



TEST BANK

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Reviewed by:

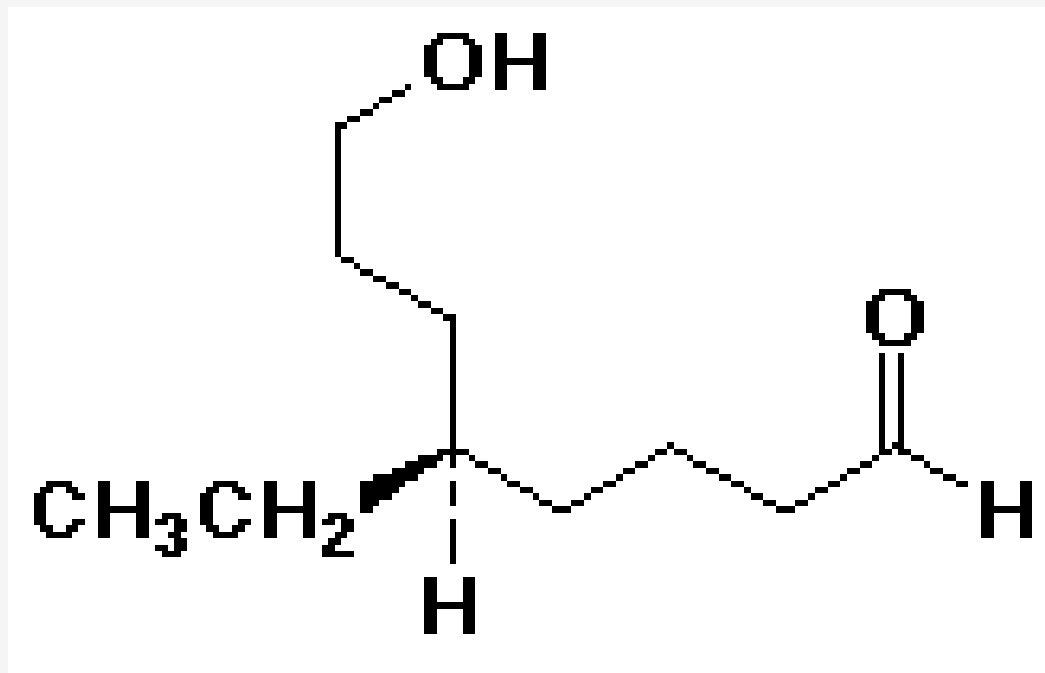
Organic Chemistry Test Bank - Chapter 9 (Part A)

In every slide, you will find a question with 2 - 5 choices.

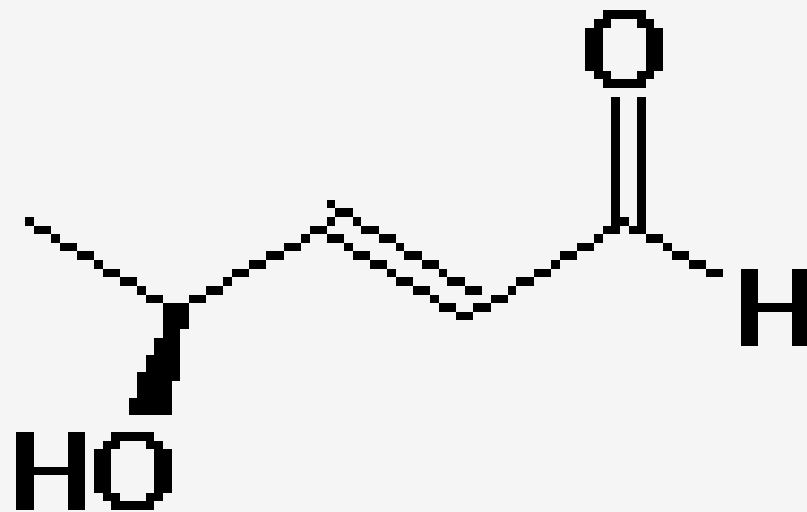
The answers of the questions will be in the last slide, so don't forget to write your answers (To check them ).

***** You can use the periodic table anytime .**

1. The name of the structure below and its stereochemistry configuration are (Try name it by yourself without a clue):
-

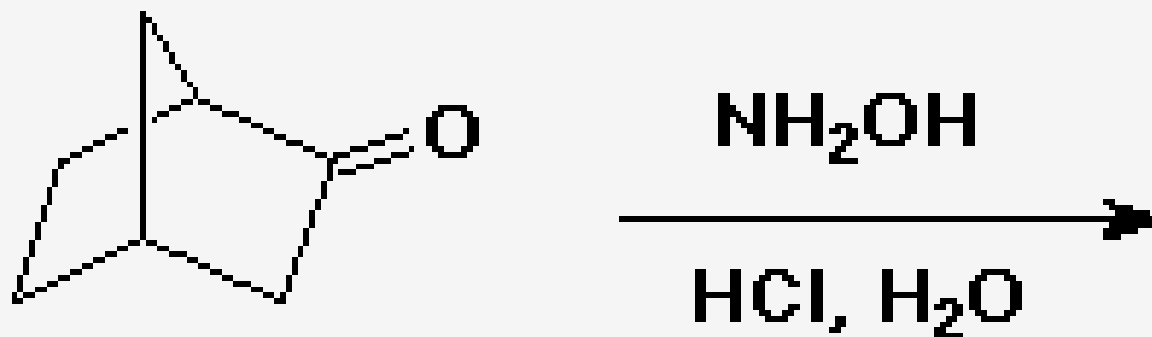


2. The name of the structure below and its stereochemistry configuration are (Try name it by yourself without a clue):
-

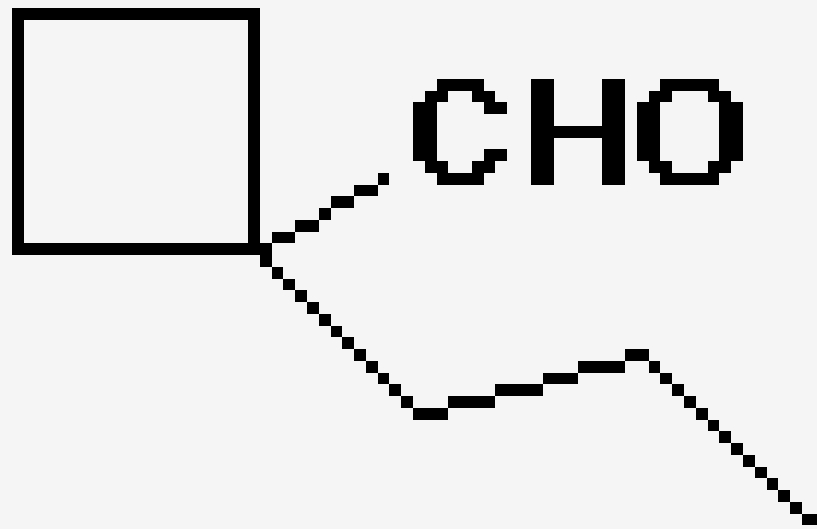


3. The product of the following reaction is:

- A. Amine.
- B. Imine.
- C. Oxime.
- D. Hydrazone.
- E. Phenylhydrazone.



4. The name of the structure below is (Try name it by yourself without a clue):



5. Which of the following is not considered as an organometallic compound?

A. Organolithium reagents.

B. Cis-platin.

C. Acetylide reagents.

D. Grignard reagent.

6. Which of the following gases when passed through warm dilute solution of H_2SO_4 in presence of HgSO_4 gives acetaldehyde?

A. CH_4 .

B. C_2H_6 .

C. C_2H_4 .

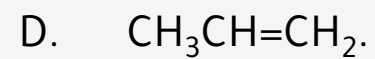
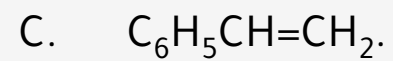
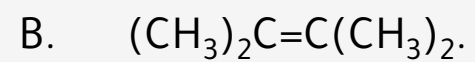
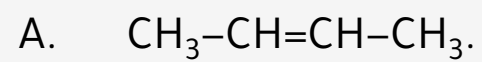
D. C_2H_2 .

7. What is the end product in the following sequence of reaction?

- A. Acetic acid.
- B. Isopropyl alcohol.
- C. Acetone.
- D. Ethanol.



8. Compound which gives acetone on ozonolysis is?



9. Ketones can be prepared in one step from which of the following process?

- A. Hydrolysis of esters.
- B. Oxidation of primary alcohol.
- C. Oxidation of secondary alcohol.
- D. Reaction of acid halide with alcohols.

10. Isopropyl alcohol on oxidation gives which of the following?

- A. Acetone.
- B. Acetaldehyde.
- C. Ether.
- D. Ethylene.

11. Propyne on hydrolysis in presence of HCl and HgSO_4 gives which of the following?

- A. Acetaldehyde.
- B. Acetone.
- C. Formaldehyde.
- D. Acetophenone.

12. Ozonolysis of styrene will lead leads to formation of benzaldehyde along which compound?

A. O_2 .

B. H_2O_2 .

C. HCHO.

D. H_2O_2 and HCHO.

13. Formation of aromatic ketone forms from benzene by CH_3COCl ?

- A. Friedal craft alkylation.
- B. Friedal craft dealkylation.
- C. Friedal craft acylation.
- D. Friedal craft hydroxyalkylation.

14. What will be the product if we add water to the aldehyde?

- A. Alcohols.
- B. Epoxides.
- C. Gem diols.
- D. Peroxides.

15. Which of the following compound has more boiling point than aldehyde?

- A. Alcohol.
- B. Alkanes.
- C. Ketones.
- D. Ether.

16. Which of the following aldehyde is most soluble in water?

- A. Acetaldehyde.
- B. Formaldehyde.
- C. Butyraldehyde.
- D. Benzaldehyde.

17. Which of the following has highest boiling point?

- A. 2-hexanone.
- B. 2-pentanone.
- C. 3-methyl-2-butanone.
- D. Can't be determined.

18. Which of the ketones are used in nail paint removers?

- A. Propanone.
- B. Dimethyl ketone.
- C. Butanone.
- D. Methyl ethyl ketone.
- E. More than one answer.

*****Note for the boys 😊: If you don't know the nail paint remover 😊; it is acetone.**

19. During a reaction of Tollens test, the formation of mirror inside the tube is due to which of the following?

- A. Silver ions.
- B. Silver atoms.
- C. Silver compounds.
- D. Silver nitrate.

20. For C_6H_5CHO which of the following is incorrect?

- A. On oxidation it yields benzoic acid.
- B. It is an aromatic aldehyde.
- C. On reduction yields phenol.
- D. None of the above.

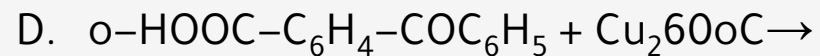
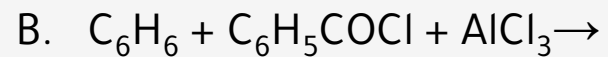
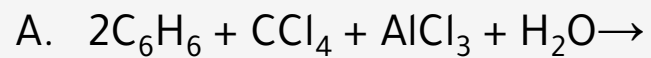
21. Acetaldehyde reacts with $\text{C}_2\text{H}_5\text{MgCl}$ the final product is which of the following?

- A. An aldehyde.
- B. A ketone.
- C. A primary alcohol.
- D. A secondary alcohol.

22. Acetone reacts with HCN to form a cyanohydrin. It is an example of which type of reaction?

- A. Electrophilic addition.
- B. Electrophilic substitution.
- C. Nucleophilic addition.
- D. Nucleophilic substitution.

23. Which of the following reactions give benzophenone?



24. The product(s) obtained via oxymercuration ($\text{HgSO}_4 + \text{H}_2\text{SO}_4$) of 1-butyne would be what?

- A. $\text{CH}_3\text{CH}_2\text{COCH}_3$.
- B. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CHO}$.
- C. $\text{CH}_3\text{CH}_2\text{CHO} + \text{HCHO}$.
- D. $\text{CH}_3\text{CH}_2\text{COOH} + \text{HCOOH}$.

25. Which is not present in Grignard reagent?

- A. Methyl group.
- B. Magnesium.
- C. Halogen.
- D. -COOH group.

26. Which of the following compounds does not give a tertiary alcohol upon reaction with methylmagnesium bromide?

- A. 3-methylpentanal.
- B. Ethyl benzoate.
- C. 4,4-dimethylcyclohexanone.
- D. 4-heptanone.

27. Grignard reagents (RMgBr) add to the carbonyl group of aldehydes and ketones.

A. True.

B. False.

28. Which of the following compounds gives a secondary alcohol upon reaction with methylmagnesium bromide?

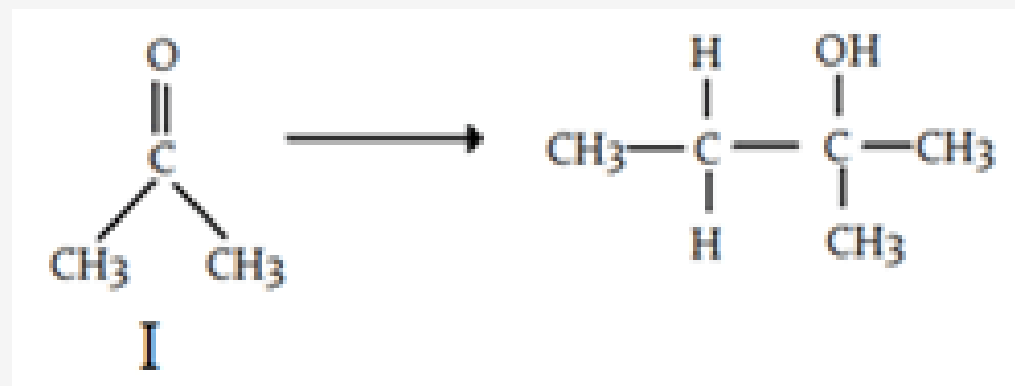
- A. Butyl formate.
- B. 3-pentanone.
- C. Pentanal.
- D. Methyl butanoate.

29. A Grignard's reagent may be made by reacting magnesium with which of the following compound?

- A. Methyl amine.
- B. Diethyl ether.
- C. Ethyl iodide.
- D. Ethyl alcohol.

30. Which of the following reaction sequence that will best carry out the following preparation?

- A. i) I + MeONa + CH₃H₂Br, ii) neutralize.
- B. i) I + EtONa, ii) CH₃CH₂Br, iii) neutralize.
- C. i) CH₃CH₂Br + Mg, Et₂O, ii) Add I, iii) neutralize.
- D. i) I + CH₃CH₂OH + Mg, ii) neutralize.



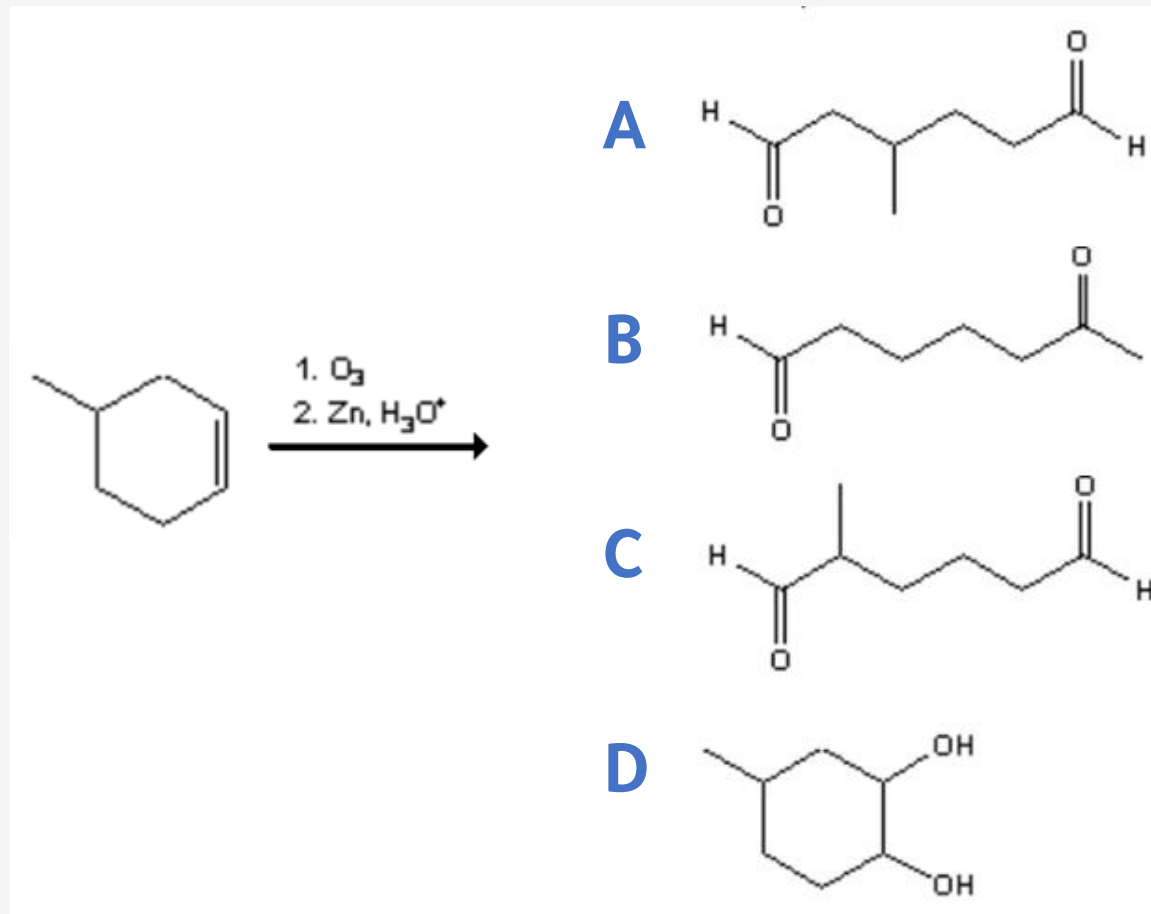
31. What is the major organic product obtained from the following reaction?

A. A.

B. B.

C. C.

D. D.



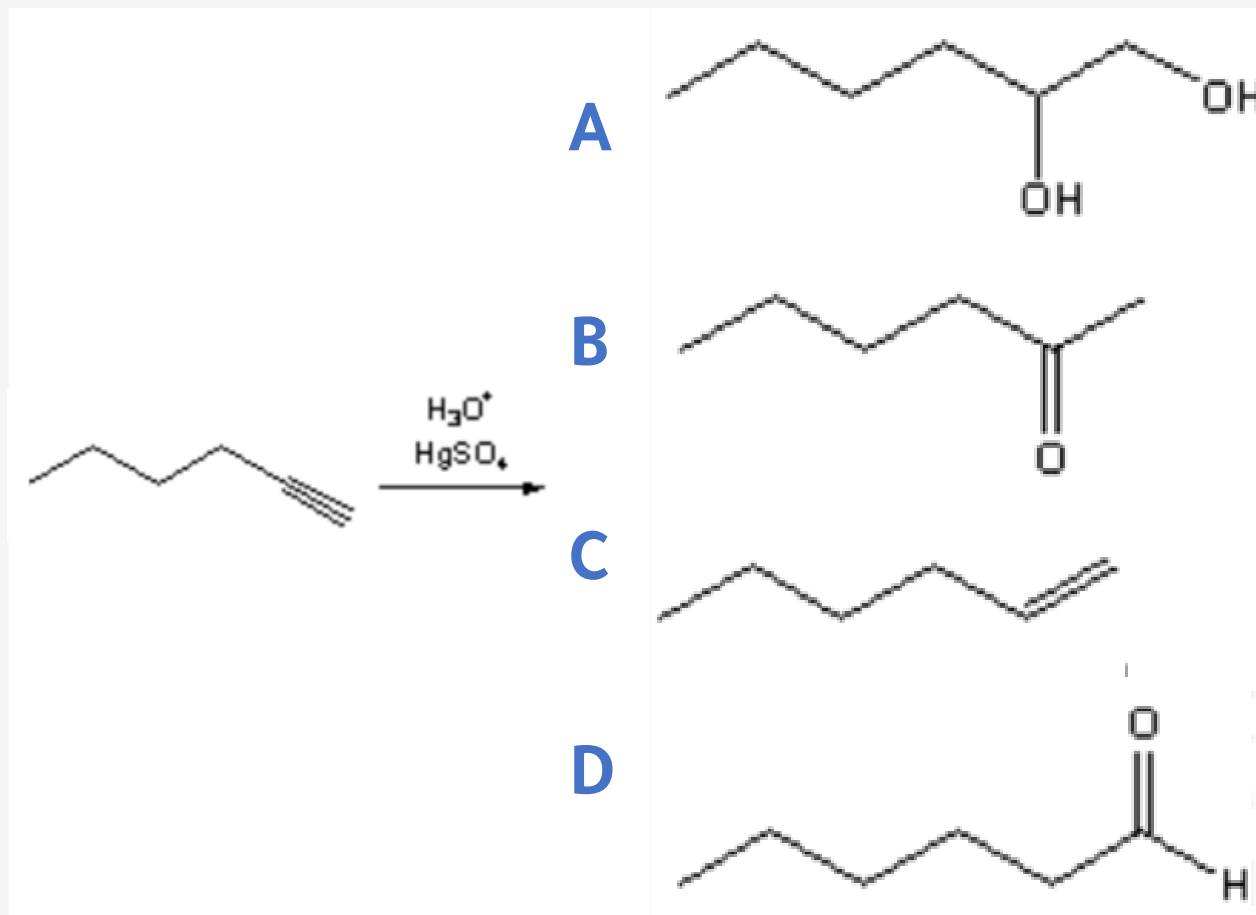
32. What is the major organic product obtained from the following reaction?

A. A.

B. B.

C. C.

D. D.



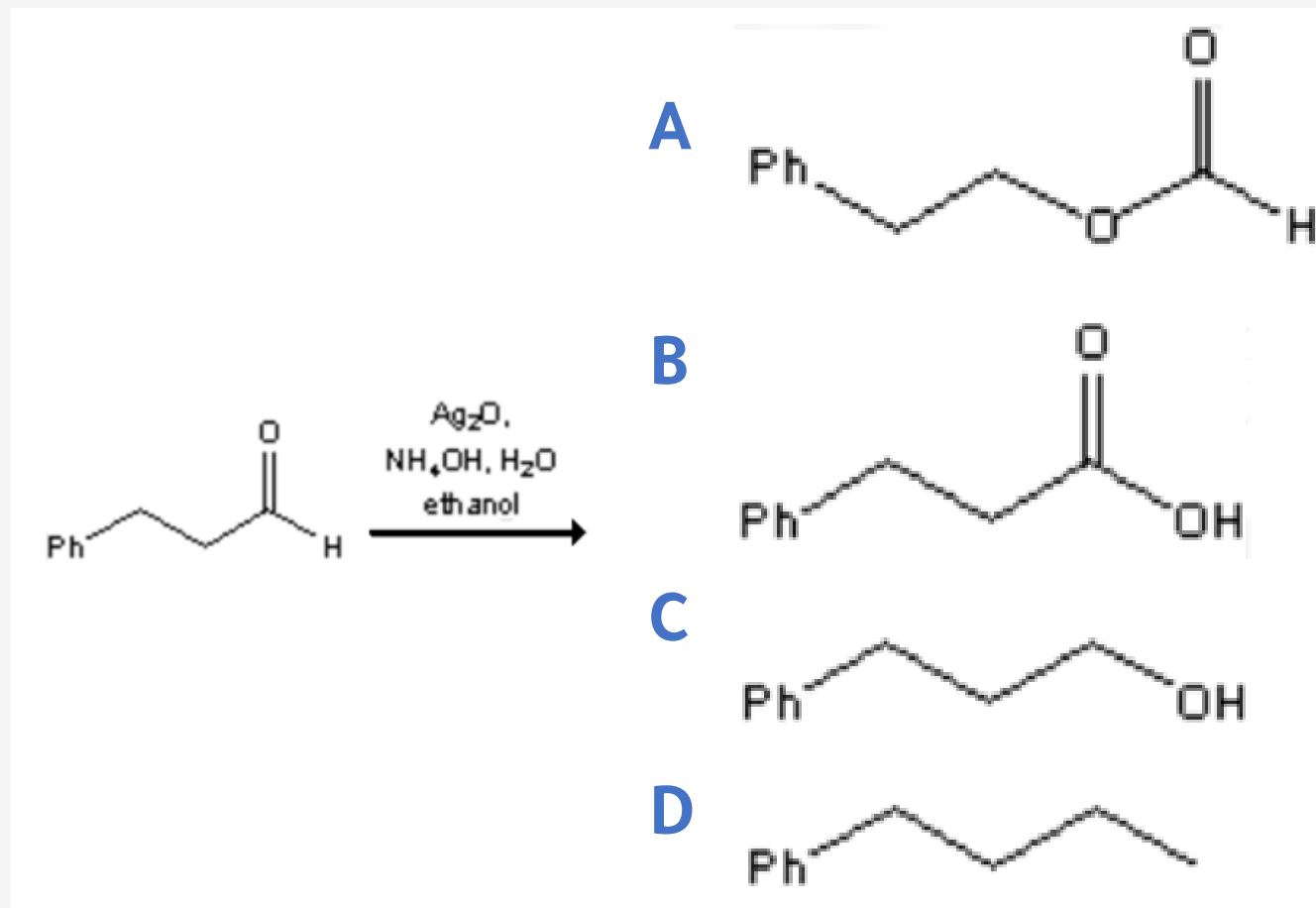
33. What is the major organic product obtained from the following reaction?

A. A.

B. B.

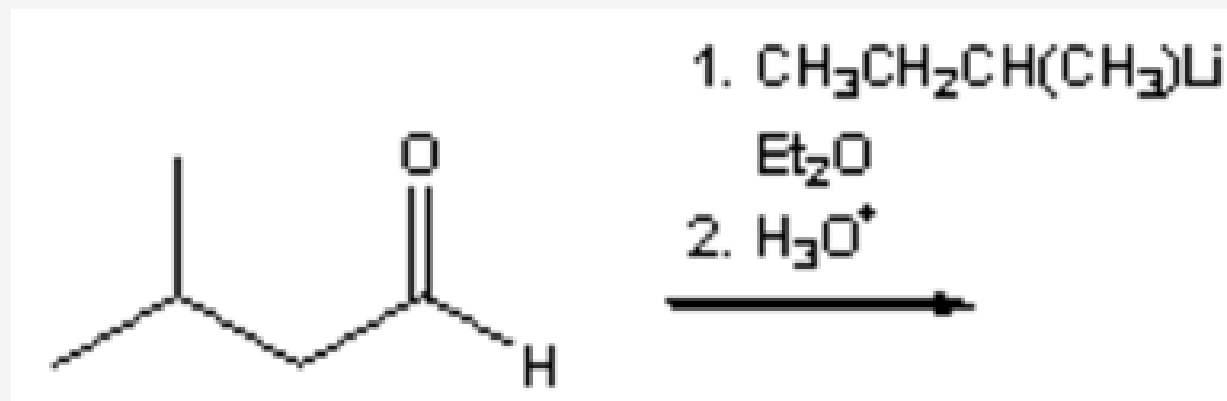
C. C.

D. D.



34. What is the major organic product obtained from the following reaction?

- A. 2,4-dimethyl-4-heptanol.
- B. 4,7-dimethyl-4-heptanol.
- C. 3,5-dimethyl-4-heptanol.
- D. 2,5-dimethyl-4-heptanol.



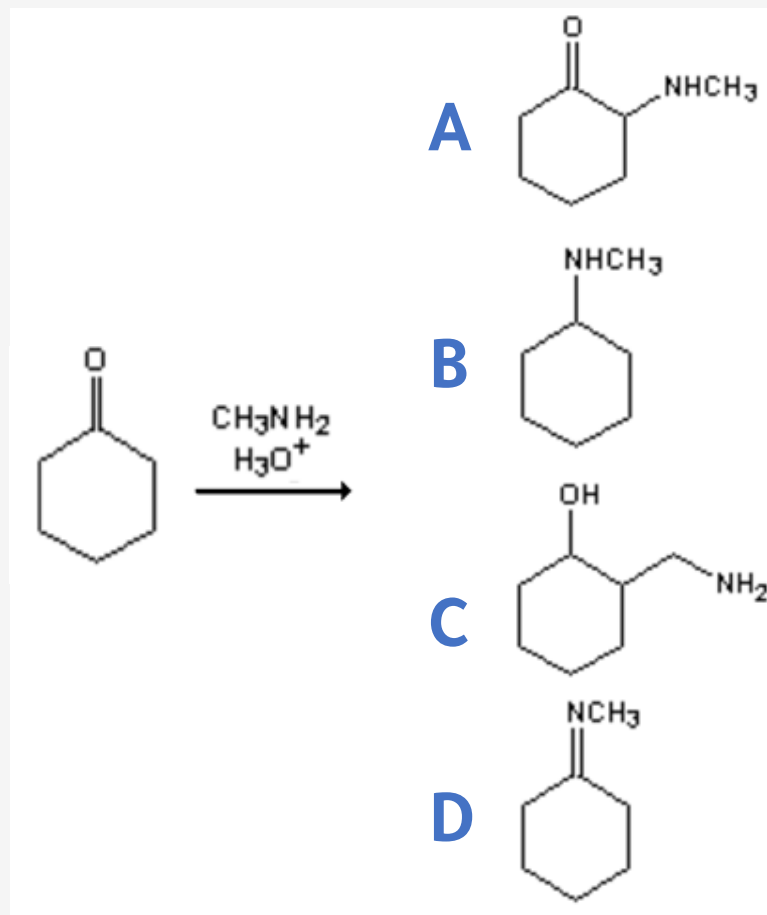
35. What is the major organic product obtained from the following reaction?

A. A.

B. B.

C. C.

D. D.



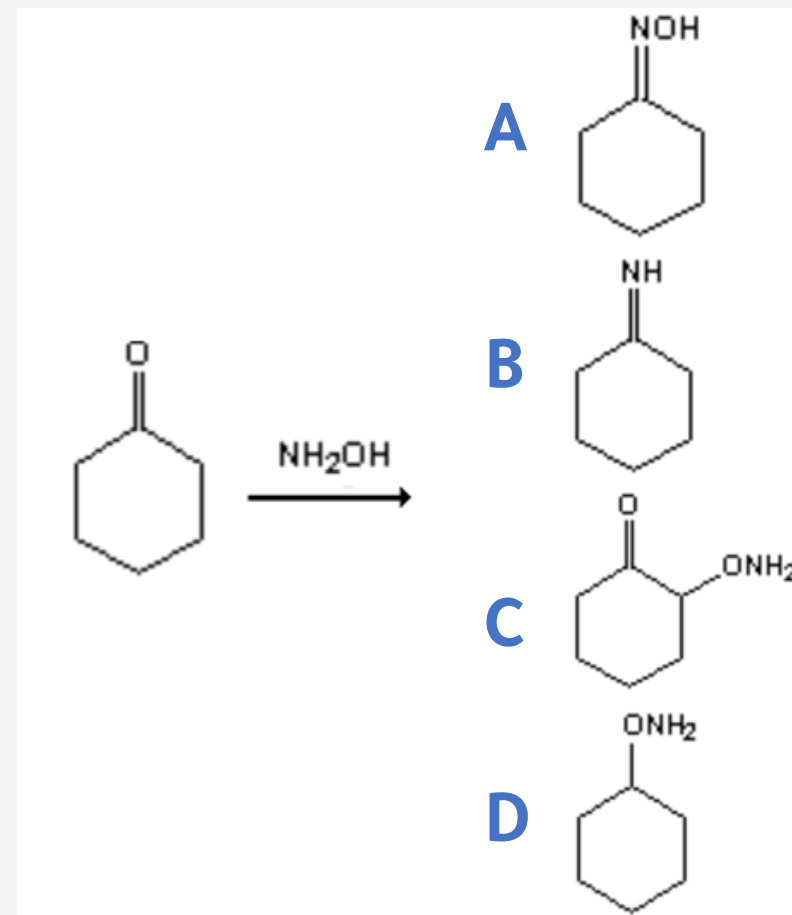
36. What is the major organic product obtained from the following reaction?

A. A.

B. B.

C. C.

D. D.



37. When ethanal reacts with CH_3MgBr & $\text{C}_2\text{H}_5\text{OH} / \text{HCl}$, the products from the two reactions will be:

- A. Ethyl alcohol & 2-propanol.
- B. Ethane & Hemiacetal.
- C. 2-propanol & Acetal.
- D. Propane & Methyl Acetal.

38. Arrange the following compounds in decreasing order of their boiling points:

A. (IV) < (III) < (I) < (II).

(I): CH_3CHO .

B. (IV) < (I) < (III) < (II).

(II): $\text{CH}_3\text{CH}_2\text{OH}$.

C. (IV) > (I) > (III) > (II).

(III): CH_3OCH_3 .

D. (II) > (I) > (III) > (IV).

(IV): $\text{CH}_3\text{CH}_2\text{CH}_3$.

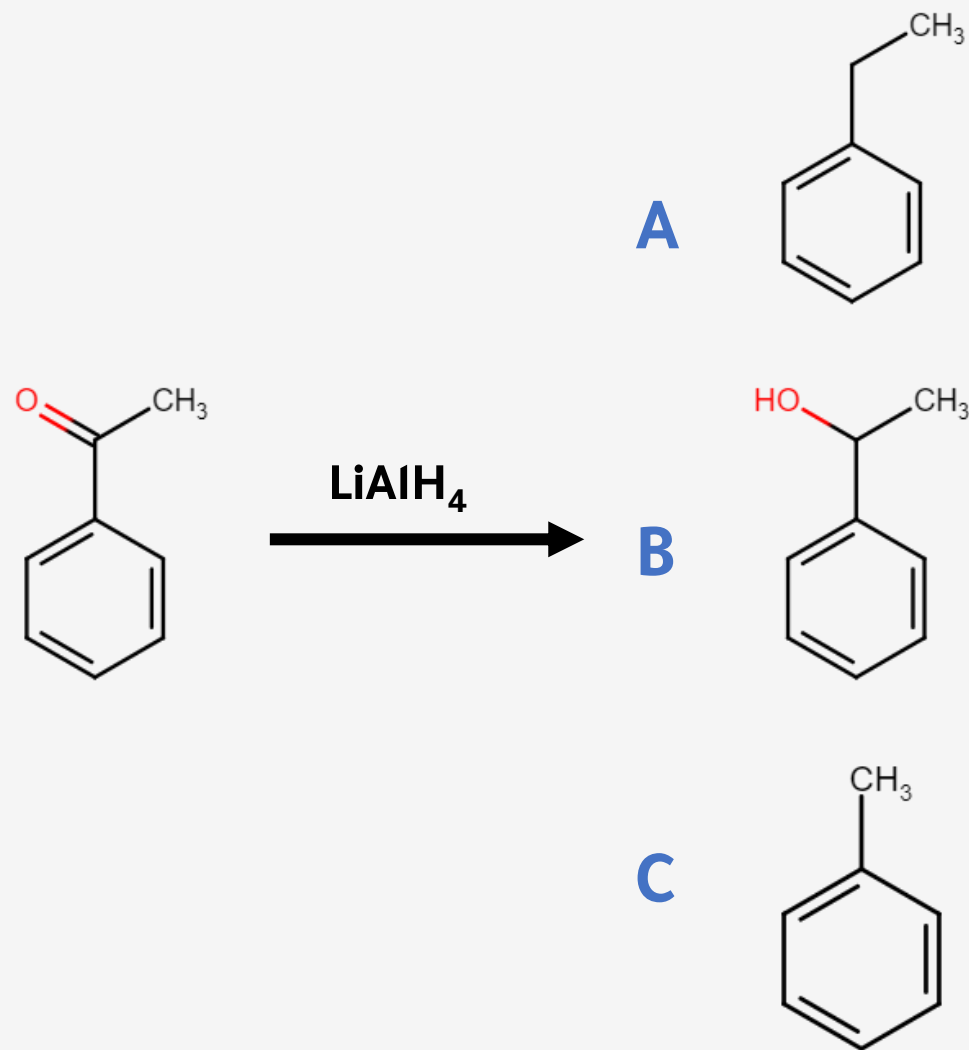
39. The product formed in the following reaction is:

A. A.

B. B.

C. C.

D. None of the above.



40. Which molecule is an example of a ketone?

- A. Ethanal (Acetaldehyde).
- B. Ethanoic anhydride (Acetic anhydride).
- C. Propan-2-one (acetone).
- D. Propanamide.

41. Conversion of an aldehyde to an alcohol is generally known as:

- A. Reduction.
- B. Oxidation.
- C. Esterification.
- D. Polymerisation.

42. Why is sodium borohydride an important reagent in reducing a ketone?

- A. It is good for hydrolysis type reactions.
- B. It is a good source of the hydride ion (H⁻).
- C. It can act as a base.
- D. It can act as a free radical initiator.
- E. It is stronger than Lithium aluminium hydride.

43. Which is normally the main product when a mixture of aldehyde RCHO and an excess of alcohol R'OH is treated with an acid catalyst?

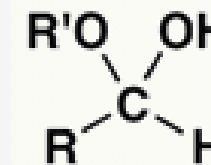
A. A.

B. B.

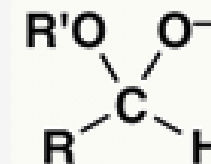
C. C.

D. D.

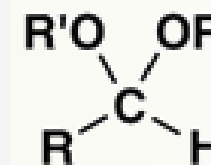
A



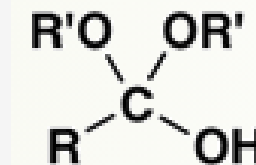
B



C



D



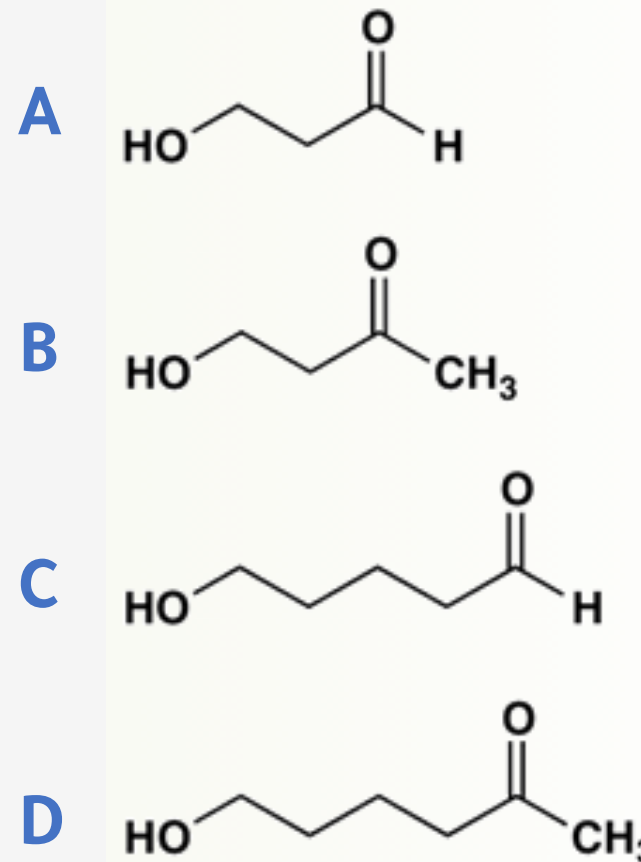
44. Which of the following most readily forms a cyclic hemiacetal with acid catalysis?

A. A.

B. B.

C. C.

D. D.



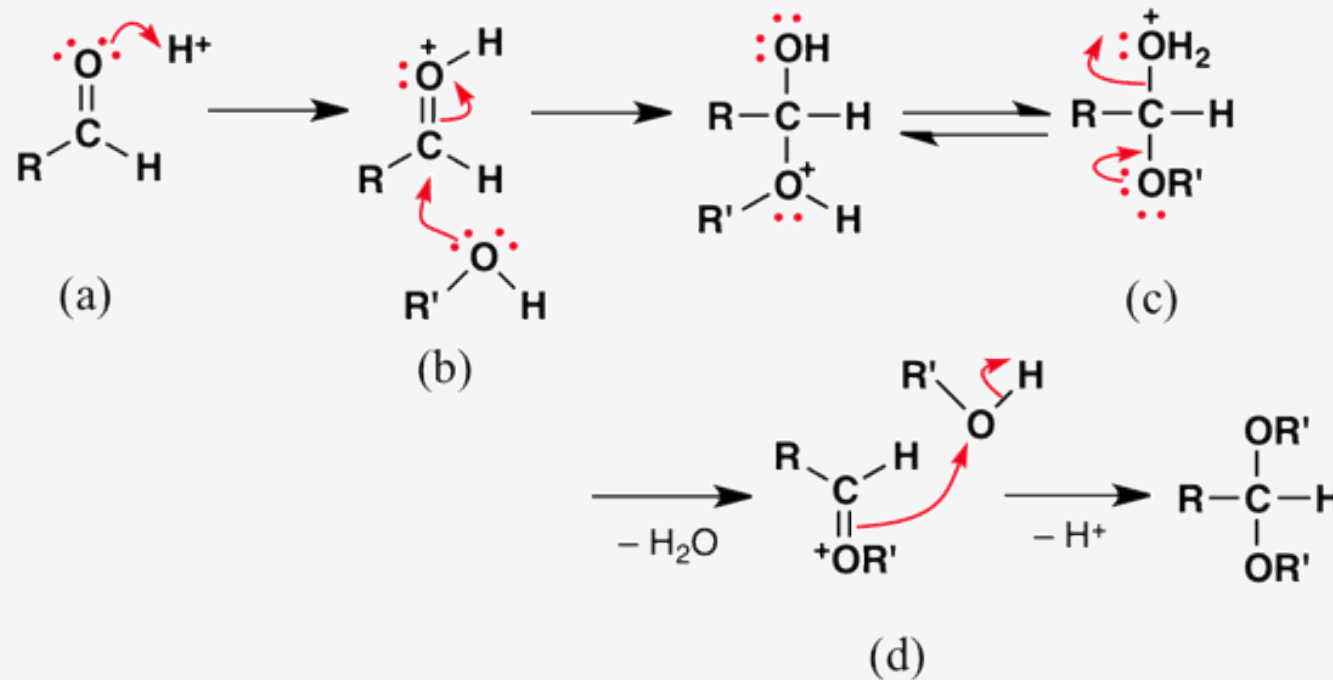
45. Which stage of the following reaction scheme for acetal formation does **not** correctly show the flow of electrons?

A. Stage (a).

B. Stage (b).

C. Stage (c).

D. Stage (d).



The key answers

Question No.	Answers	Question No.	Answers	Question No.	Answers	Question No.	Answers	Question No.	Answers
1.	(R)-5-ethyl-8-hydroxyoctanal	10.	A	19.	B	28.	C	37.	C
2.	(S,E)-4-hydroxy-2-pentenal	11.	B	20.	C	29.	C	38.	D
3.	C	12.	C	21.	D	30.	C	39.	B
4.	1-propylcyclobutanecarbaldehyde	13.	C	22.	C	31.	A	40.	C
5.	B	14.	C	23.	B	32.	B	41.	A
6.	D	15.	A	24.	A	33.	B	42.	B
7.	C	16.	B	25.	D	34.	D	43.	C
8.	B	17.	A	26.	A	35.	D	44.	C
9.	C	18.	E	27.	A	36.	A	45.	D