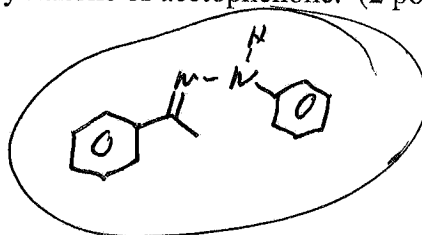
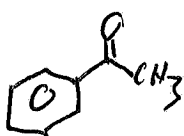


Name: Key

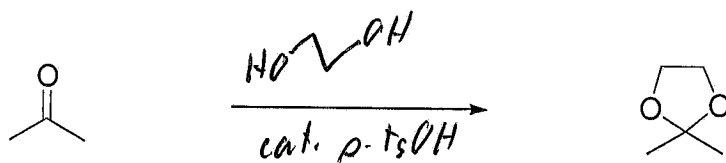
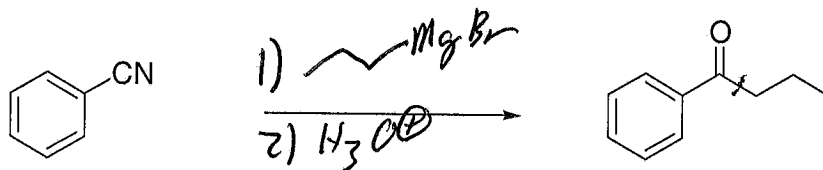
Organic II Lecture  
Fall 2010  
Quiz #5  
(10 points)

1. Provide a structure for the phenylhydrazone of acetophenone. (2 points)

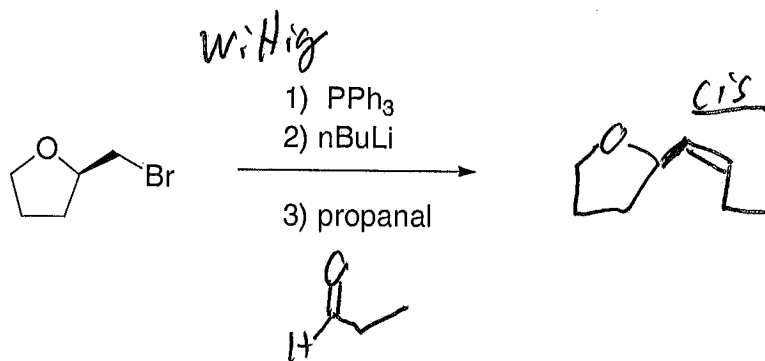


2.

- Complete the following reactions by filling in the missing reagents. (5 points, problem 18-60b)



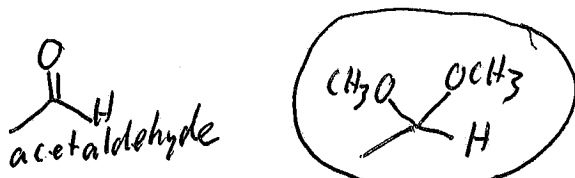
3. Draw a structure for the expected product of the following reaction. (3 points)



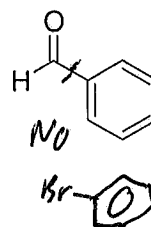
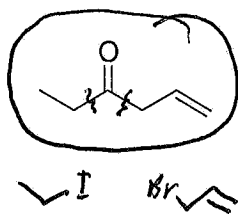
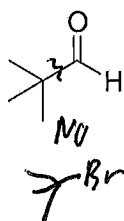
Name: Key

Organic II Lecture  
Fall 2011  
Quiz #5  
(10 points)

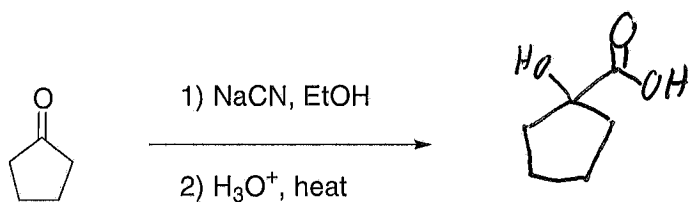
1. Draw a structure for acetaldehyde dimethylacetal. (2 points, problem 18-53e)



2. Circle each of the following compounds that can be made beginning with 1,3-dithiane. (3 points)

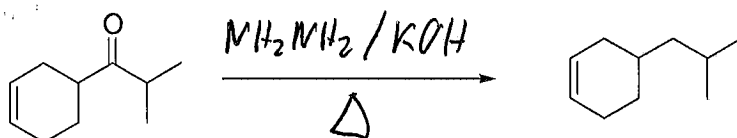


3. Complete the reaction below by filling in the correct product. (3 points)



4. Complete the following reaction by filling in the missing reagents. (2 points)

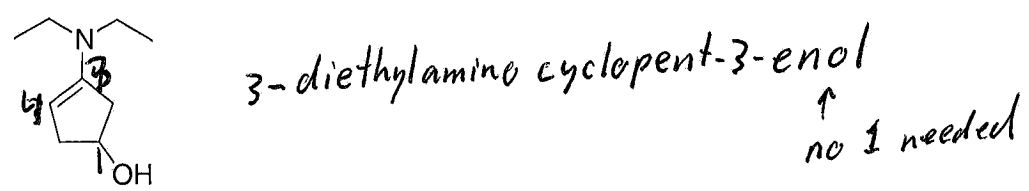
*wolff-kishner*



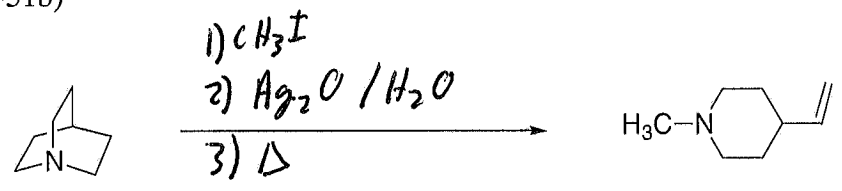
Name: Key

Organic II Lecture  
Fall 2011  
Quiz #6  
(10 points)

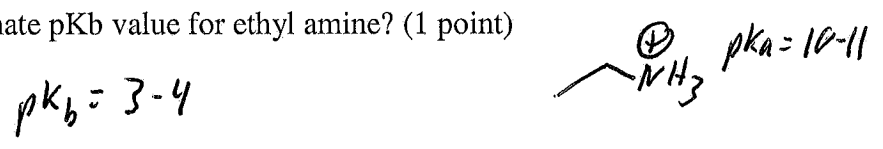
1. Provide a correct systematic name for the following compound. (3 points)



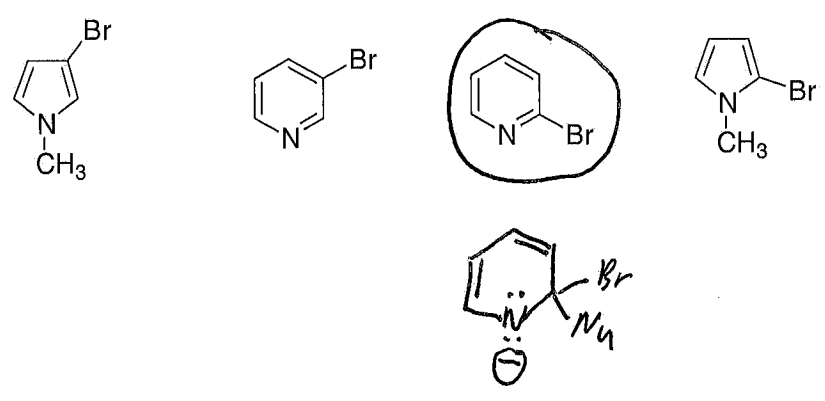
2. Complete the following reaction by filling in the necessary reagents. (4 points, problem 19-51b)



3. What is the approximate  $\text{pK}_b$  value for ethyl amine? (1 point)



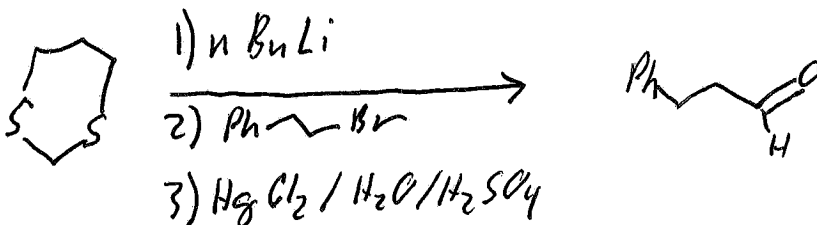
4. Circle the structure below that is most reactive in a nucleophilic aromatic substitution reaction. (2 points)



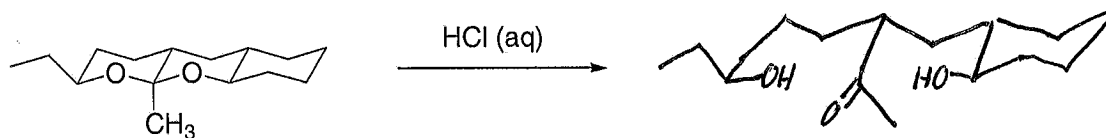
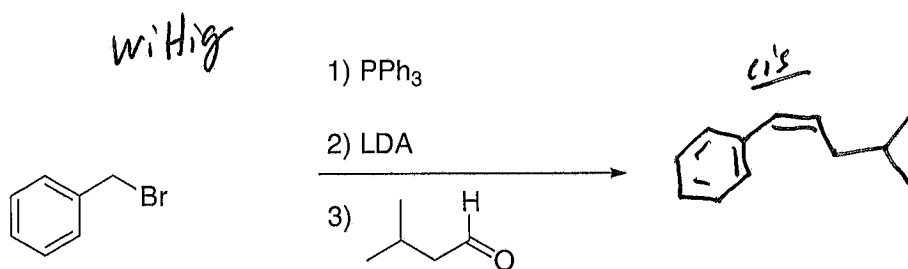
Name: Key

Organic II Lecture  
Fall 2012  
Quiz #5  
(10 points)

1. Show how 1,3-dithiane can be converted to 3-phenylpropanal. (4 points, problem 18-7a)



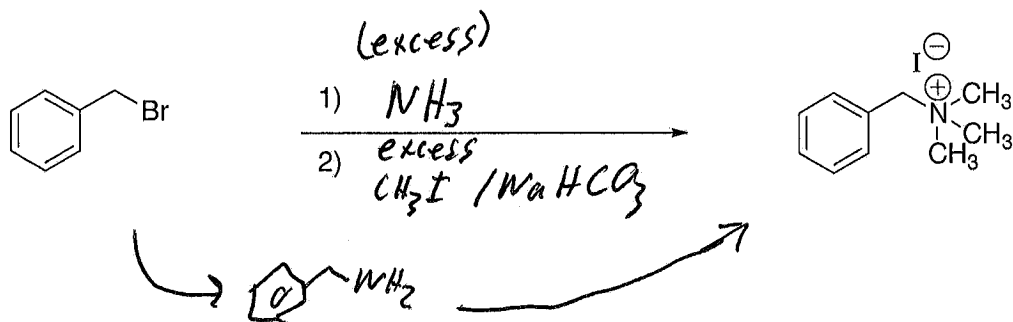
2. Complete the following reaction by filling in the missing products. Be sure to indicate correct stereochemistry where needed. (6 points)



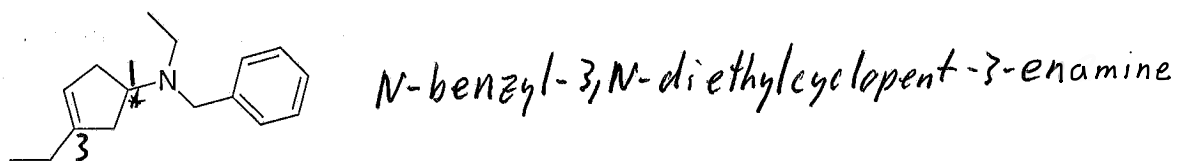
Name: Key

Organic II Lecture  
Fall 2012  
Quiz #6  
(10 points)

1. Complete the following reaction by filling in the missing reagents. (4 points, problem 19-16a)



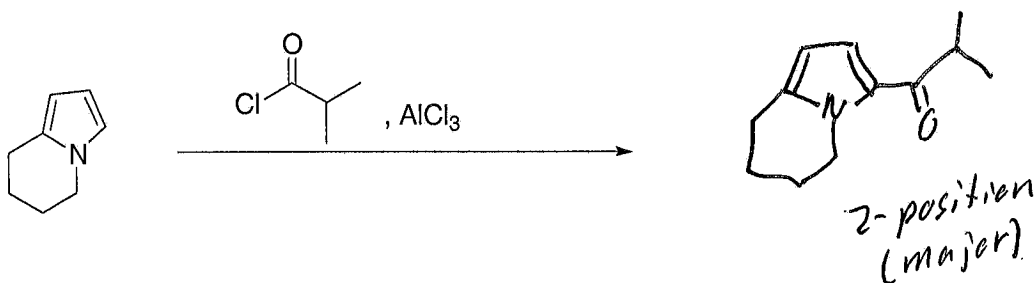
2. Provide a correct systematic name for the following structure. (3 points)



3. State whether the structure above in question #2 is chiral or achiral. (1 point)

chiral - chiral C center

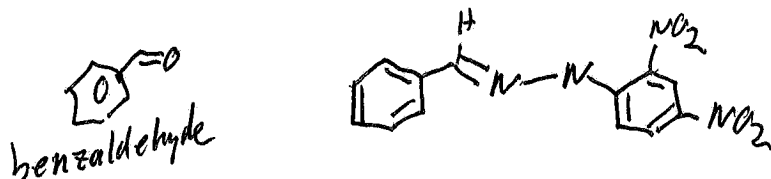
4. Complete the following reaction by drawing a structure for the correct product. (2 points)



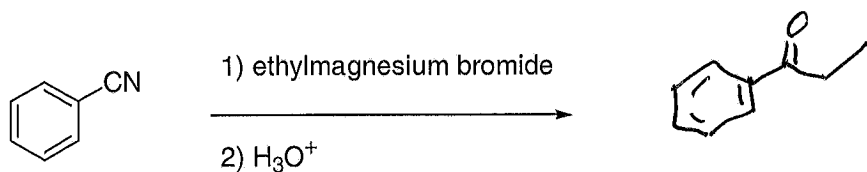
Name: Key

Organic II Lecture  
Spring 2008  
Quiz #5  
(10 points)

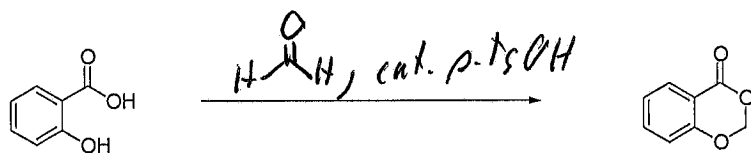
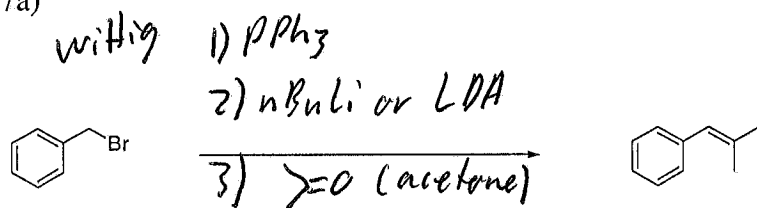
1. Draw the 2,4-dinitrophenylhydrazone of benzaldehyde. (2 points, problem 18-53a)



2. Provide a structure for the product of the reaction below. (3 points)



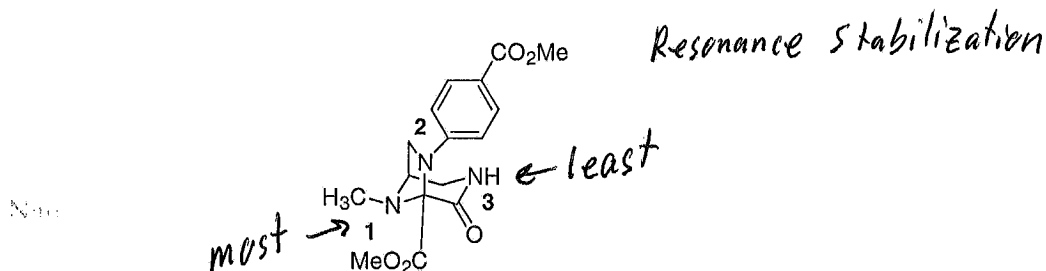
3. Complete the following reaction by filling in the necessary reagents. (5 points, problem 18-17a)



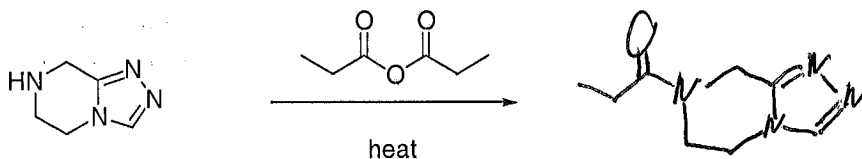
Name: Key

Organic II Lecture  
Spring 2008  
Quiz #6  
(10 points)

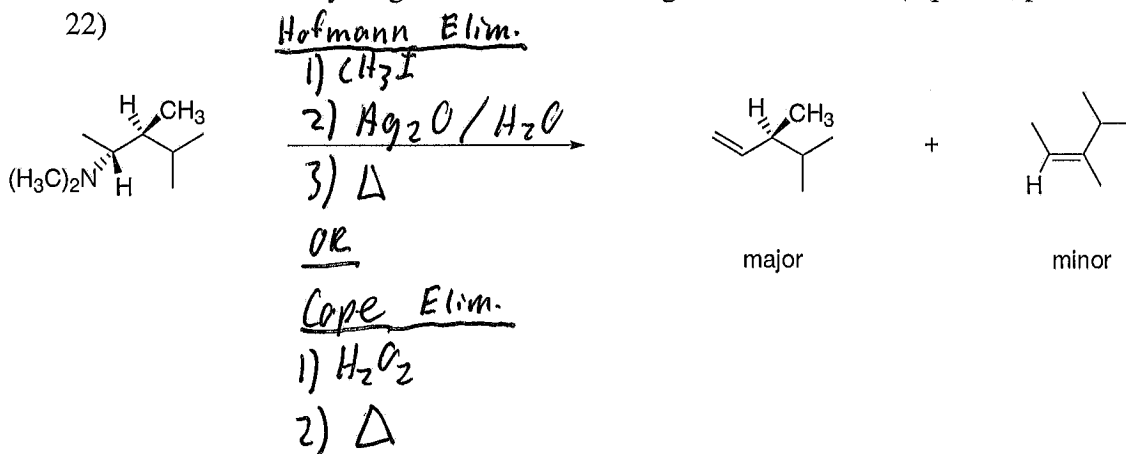
1. Aplaminal is a toxic component isolated from sea hare, used to protect itself from would be predators (*Org. Lett.* 2008, 489). Which sequence correctly ranks the nitrogens below in order of increasing basicity? (3 points)



- a) 1<2<3    b) 2<3<1    c) 3<1<2    **(d) 3<2<1**    e) 2<1<3    f) 1<3<2
2. Draw a structure for the expected product of the reaction below. (3 points)



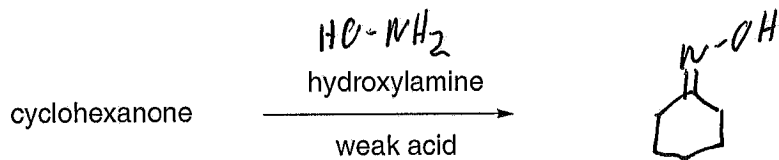
3. Provide the necessary reagents for the following transformation. (4 points, problem 19-22)



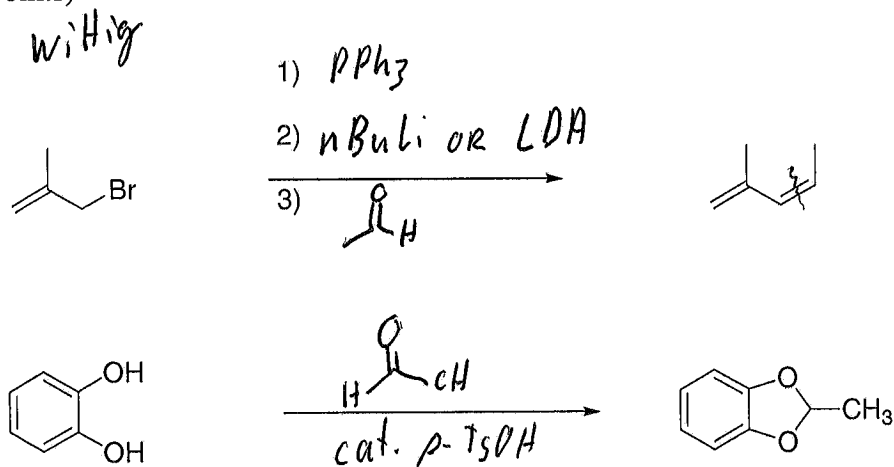
Name: Key

Organic II Lecture  
Spring 2009  
Quiz #5  
(10 points)

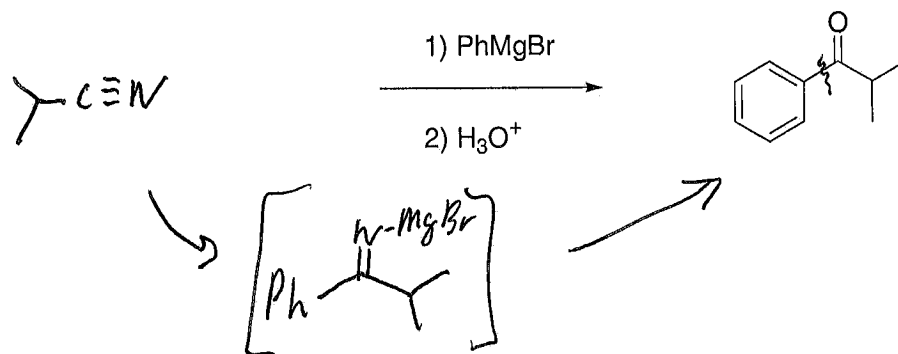
1. Draw a structure for the expected product of the following reaction. (2 points, problem 18-56c)



2. Show how the following reactions can be completed by filling in the necessary reagents. (5 points)



3. Draw a structure for the starting material of the following reaction. (3 points)

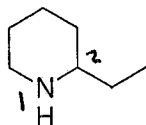




Name: Key

Organic II Lecture  
Spring 2009  
Quiz #6  
(10 points)

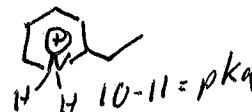
1. Provide a correct name for the following structure. (2 points)



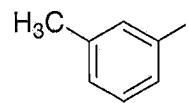
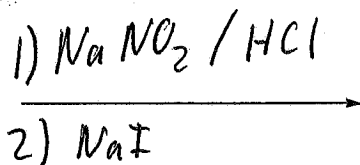
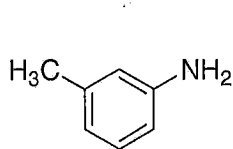
2-ethylpiperidine

2. Predict the  $pK_b$  value of the structure above. (1 point)

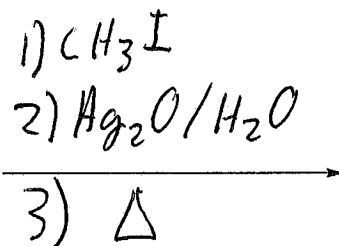
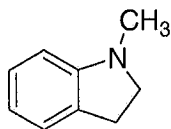
$pK_b = 3-4$



3. Complete each of the following reactions by filling in the necessary reagents. (7 points, problem 19-42c)



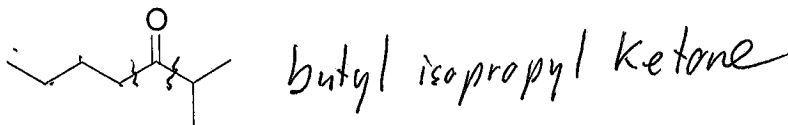
Hofmann Elim.



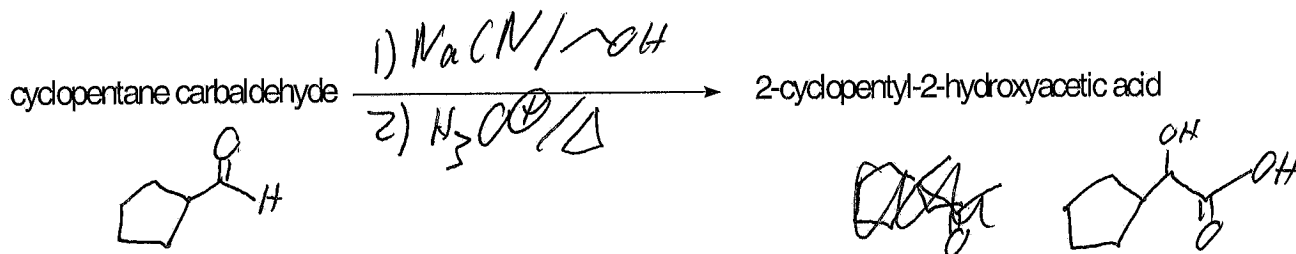
Name: Key

Organic II Lecture  
Spring 2011  
Quiz #5  
(10 points)

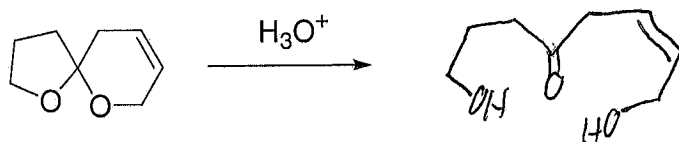
1. Provide a common name for the compound below. (2 points)



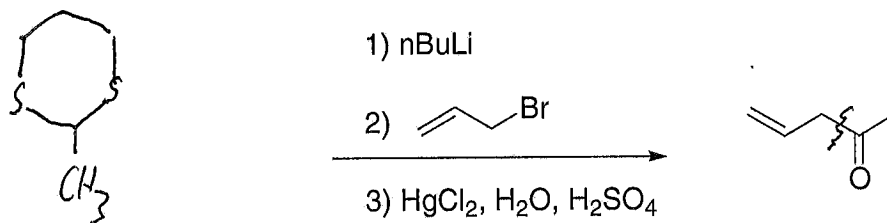
2. Show how you would complete the following synthesis. (3 points, problem 18-21b)



3. Provide a structure for the expected product of the reaction below. (3 points)



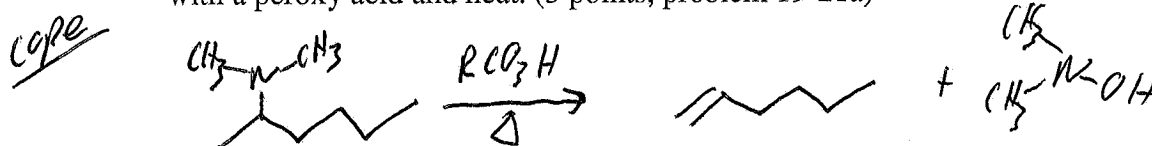
4. Draw a structure for the necessary starting material of the following reaction. (2 points)



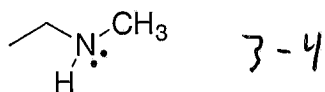
Name: Key

Organic II Lecture  
Spring 2011  
Quiz #6  
(10 points)

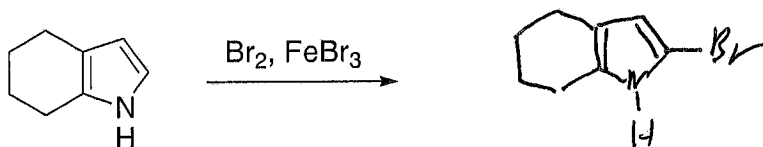
1. Draw a structure for the product resulting from treatment of N,N-dimethylhexan-2-amine with a peroxy acid and heat. (3 points, problem 19-21a)



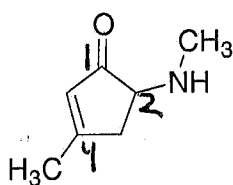
2. Predict the correct  $\text{pK}_b$  value for the structure below within  $\pm 1$  unit. (2 points)



3. Predict the product of the following reaction. (2 points)



4. Identify the correct systematic name for the following structure. (3 points)



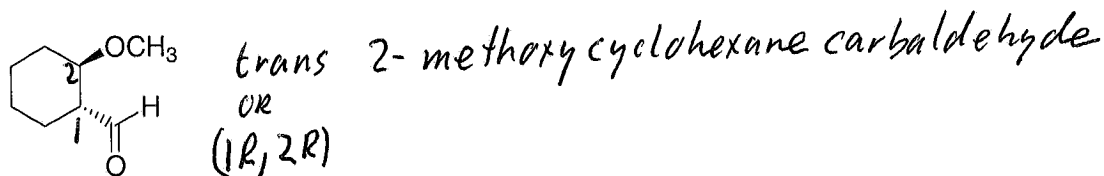
- a) 1,N-dimethyl-3-oxocyclopent-1-enamine
- b) 4,N-dimethyl-2-oxocyclopent-3-enamine
- c) 4-methyl-2-(methylamino)cyclopent-4-enone
- d) 5-amino-3,N-dimethylcyclopent-2-enone
- e) 3-methyl-5-(methylamino)cyclopent-2-enone

*4-methyl-2-methylaminocyclopent-4-enone*

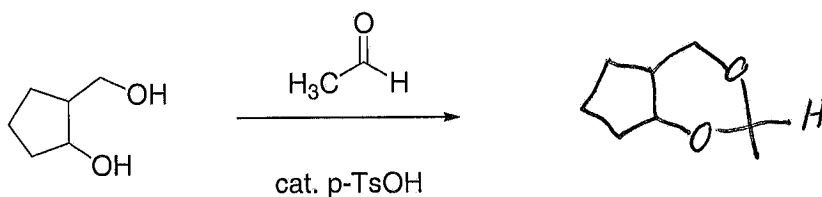
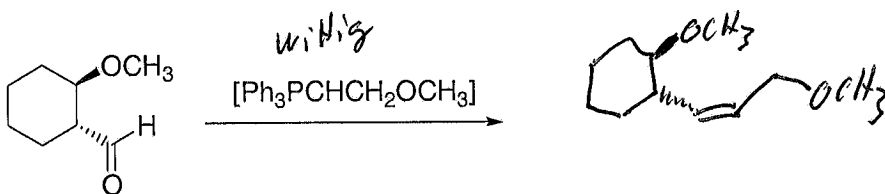
Name: Key

Organic II Lecture  
Spring 2012  
Quiz #5  
(10 points)

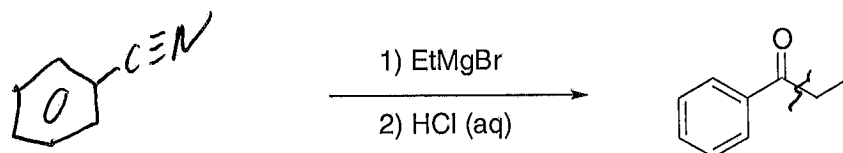
1. Provide a correct IUPAC name for the following structure. (3 points, problem 18-1c)



2. Complete the following reaction by filling in the missing products. (5 points)



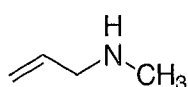
3. Predict the necessary starting material for the following reaction. (2 points)



Name: Key

Organic II Lecture  
Spring 2012  
Quiz #6  
(10 points)

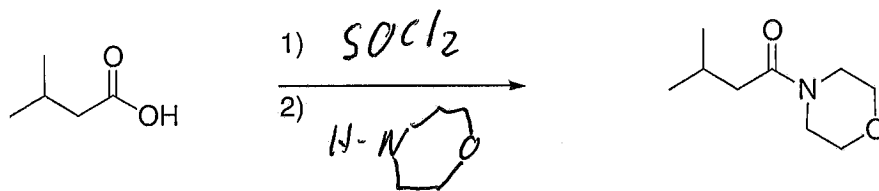
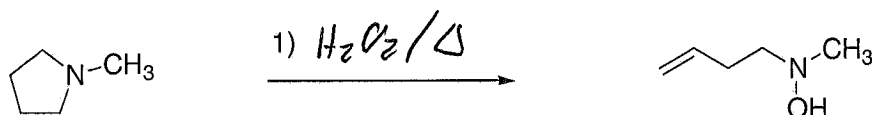
1. Provide a correct common name for the following structure. (2 points)



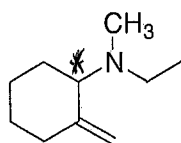
*allyl methyl amine*

2. Complete the following reaction by filling in the missing reagents. (6 points, problem 19-44f)

*cope*



3. Can the following compound be resolved into a pure enantiomer? Explain. (2 points)

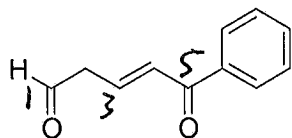


*yes, chiral C center*

Name: Key

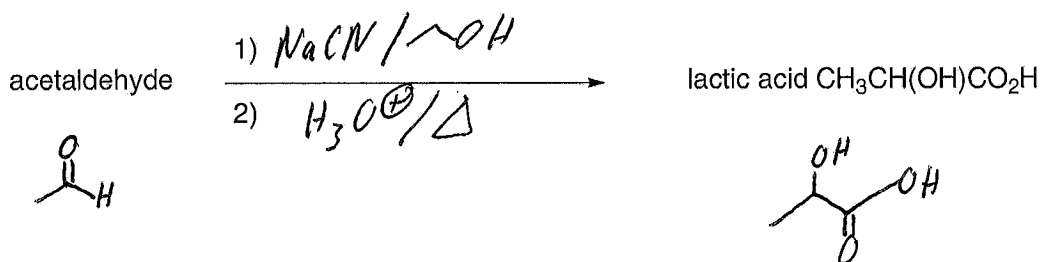
Organic II Lecture  
Spring 2013  
Quiz #5  
(10 points)

1. Provide an IUPAC name for the following structure. (3 points)

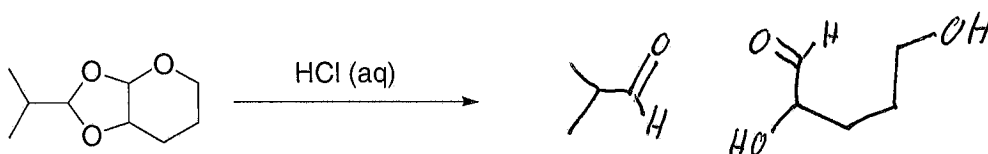


(E) 5-oxo-5-phenylpent-3-enal  
OR trans

2. Complete the following reaction by filling in the missing reagents. (4 points, problem 18-51a)



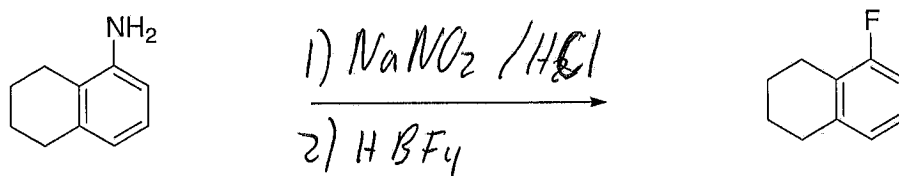
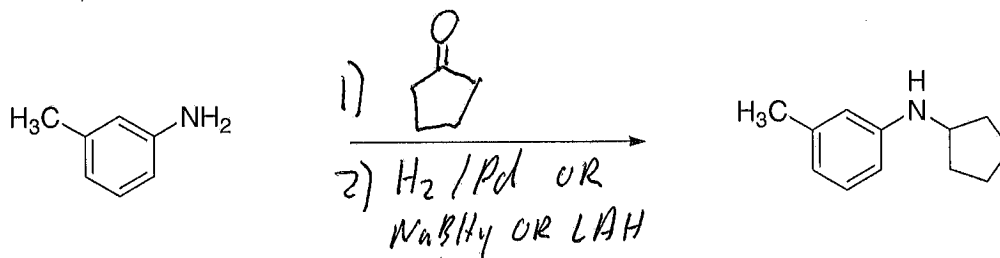
3. Predict the structure of the expected product(s) of the reaction below. (3 points)



Name: Key

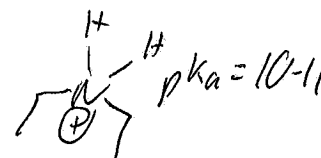
Organic II Lecture  
Spring 2013  
Quiz #6  
(10 points)

1. Complete the following reactions by filling in the missing reagents. (7 points, problem 19-37f)



2. State the  $pK_b$  value of diethyl amine within  $\pm 1$   $pK_b$  unit. (1 point)

3-4



3. Circle the substrate below that would react the fastest with sodium methoxide. (2 points)

