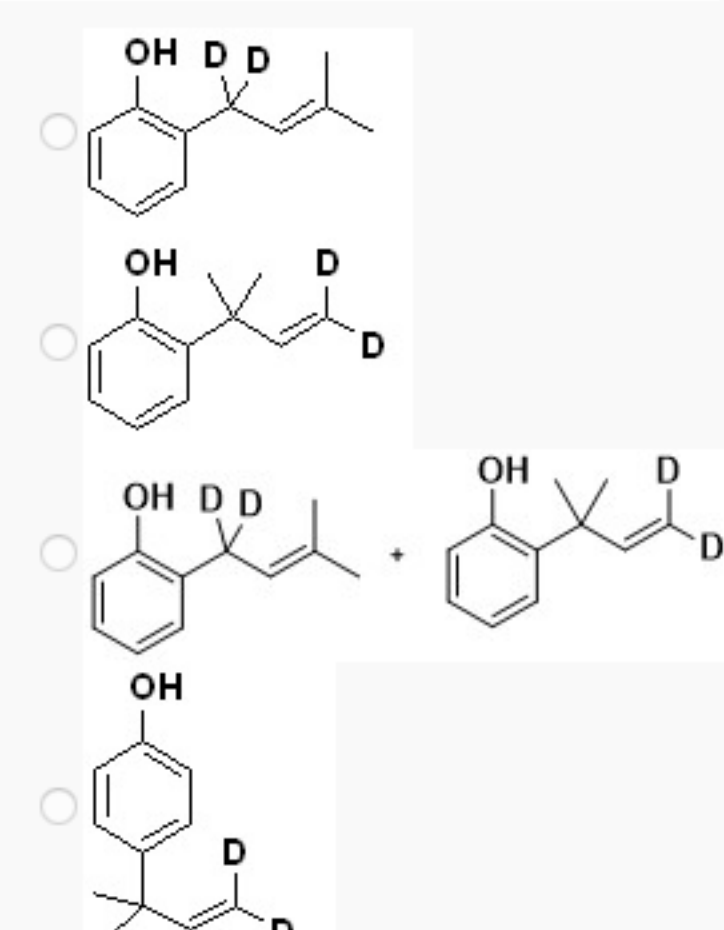
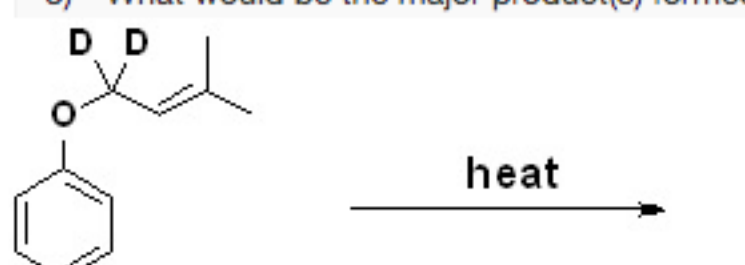
No, the answer is incorrect. Score: 0

Accepted Answers:



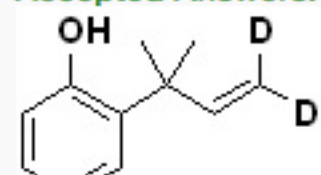
3) What would be the major product(s) formed from the following reaction?

1 point



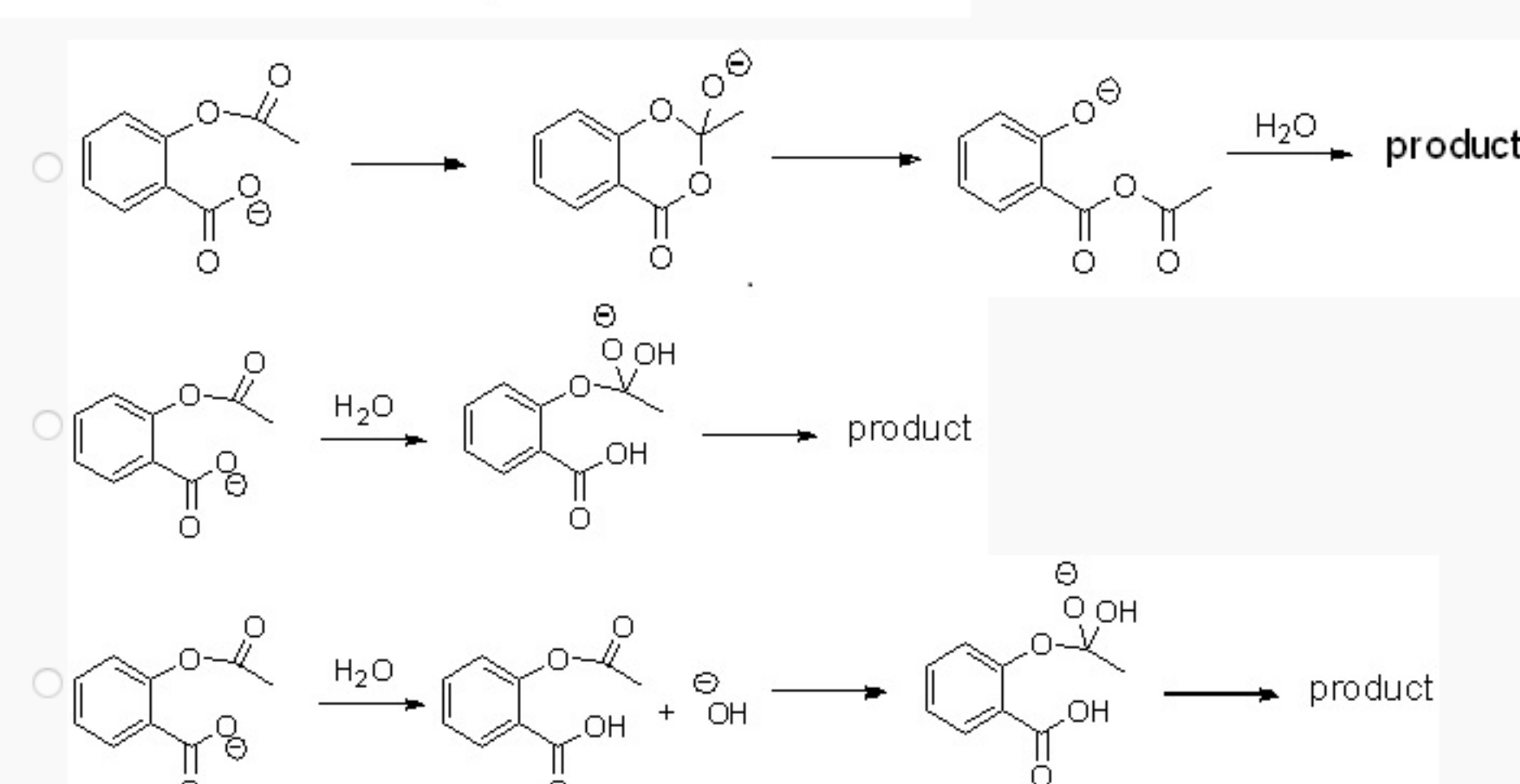
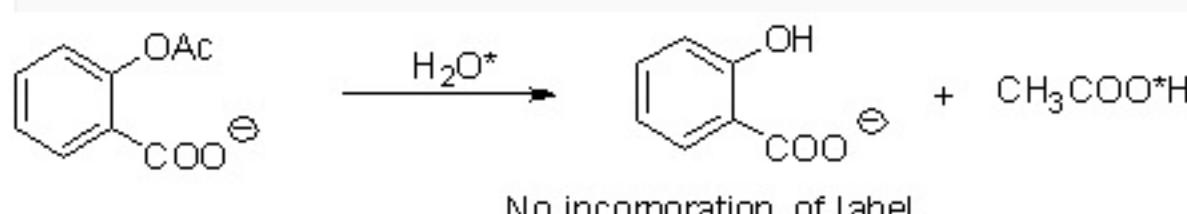
No, the answer is incorrect. Score: 0

Accepted Answers:



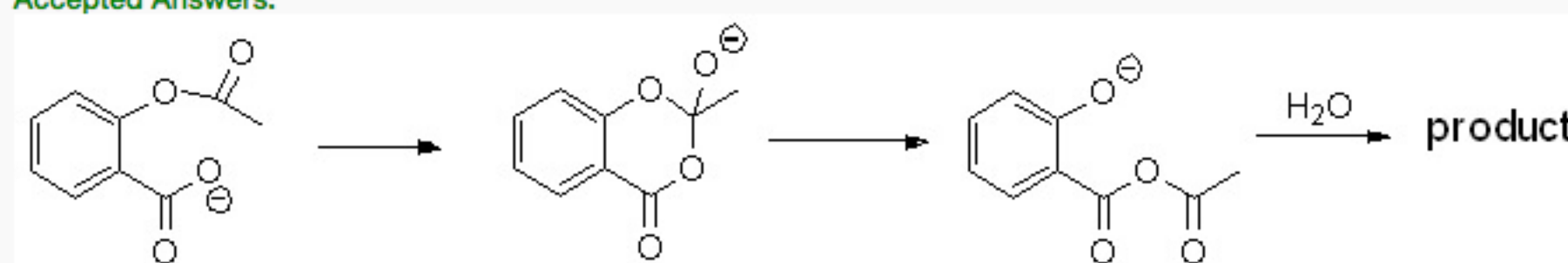
4) When the hydrolysis of aspirin was carried out in isotopically labelled water i.e. H₂¹⁸O, no incorporation of the label was seen in the salicylic acid product. Which of the following mechanisms can be ruled out based on this observation?

1 point



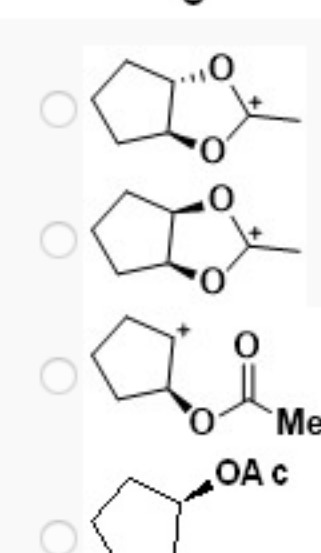
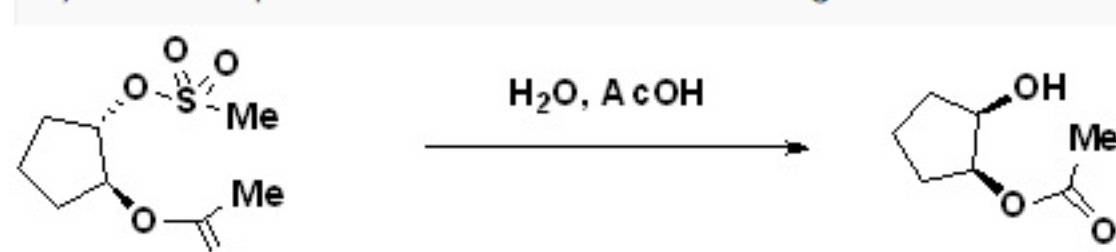
No, the answer is incorrect. Score: 0

Accepted Answers:



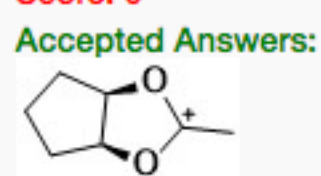
5) What is a plausible intermediate in the following reaction?

1 point



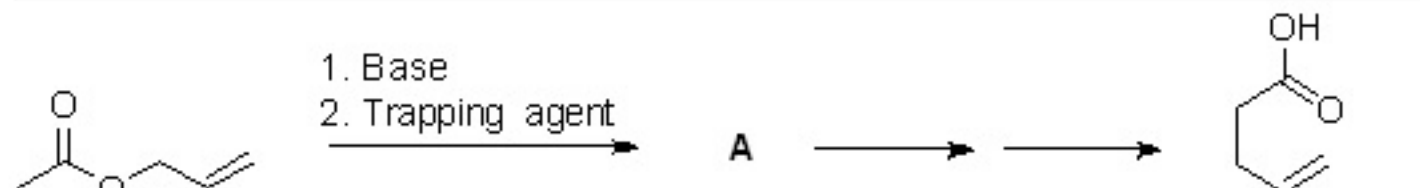
No, the answer is incorrect. Score: 0

Accepted Answers:



6) Which of the following trapping reagents could be used to check if the transformation below goes via an enolate intermediate?

1 point



- TEMPO
- CO₂
- TMSCl
- EtOH

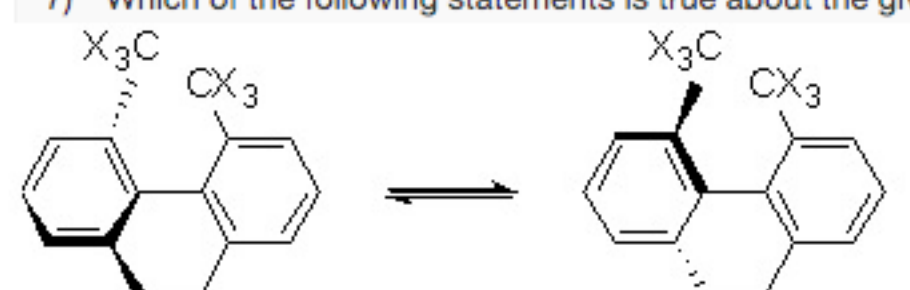
No, the answer is incorrect. Score: 0

Accepted Answers:

TMSCl

7) Which of the following statements is true about the given reaction?

1 point



- k_H > k_D
- k_H < k_D
- k_H = k_D

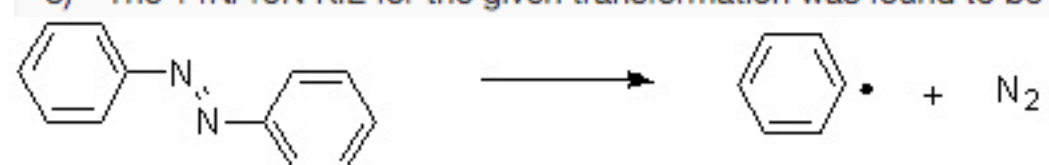
No, the answer is incorrect. Score: 0

Accepted Answers:

k_H < k_D

8) The ¹⁴N/¹⁵N KIE for the given transformation was found to be 1.02. The KIE can be considered as

1 point



- primary KIE
- normal secondary KIE
- No isotope effect
- Inverse secondary KIE

No, the answer is incorrect. Score: 0

Accepted Answers:

primary KIE

9) Which of the following reagents could be used to trap a ketene (C=C=O) intermediate?

1 point

- Alcohol
- Secondary amine
- TEMPO
- DPPH

No, the answer is incorrect. Score: 0

Accepted Answers:

Alcohol

Secondary amine

10) Which of the following can be classified as spin traps?

1 point

- TEMPO
- Nitroso
- DPPH
- Galvinoxyl
- Nitron

No, the answer is incorrect. Score: 0

Accepted Answers:

Nitroso

Nitron