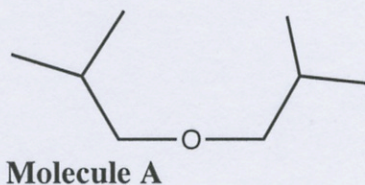


PICK THE MOST ACCURATE ANSWER FOR EACH QUESTION.

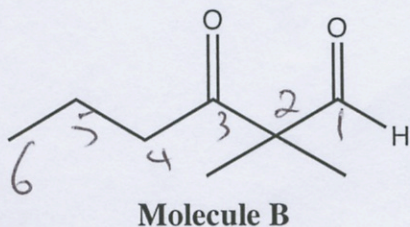
1. Which of the following names is the correct one for **Molecule A**?



D

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

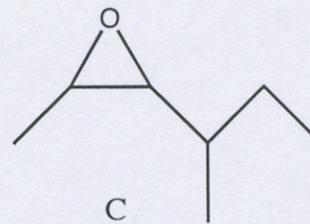
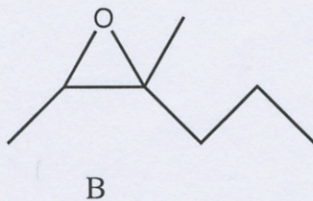
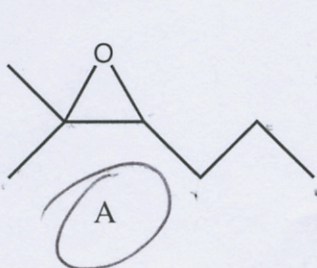
2. Which of the following is the correct IUPAC name for **Molecule B**?



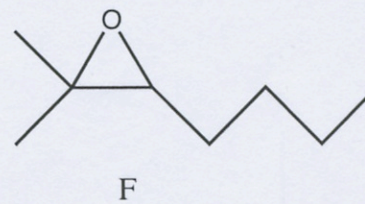
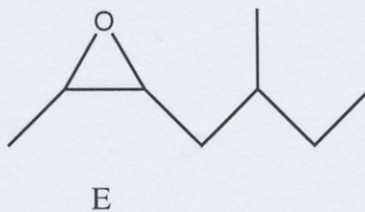
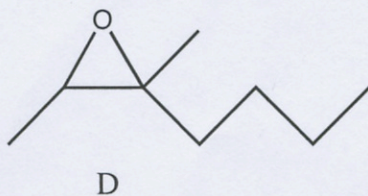
- A) 1-Oxo-2,2-dimethyl-3-hexanone
 B) 3-Oxo-2,2-dimethylhexanol
 C) 3-Oxo-2,2-dimethylpentanal
 D) 3-Oxo-2,2-dimethylhexanal
 E) 1-Oxo-2,2-dimethyl-3-hexanal

D

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



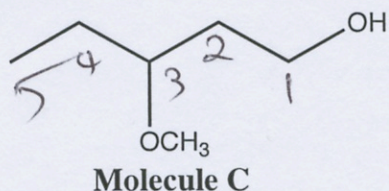
A



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**?

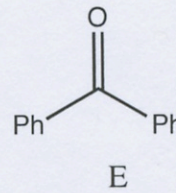
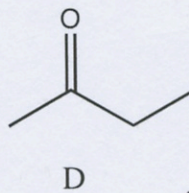
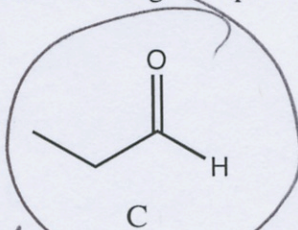
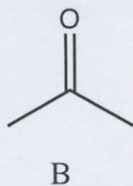
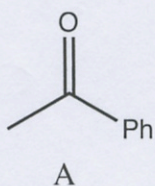


D

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

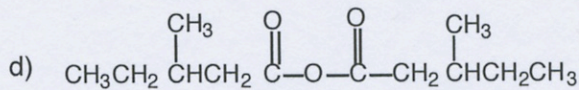
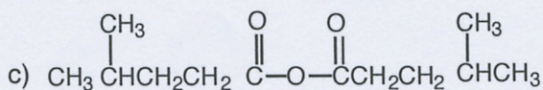
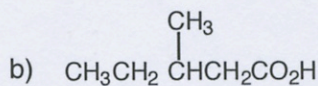
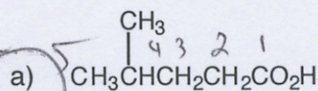
Correction 3-methoxy-1-pentanol

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



only aldehydes give positive test with Tollens'

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



a

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

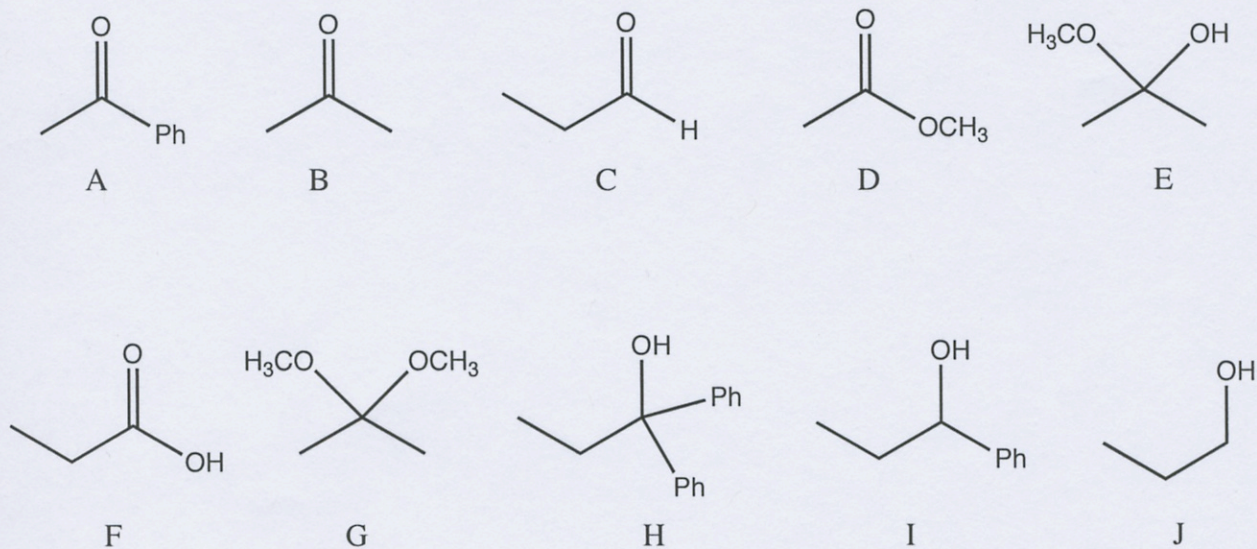
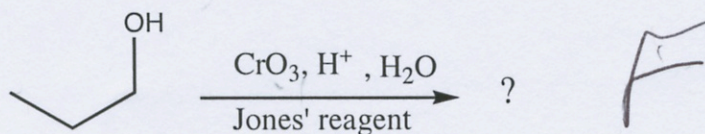


Figure 1

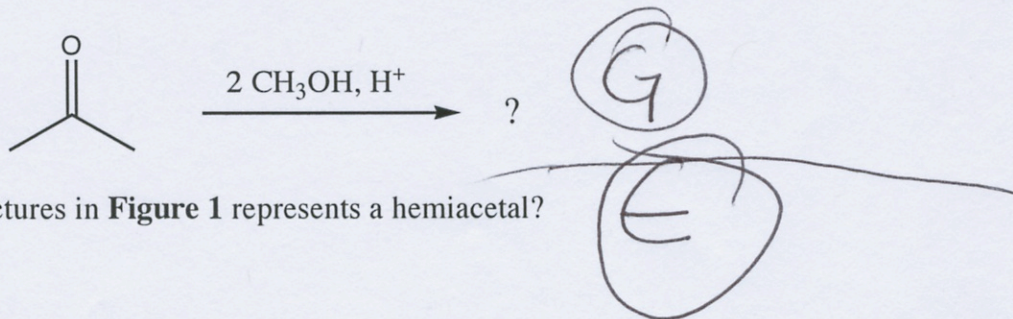
8. Which of the structures in **Figure 1** represents the major product for the following reaction?



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

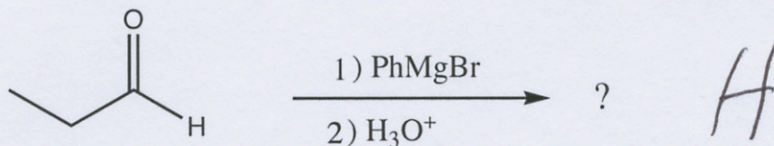


10. Which of the structures in **Figure 1** represents the major product for the following reaction?



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

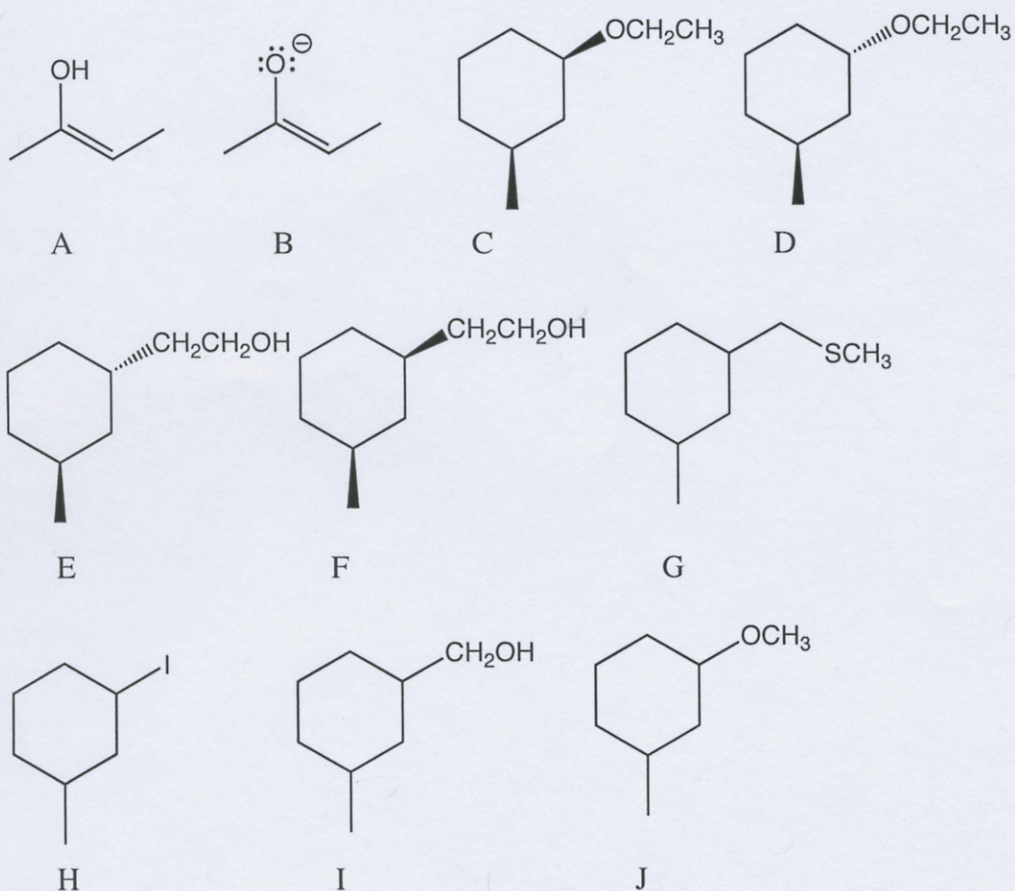
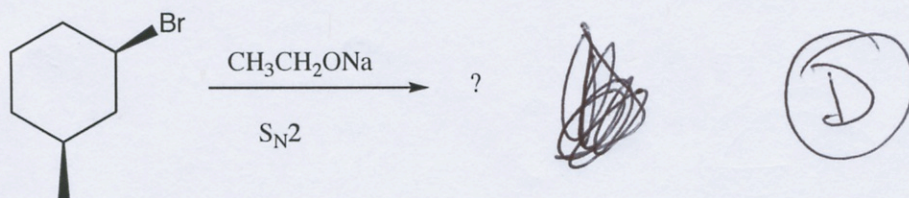
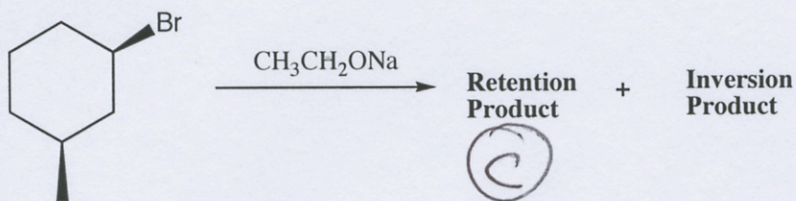


Figure 2

13. Which of the structures in **Figure 2** represents the major product for the following $\text{S}_{\text{N}}2$ reaction?



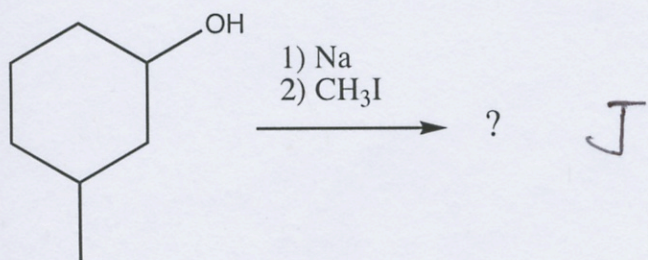
14. Which of the structures in **Figure 2** represents the **retention** product for the following S_N1 reaction?



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

D

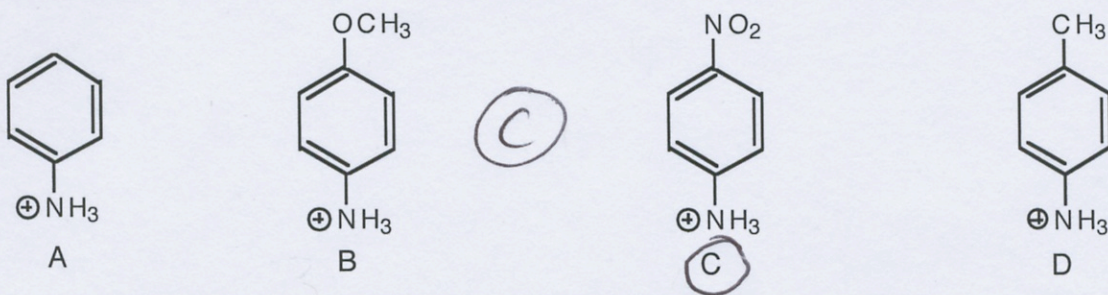
16. Which of the structures in **Figure 2** represents the major product for the following reaction?



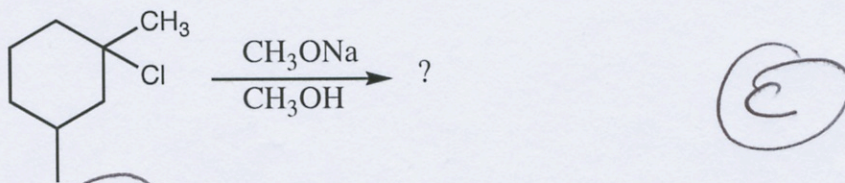
17. Which of the structures in **Figure 2** represents the structure of an enolate?

B

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

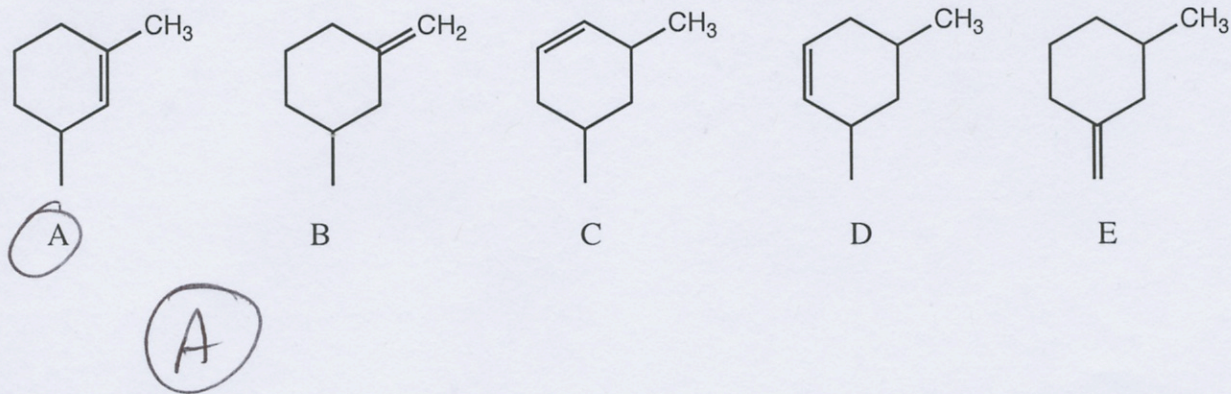
B) 2
G) 7

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

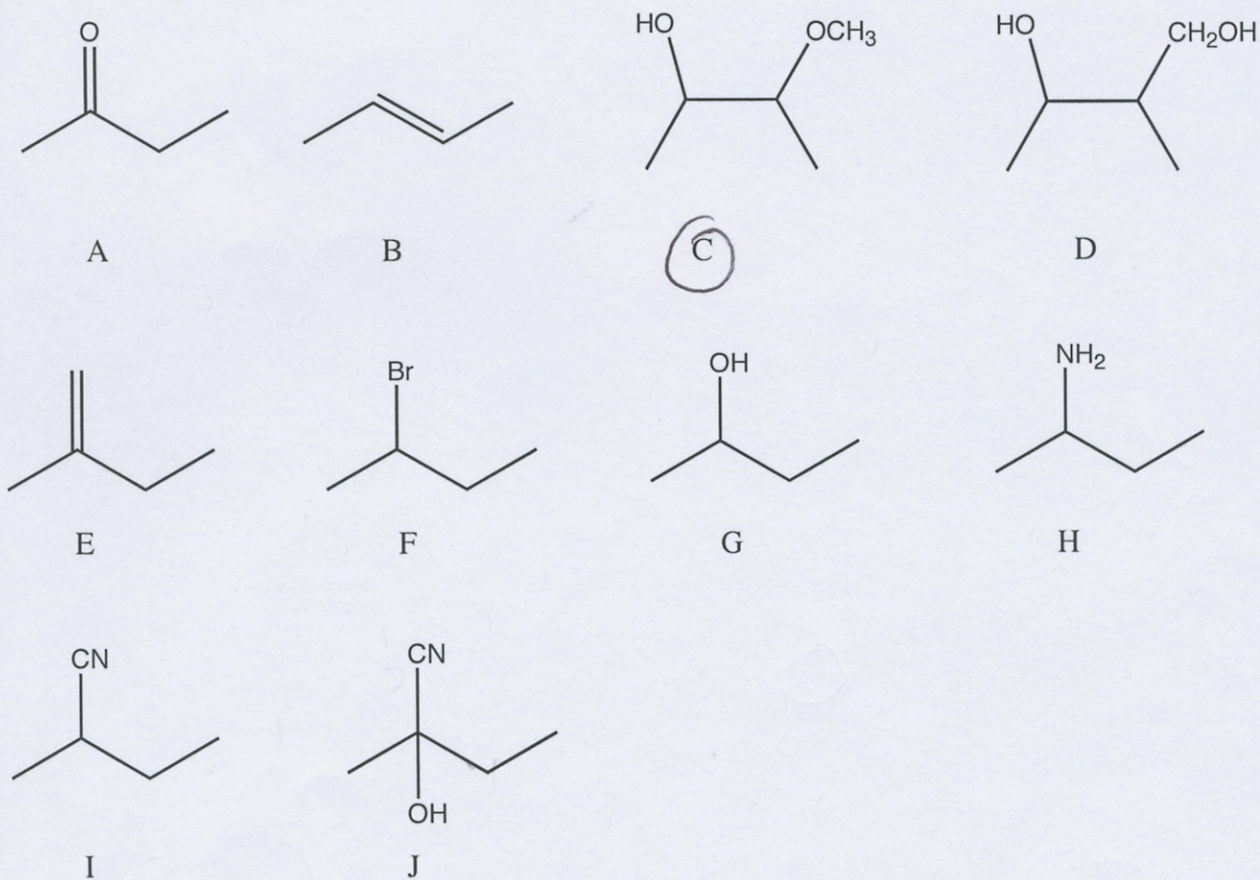
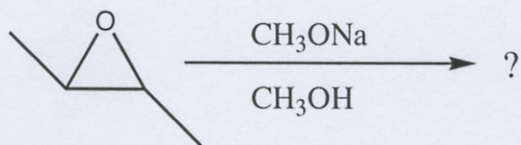


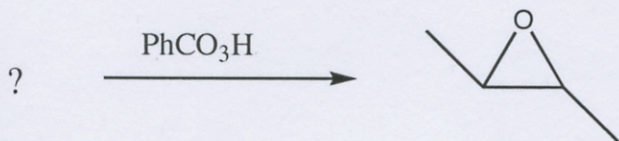
Figure 3

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



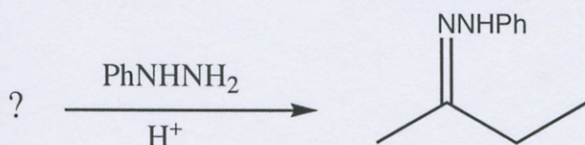
C

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



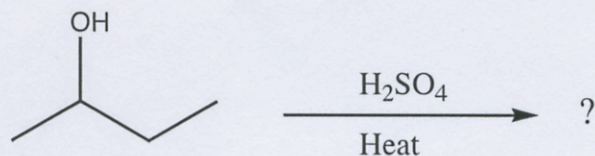
B

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



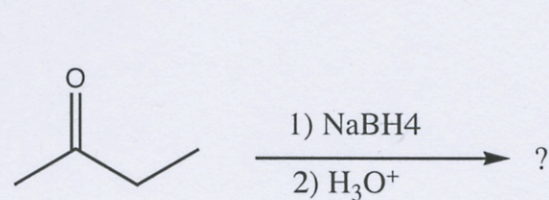
A

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



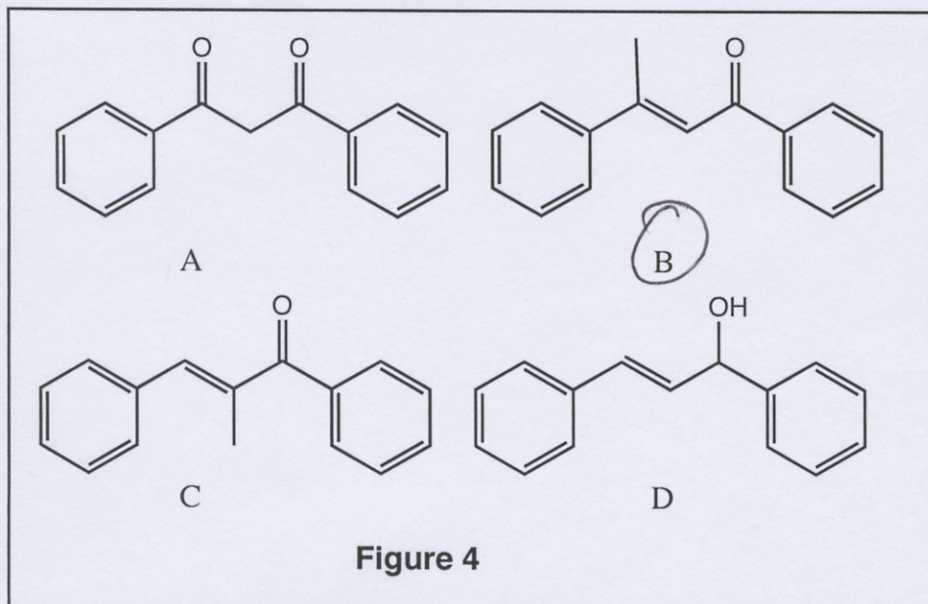
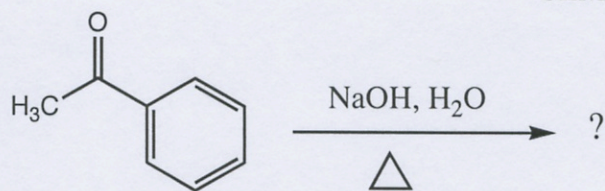
B

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



C

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



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

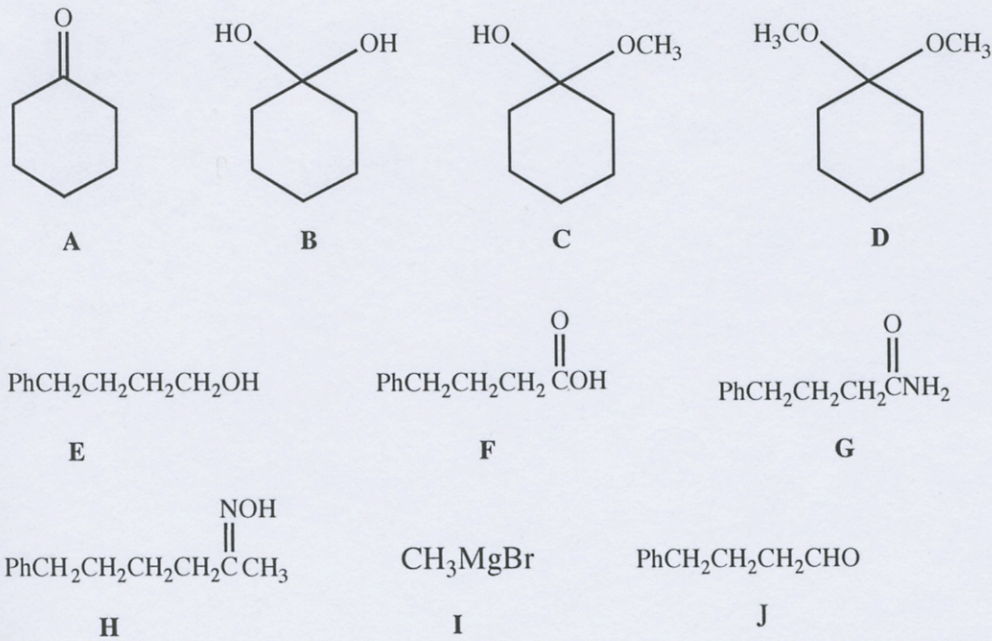
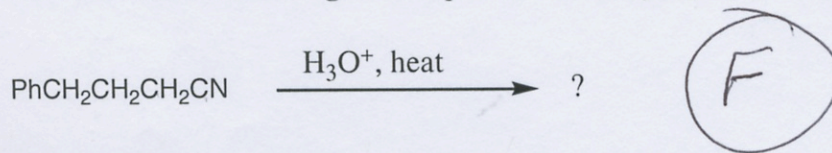
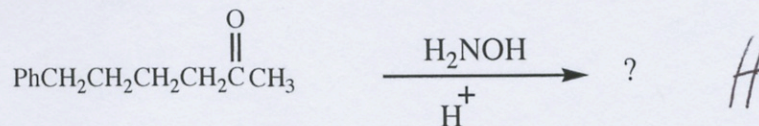


Figure 5

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? (B)

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

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

