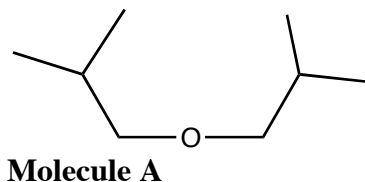


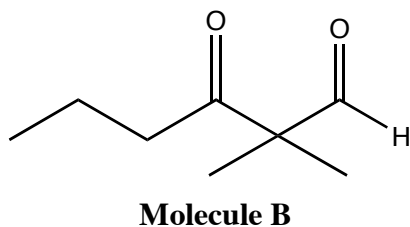
PICK THE MOST ACCURATE ANSWER FOR EACH QUESTION.

1. Which of the following names is the correct one for **Molecule A**?



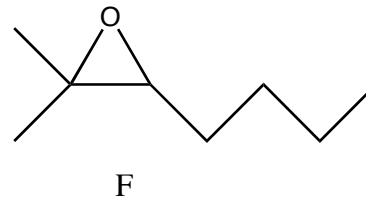
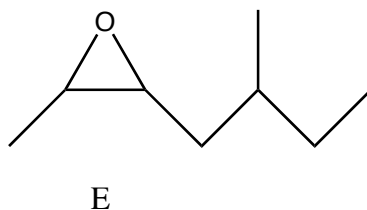
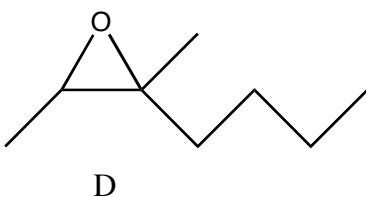
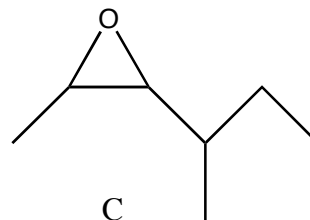
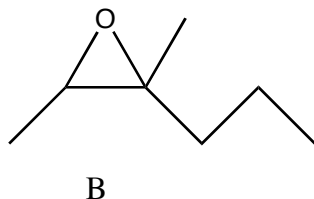
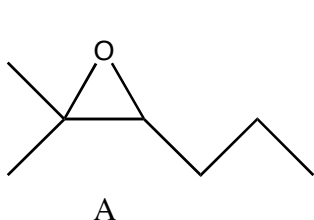
- | | | |
|---------------------|-----------------------|------------------------|
| A) diethyl ether | B) diisopropyl ether | C) di-tert-butyl ether |
| D) diisobutyl ether | E) di-sec-butyl ether | F) dibutyl ether |

2. Which of the following is the correct IUPAC name for **Molecule B**?



- A) 1-Oxo-2,2-dimethyl-3-hexanone
 B) 3-Oxo-2,2-dimethylhexanol
 C) 3-Oxo-2,2-dimethylpentanal
 D) 3-Oxo-2,2-dimethylhexanal
 E) 1-Oxo-2,2-dimethyl-3-hexanal

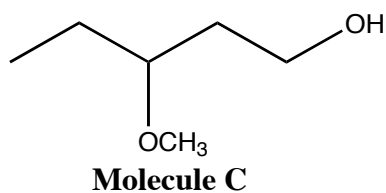
3. Which of the following is the correct structure for *2-methyl-2-hexene oxide*?



4. Which of the following is the correct structure for formic acid?

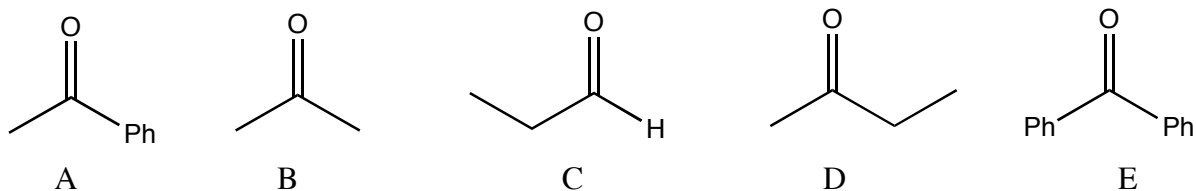
- A) $\text{CH}_3\text{CO}_2\text{H}$ B) HCO_2H C) $\text{F}_3\text{CCO}_2\text{H}$ D) HF E) FCO_2H

5. Which of the following is the correct name for **Molecule C**?

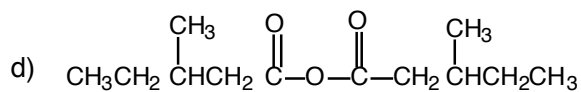
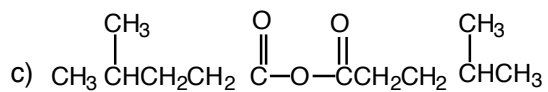
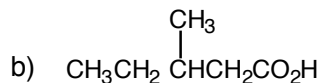
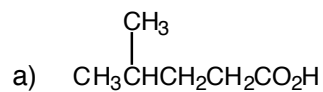


- A) 3-methoxypentanol
 B) 3-ethoxypentanol
 C) 3-methylpentanol
 D) 3-methoxy-1-pentanol
 E) 3-methyl-1-pentanol
 F) 3-ethoxy-1-pentanol

6. Which of the following compounds would give a positive test with Tollens' reagent?



7. Which of the following structures represents 4-Methylpentanoic acid?



Use **Figure 1** to answer questions 8-12.

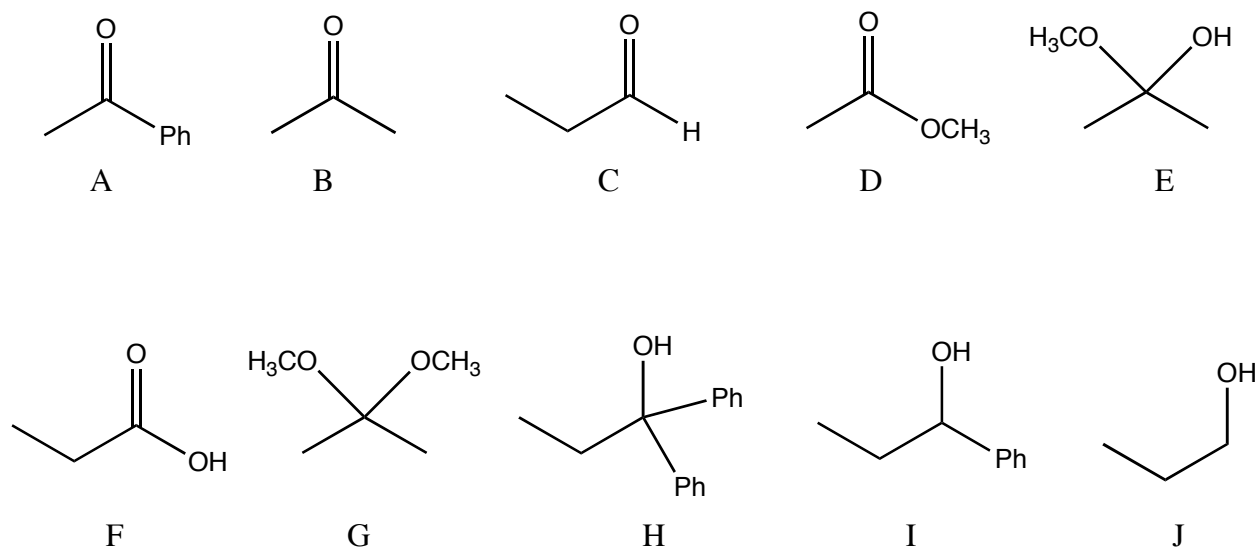
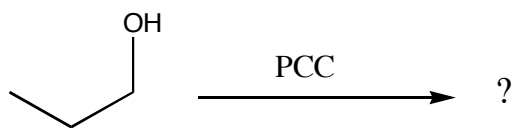
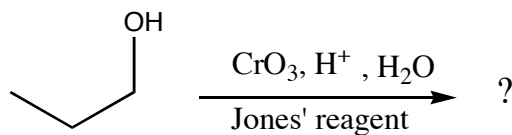


Figure 1

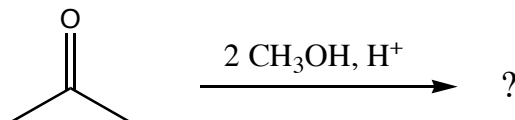
8. Which of the structures in **Figure 1** represents the major product for the following reaction?



9. Which of the structures in **Figure 1** represents the major product for the following reaction?

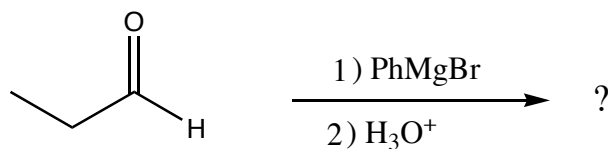


10. Which of the structures in **Figure 1** represents the major product for the following reaction?



11. Which of the structures in **Figure 1** represents a hemiacetal?

12. Which of the structures in **Figure 1** represents the major product for the following reaction?



Use **Figure 2** to answer questions 13-17

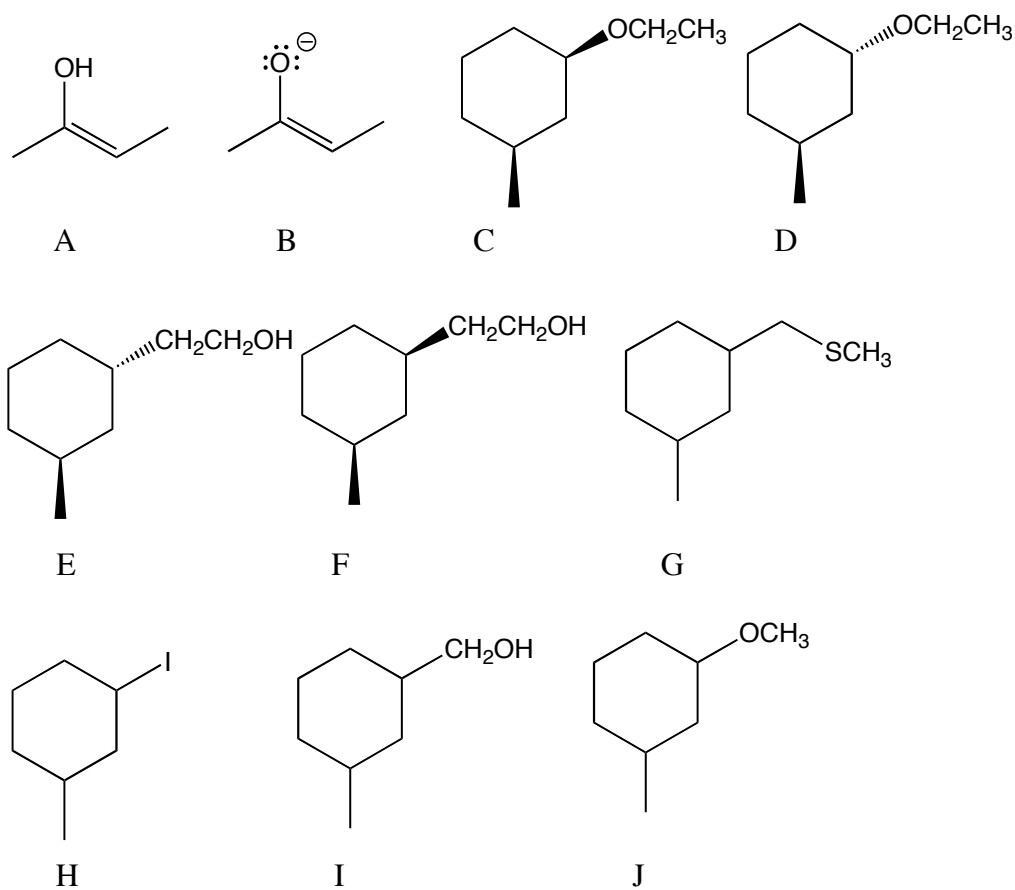
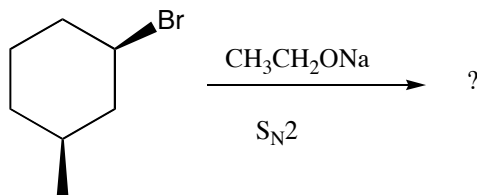
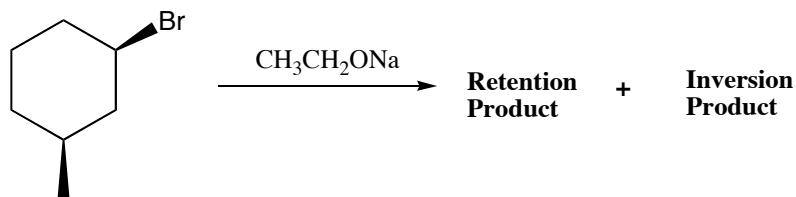


Figure 2

13. Which of the structures in **Figure 2** represents the major product for the following S_N2 reaction?

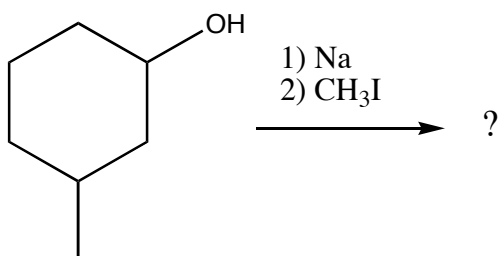


14. Which of the structures in **Figure 2** represents the **retention** product for the following S_N1 reaction?



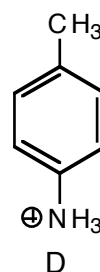
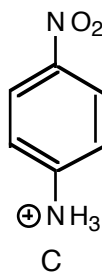
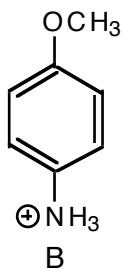
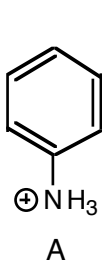
15. Which of the structures in **Figure 2** represents the **inversion** product for the S_N1 reaction in question

16. Which of the structures in **Figure 2** represents the major product for the following reaction?

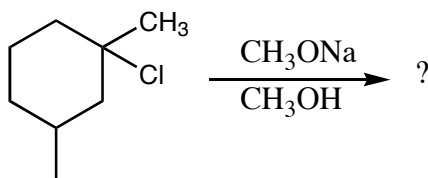


17. Which of the structures in **Figure 2** represents the structure of an enolate?

18. Which of the following compounds is the strongest acid?



19. How many elimination products are possible for the following E2 reaction?



A) 1
F) 6

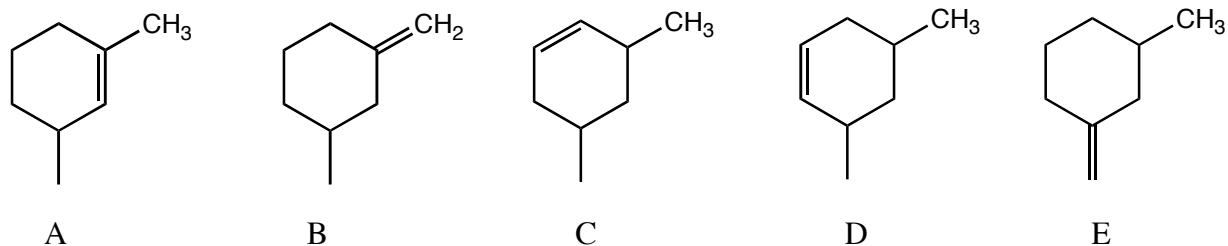
B) 2
G) 7

C) 3

D) 4

E) 5

20. Which of the following structure is the major products for the above question (Q19)?



Use **Figure 3** to answer questions 21-26

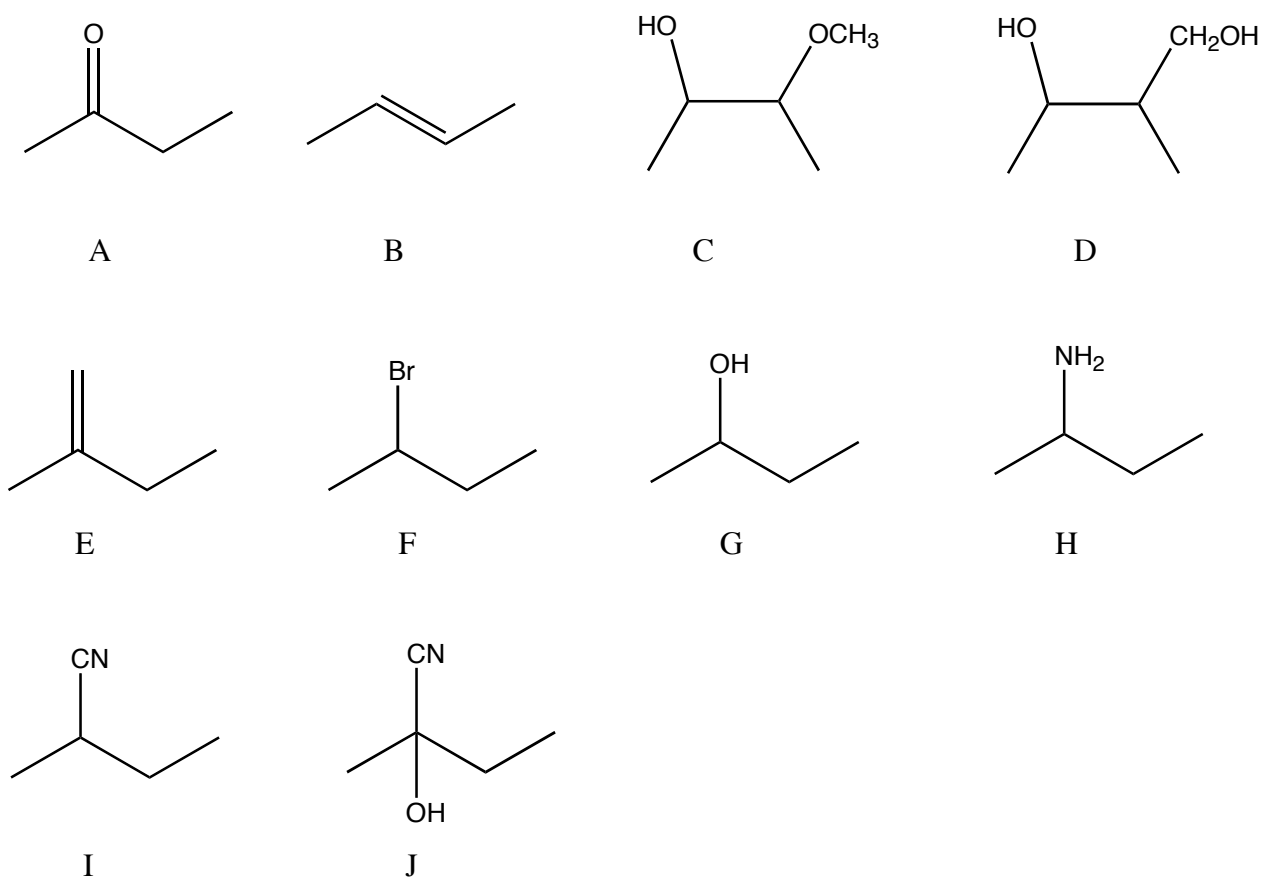
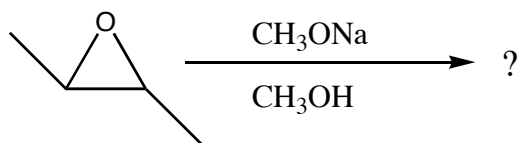
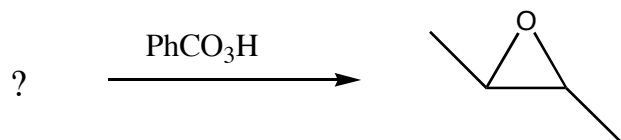


Figure 3

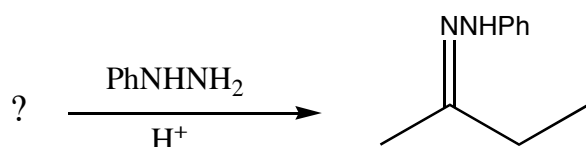
21. Which of the structures in **Figure 3** represents the major product for the following reaction?



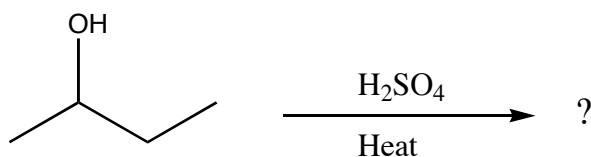
22. Which of the structures in **Figure 3** represents the missing reactant for the following reaction?



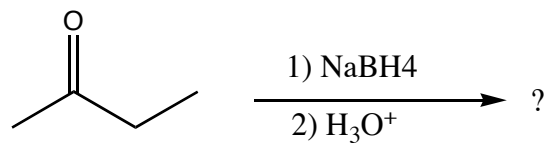
23. Which of the structures in **Figure 3** represents the missing reactant for the following reaction?



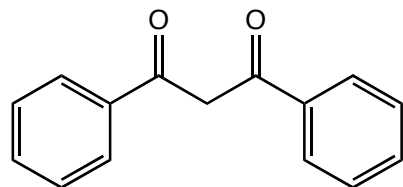
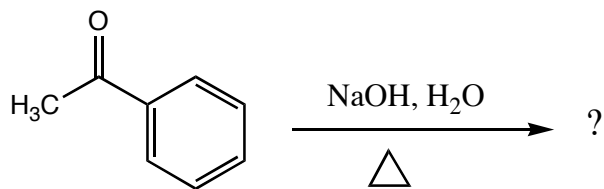
24. Which of the structures in **Figure 3** represents the major product for the following dehydration reaction?



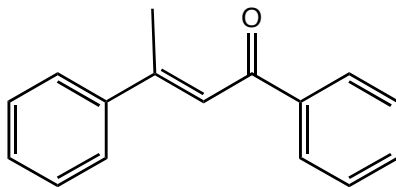
25. Which of the structures in **Figure 3** represents the major product for the following reaction?



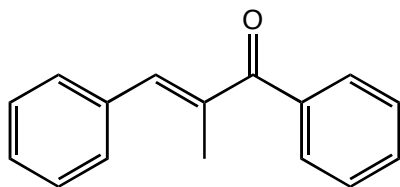
26. Which of the structures in **Figure 4** represents the major product for the following Aldol reaction?



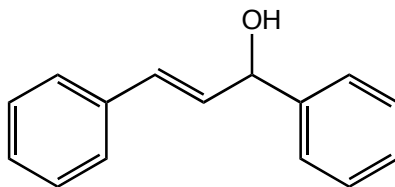
A



B

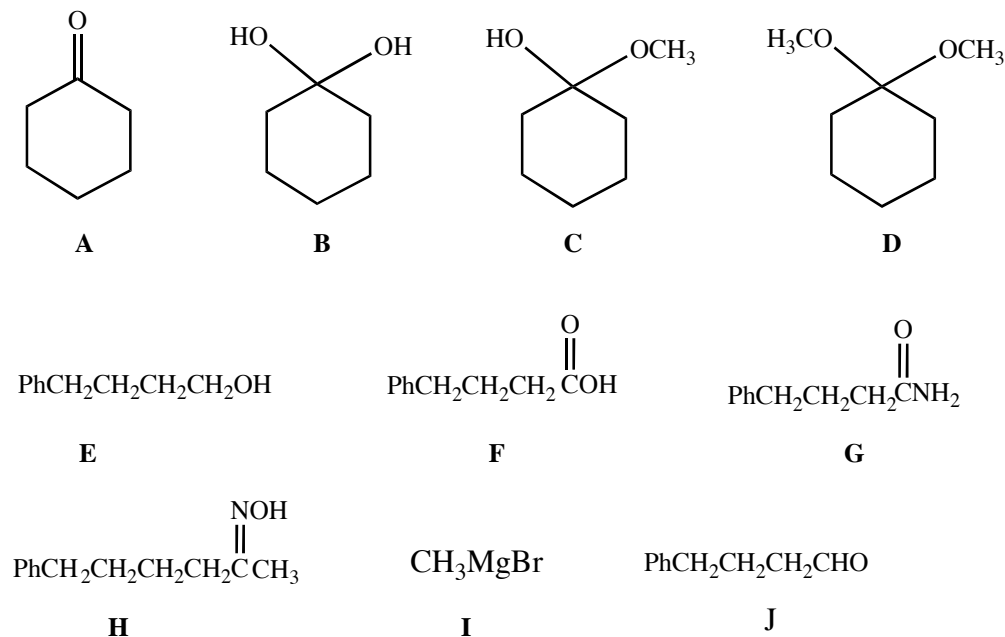


C

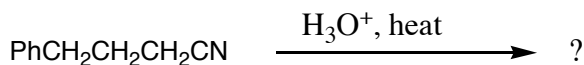


D

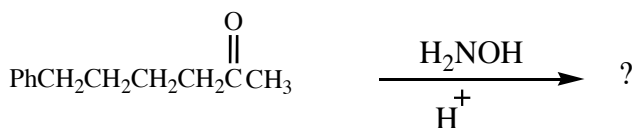
Figure 4Use **Figure 5** to answer questions 27-31

**Figure 5**

27. Which of the structures in **Figure 5** represents the major product for the following reaction?



28. Which of the structures in **Figure 5** represents the major product for the following reaction?



29. Which of the structures in **Figure 5** represents hydrate of cyclohexanone?

30. Which of the structures in **Figure 5** is considered a Grignard reagent?

31. Which of the structures in **Figure 5** represents the major product for the following reaction?

