

1. Problem 16.22a

Draw a structural formula and give another acceptable name for formaldehyde.

Draw a structural formula for formaldehyde.

Give another acceptable name for formaldehyde.

2. Problem 16.22b

Draw a structural formula and give another acceptable name for acetaldehyde.

Draw a structural formula for acetaldehyde.

Give another acceptable name for acetaldehyde.

3. Problem 16.22c

Draw a structural formula and give another acceptable name for phenylacetaldehyde.

Draw a structural formula for phenylacetaldehyde.

Give another acceptable name for phenylacetaldehyde.

4. Problem 16.22d

Draw a structural formula and give another acceptable name for acetone.

Draw a structural formula for acetone.

Give another acceptable name for acetone.

5. Problem 16.22e

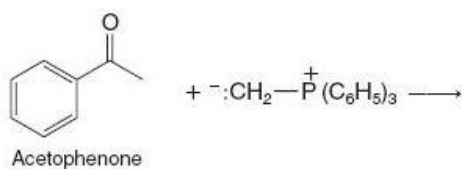
Draw a structural formula and give another acceptable name for ethyl methyl ketone.

Draw a structural formula for ethyl methyl ketone.

Give another acceptable name for ethyl methyl ketone.

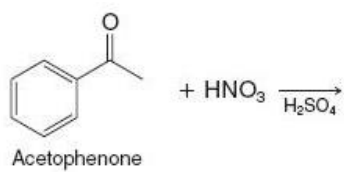
6. Problem 16.25c

What product would be obtained when acetophenone reacts under the following condition? Do not include product containing phosphorus.



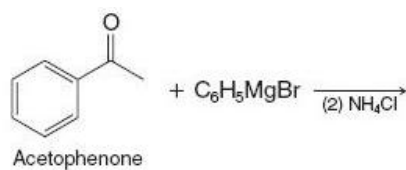
7. Problem 16.25a

What product would be obtained when acetophenone reacts under the following condition?



8. Problem 16.25e

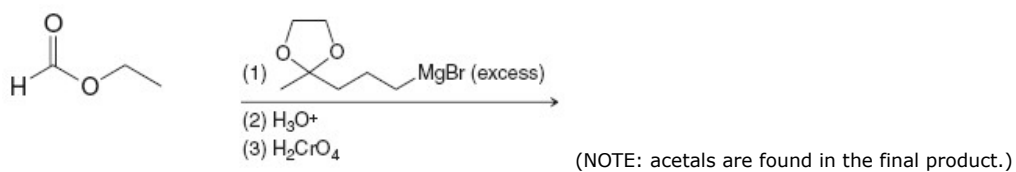
What product would be obtained when acetophenone reacts under the following condition?



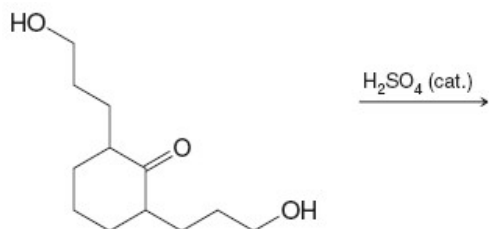
9. Problem 16.28

Predict the major organic product from each of the following reactions.

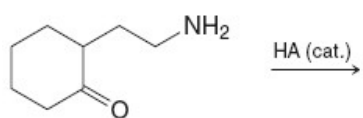
(a)



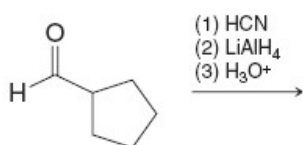
(b)



(c)

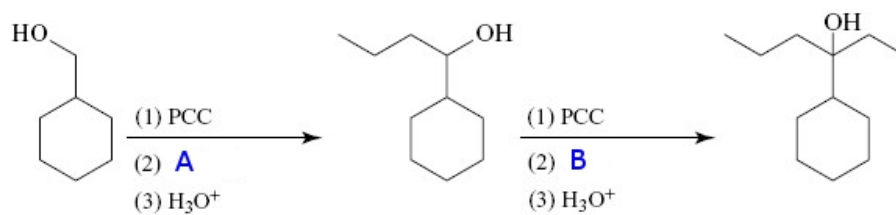


(d)



10. Problem 16.31

Provide the missing reagents necessary for the following synthesis.

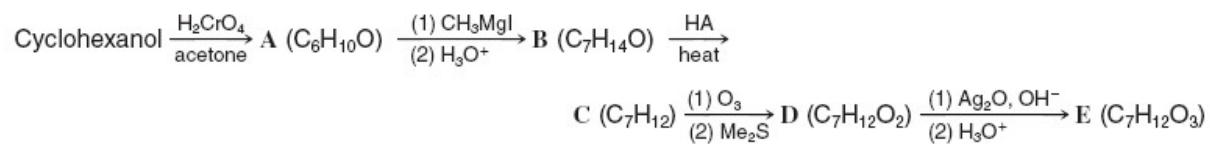


A:

B:

11. Problem 16.36

Give structures for compounds **A–E**.



A:

B:

C:

D:

E:

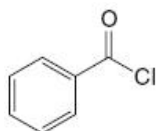
12. Problem 17.18 h

Write a structural formula for each of the following compounds.

(h) Acetic anhydride

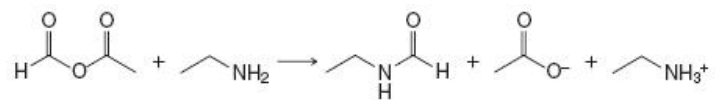
13. Problem 17.19

Give an IUPAC systematic or common name for the following compound:



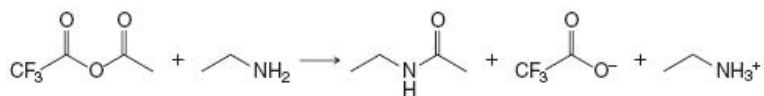
14. Challenge Problem 17.50

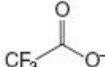
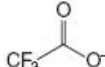

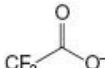
Explain the factors that might account for the formation of the products in the following reactions:



- the acidity of the amine ion drives the reaction to shift toward the conjugate base of the carboxylic acid product
- aldehydes are more reactive toward nucleophiles than ketones
- nucleophilic attack occurs preferentially at the less hindered carbon of the formyl group
- the resulting carboxylic acid ion is a weaker base than an acetate ion

Answer: _____

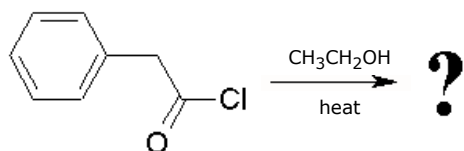


-  donates a majority of its electrons to the entire structure, forming a more stable, conjugated structure
-  is a better leaving group than 
-  is the conjugate base of the weaker acid
- the ethylamine ion drives the formation of the conjugate base of the weaker acid

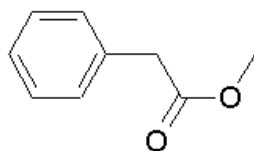
Answer: _____

15. Prelecture, Question 6

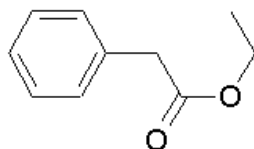
Give the major product of the following reaction.



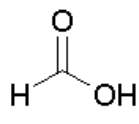
a.



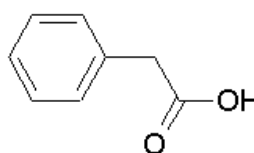
b.



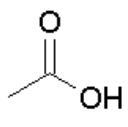
c.



d.



e.

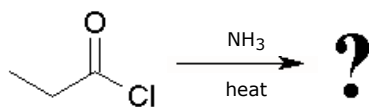


f. There is no reaction under these conditions or the correct product is not listed here.

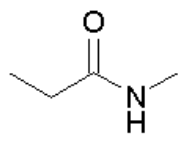
Answer: _____

16. Prelecture, Question 7

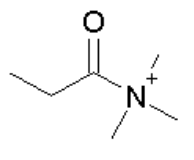
Give the major product(s) of the following reaction.



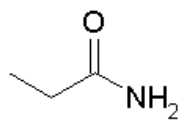
a.



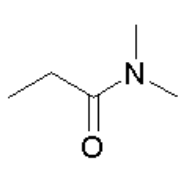
b.



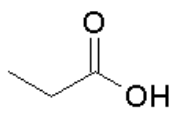
c.



d.



e.

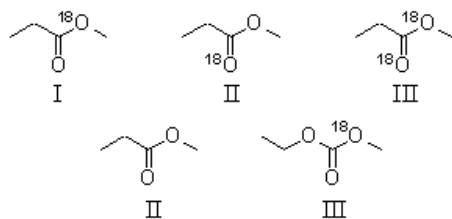
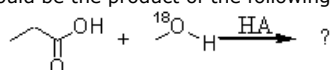


f. There is no reaction under these conditions or the correct product is not listed here.

Answer: _____

17. Testbank Question 63

What would be the product of the following reaction ?

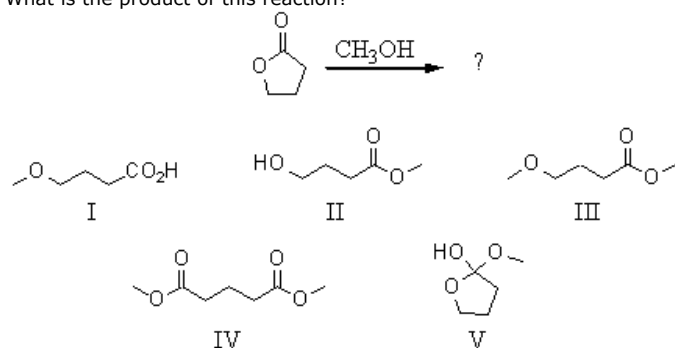


- a. I
- b. II
- c. III
- d. IV
- e. V

Answer: _____

18. Testbank Question 70

What is the product of this reaction?

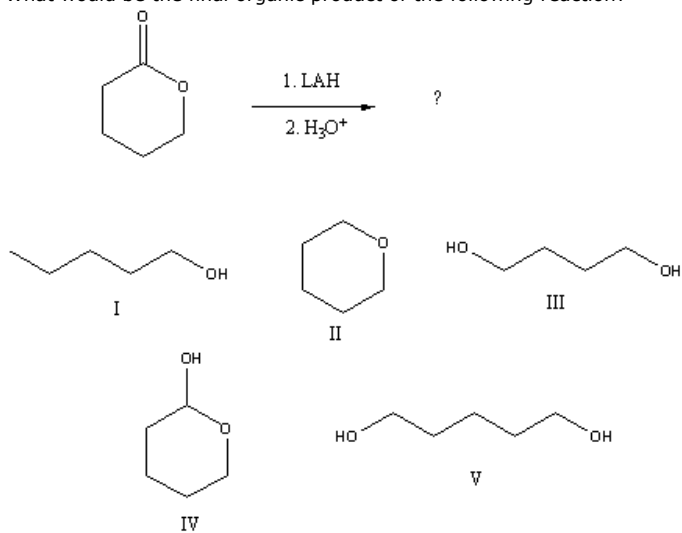


- a. II
- b. V
- c. I
- d. III
- e. IV

Answer: _____

19. Testbank Question 76

What would be the final organic product of the following reaction?

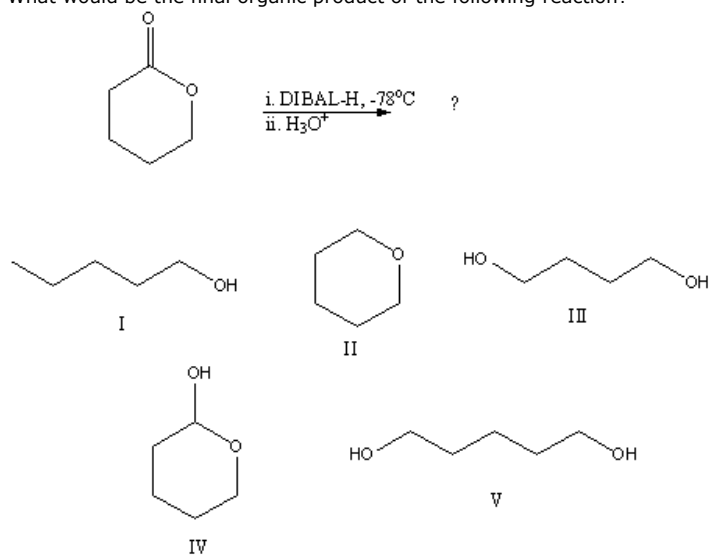


- a. III
- b. II
- c. IV
- d. V
- e. I

Answer: _____

20. Testbank Question 77

What would be the final organic product of the following reaction?

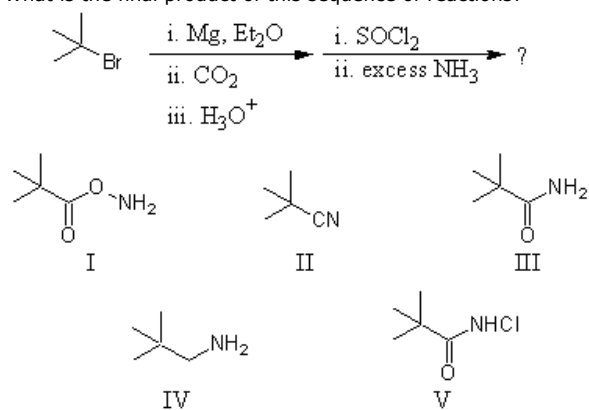


- a. III
- b. V
- c. I
- d. IV
- e. II

Answer: _____

21. Testbank Question 86

What is the final product of this sequence of reactions?

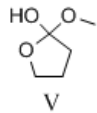
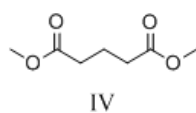
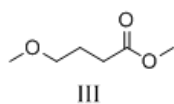
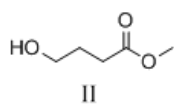
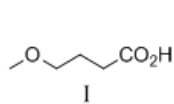
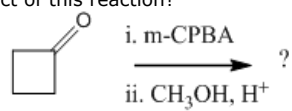


- a. II
- b. III
- c. I
- d. IV
- e. V

Answer: _____

22. Testbank Question 121

What is the product of this reaction?



- a. I
- b. II
- c. III
- d. IV
- e. V

Answer: _____