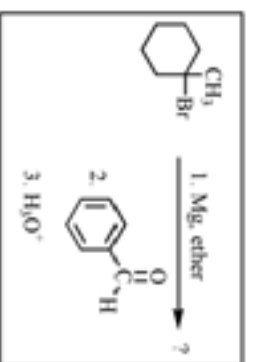


1. What would be the expected product(s) of the following reactions?



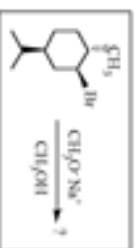
- A)
- B)
- C)
- D)
- E)

2. What would be the MAJOR organic product of the following reaction?



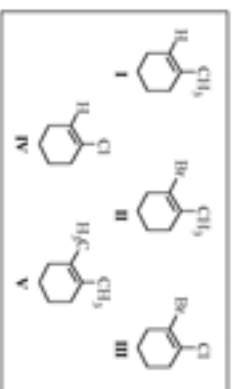
- A)
- B)
- C)
- D)
- E)

3. What product would you expect from the reaction shown below?



- A)
- B)
- C)
- D)
- E)

4. Which of the following are E isomers?



- A) III and V
 B) II and IV
 C) I, III and V
 D) II and III
 E) I, II and IV

5. Which reagent(s) would you expect to give the highest yield of the product shown?



- A) $\text{K}^+\text{O}^t\text{Bu}$
 B) $\text{CH}_3\text{S}^-\text{Na}^+$
 C) H_2SO_4
 D) $\text{CH}_3\text{O}^-\text{Na}^+$
 E) K^+CN

6. What reagent would give the highest yield of the product shown below?



- A) $\text{K}^+\text{O}^t\text{Bu}$
 B) NaCN
 C) $\text{CH}_3\text{S}^-\text{Na}^+$
 D) NaOH
 E) $\text{CH}_3\text{O}^-\text{Na}^+$

7. What product, if any, would result from the reaction shown below?



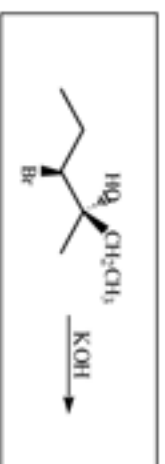
- A)
- B)
- C)
- D) both A and B
 E) no reaction occurs

8. Predict the product of the following reaction:



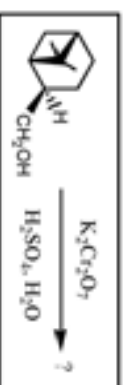
- A)
- B)
- C)
- D)
- E)

9. Predict the MAJOR product of the following reaction:



- A)
- B)
- C)
- D)
- E)

10. What would be the major organic product of the following reaction?



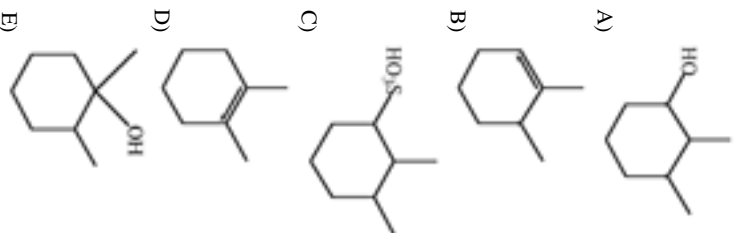
- A)
- B)
- C)
- D)
- E)

11. Predict the MAJOR product of the following reaction:

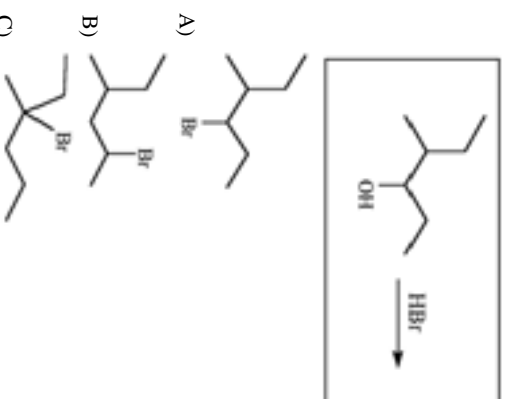


- A)
- B)
- C)
- D)
- E)

12. Predict the MAJOR product of the following reaction:
 2,3-dimethylcyclohexanol + H_2SO_4



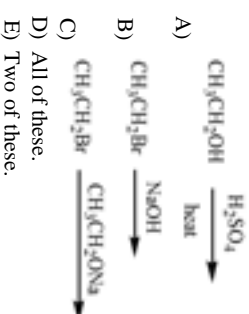
13. Predict the MAJOR product of the following reaction



14. Which of the following is true of thiols?

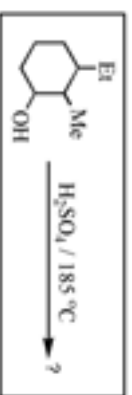
- A) They are more acidic than alcohols.
- B) They have lower boiling points than the corresponding alcohol.
- C) Thiol oxidations proceed very differently than alcohol oxidations.
- D) All of these.
- E) Two of these.

15. Which of the following reactions would produce diethyl ether?



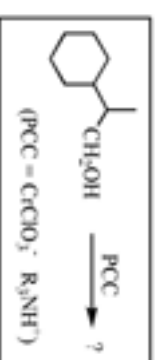
16. Saytzev's Rule has to do with the following:
- A) Free-radical substitutions
 - B) Hydration of double bonds
 - C) Bromination of double bonds
 - D) Products of elimination reactions
 - E) Hydrogenation of double bonds

17. What is the MAJOR product of the following reaction?



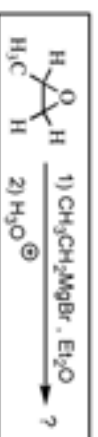
- A)
- B)
- C)
- D)
- E)

18. What would be the major organic product expected from the following reaction?



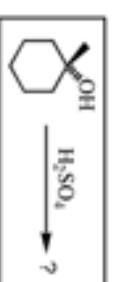
- A)
- B)
- C)
- D)
- E)

19. What is the MAJOR product of the following reaction?



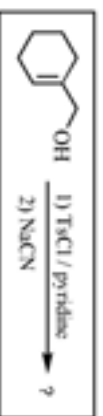
- A) CCC(C)C(O)C
- B) CCC(C)C(O)C
- C) CCC(C)C(O)C
- D) CCC(C)C(O)C
- E) CCC(C)C(O)C

20. What is the MAJOR product of the following reaction:



- A) C1CCC(CC1)OS(=O)(=O)H
- B) C1=CCCCC1
- C) C1=CCCCC1
- D) C1=CCCCC1
- E) none of these

21. What is the product of the following reaction?



- A)
- B)
- C)
- D)
- E)

22. What would be the product of the following reaction?



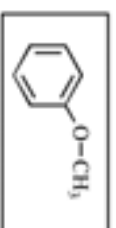
- A)
- B)
- C)
- D)
- E)

23. What would be the product of the following reaction?



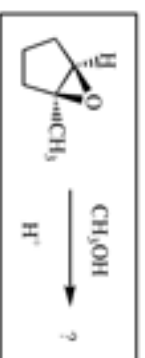
- A)
- B)
- C)
- D)
- E)

24. Which of the following reactions would be the best for the preparation of anisole (methoxybenzene)?



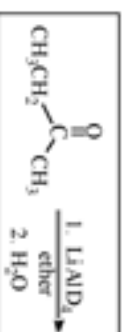
- A)
- B)
- C)
- D)
- E) None of these would work.

25. What would be the product of the following reaction?



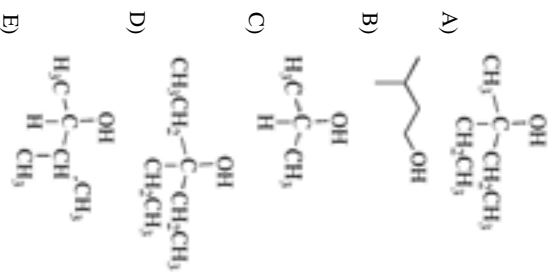
- A)
- B)
- C)
- D)
- E)

26. What would be the expected product for the following reaction?

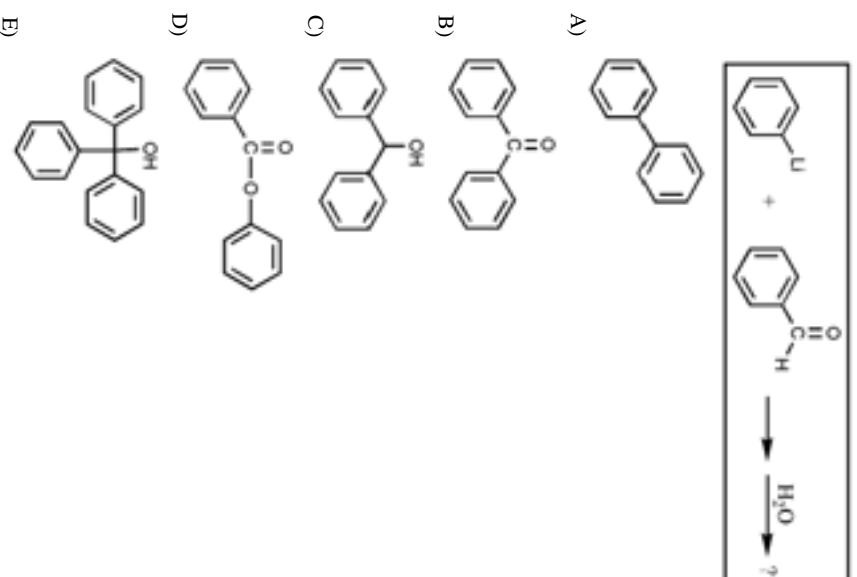


- A)
- B)
- C)
- D)
- E)

27. Which alcohol could be prepared by the greatest number of different combinations of Grignard reagents and carbonyl compounds (aldehydes, ketones and/or esters)? (no multi-step reactions are intended here)



28. What would be the expected organic product of the following reaction?

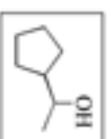


29. What is the MAJOR product of the following reaction?



- A)
- B)
- C)
- D)
- E)

30. Which of the following reactions would produce the alcohol shown below?



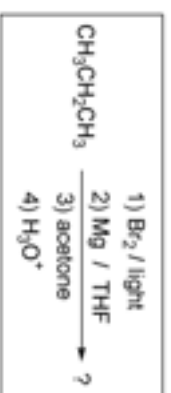
- A) ?
- B) ?
- C) ?
- D) All of these
- E) Two of these






31. What is the MAJOR product of the following reaction?



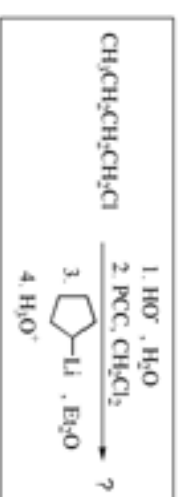
- A)
- B)
- C)
- D)
- E) no net reaction occurs

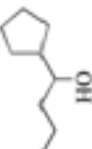

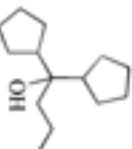
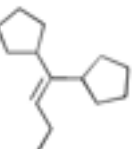
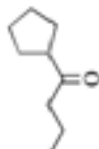
32. What is the major product of the following reaction?



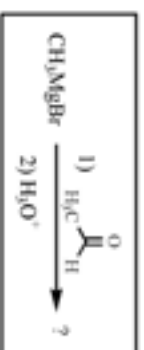
- A) 
- B) 
- C) 
- D) 
- E) 





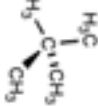
33. What is the expected product of the following reaction?



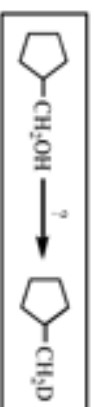
- A) 
- B) 
- C) 
- D) 
- E) 

34. Predict the product of the following reaction:



- A) 
- B) 
- C) 
- D) 
- E) 

35. Which of the sequences below would accomplish the following transformation?



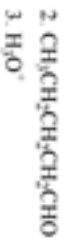
- A) $\xrightarrow[2) \text{NaBD}_4, \text{CH}_3\text{OH}]{1) \text{HBr}}$
- B) $\xrightarrow[3) \text{D}_2\text{O}]{1) \text{PBr}_3, 2) \text{Mg, ether}}$
- C) $\xrightarrow{1) \text{LAID}_4, \text{D}_2\text{SO}_4}$
- D) $\xrightarrow[2) \text{H}_3\text{O}^+]{1) \text{H}_2\text{SO}_4}$
- E) $\xrightarrow[2) \text{D}_2, \text{catalyst}]{1) \text{H}_2\text{SO}_4}$

36. Which of the following reagents would accomplish the reaction shown?

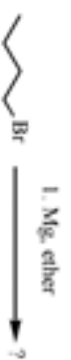


- A) $\text{H}_2\text{SO}_4, \text{H}_2\text{O}$
- B) H_2CrO_4
- C) O_2 (slow)
- D) $\text{HO}^\cdot, \text{H}_2\text{O}$
- E) None of these.

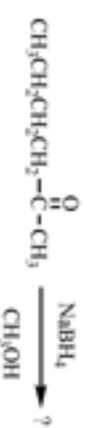
37. Which of the following reactions would produce the alcohol shown?



A)



B)



C)

D) All of these.

E) None of these

Answer Key - Ferret:Exam:chem 109a 2003:quiz 5.qf.cdf

1. B
2. B
3. C
4. B
5. D
6. A
7. A
8. D
9. B
10. C
11. D
12. D
13. C
14. D
15. E
16. D
17. D
18. C
19. A
20. B
21. D
22. A
23. A
24. C
25. A
26. B
27. A
28. C
29. A
30. D
31. E
32. A
33. A
34. D
35. B
36. E
37. D