

**CH 310N  
Fall 2006**

**Anslyn**

**October 26th, 2006**

**Exam 2**

Please **PRINT** the first three letters of your last name in the three boxes.

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**PRINT Name** \_\_\_\_\_ **UT-EID** \_\_\_\_\_

1) \_\_\_\_\_ (8 pts)

All of these questions are from homework! 2) \_\_\_\_\_ (34 pts)

3) \_\_\_\_\_ (8 pts)

4) \_\_\_\_\_ (8pts)

5) \_\_\_\_\_ (8 pts)

From homework, problem 19.66! 6) \_\_\_\_\_ (8 pts)

From homework, problem 18.37! 7) \_\_\_\_\_ (8 pts)

8) \_\_\_\_\_ (18 pts)

Total score \_\_\_\_\_ (100pts)

1) Nomenclature. Put your answers in the boxes provided. (8 points)

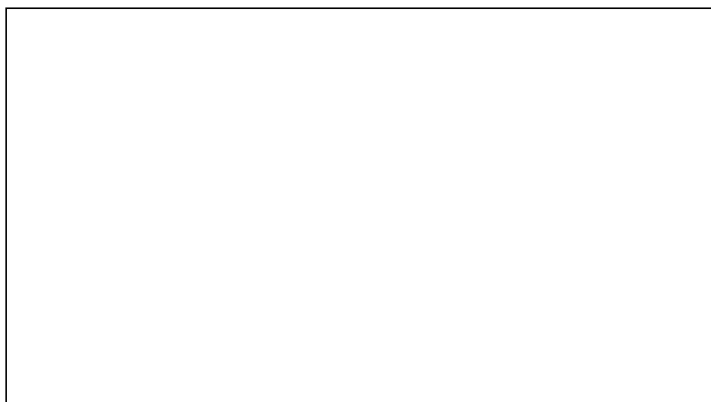
A) Draw the structure in the provided box.

3-Hydroxy-3-methyl-butryl chloride

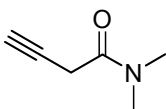


B) Draw the structure in the provided box.

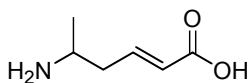
Ethyl-(Z)-2-pentenoate



C) Give the IUPAC for the structure below.

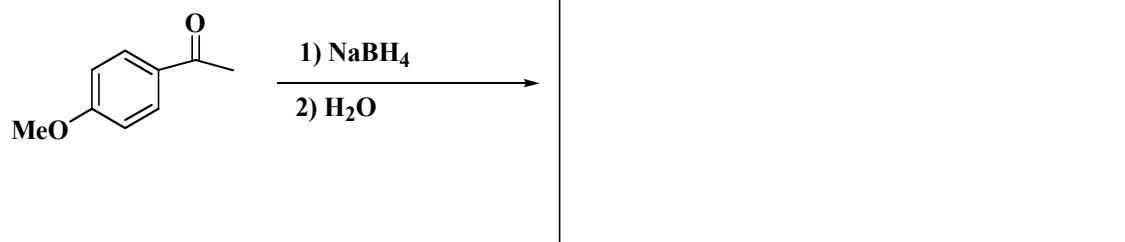


D) Give the IUPAC for the structure below.

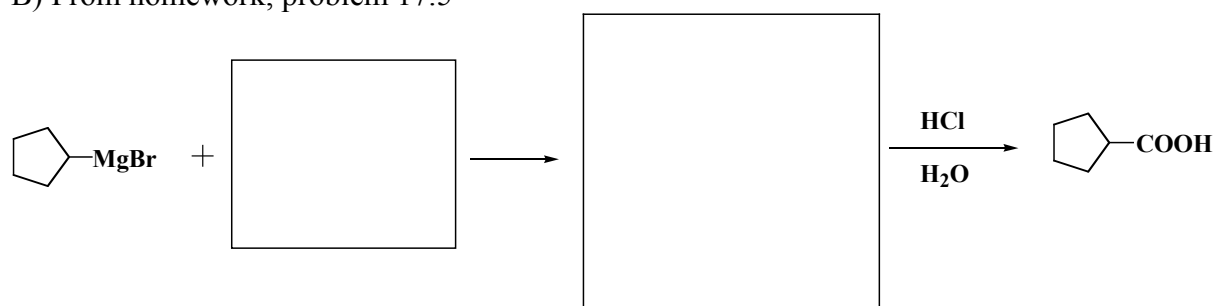


2) Fill in the box with the correct reagent, reactant or product. (34 points)

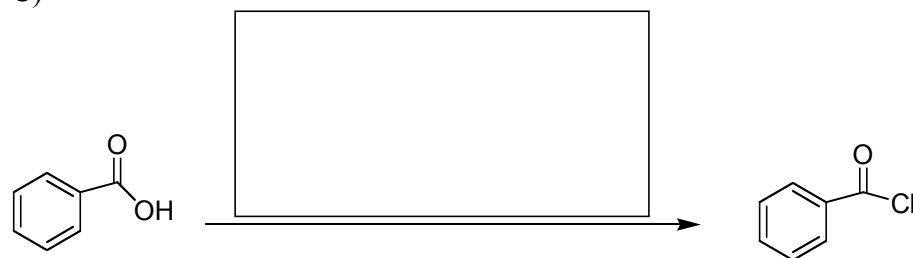
A) From homework, problem 16.12



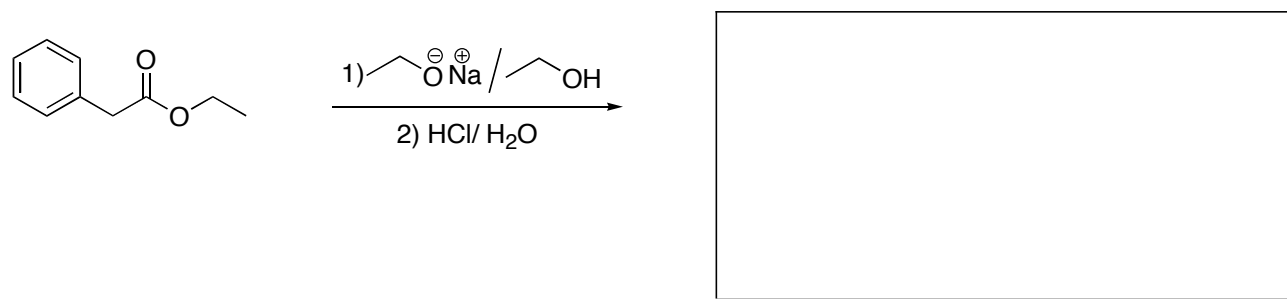
B) From homework, problem 17.5



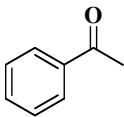
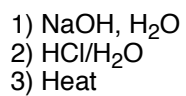
C)



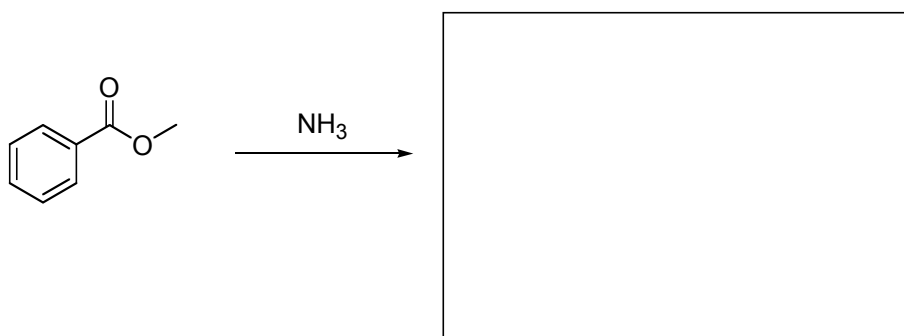
D) From homework, problem 19.28



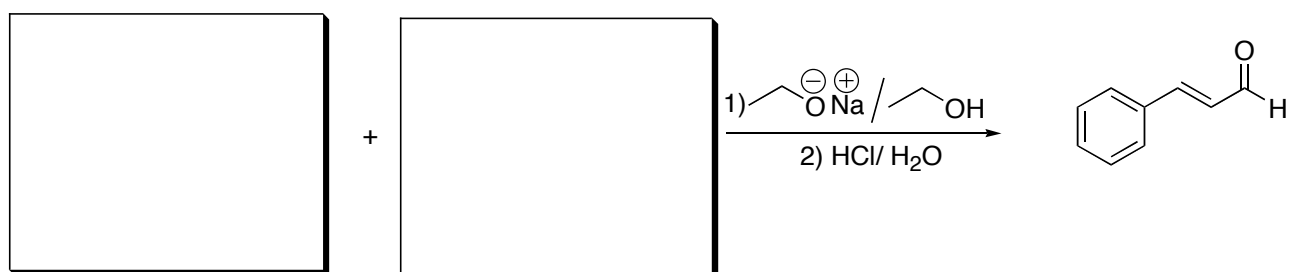
E) From homework, problem 18.19

CCCCC(C)(CC)C(=O)OCC

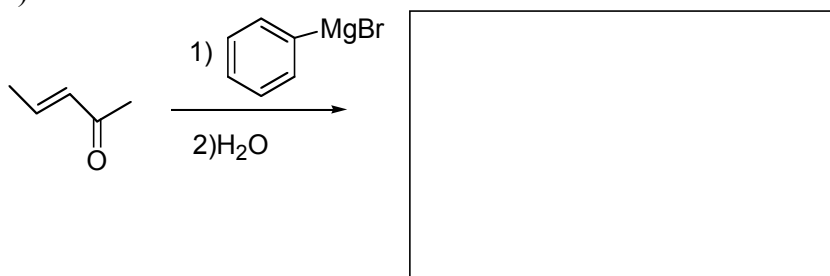
3



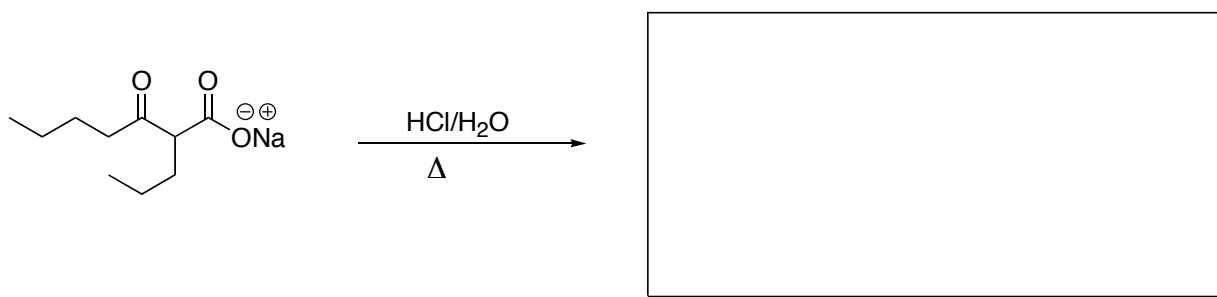
H) From homework, problem 19.52



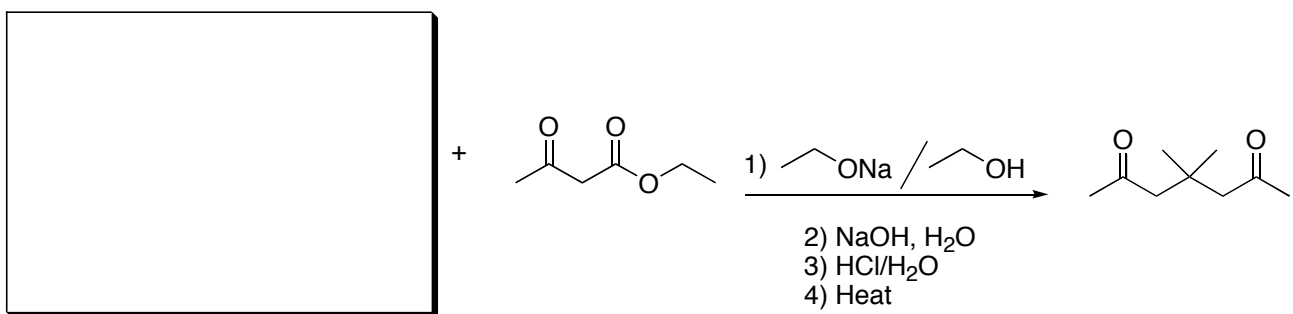
I)



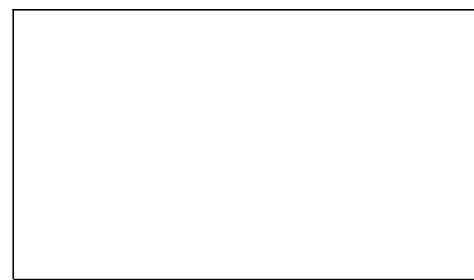
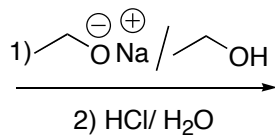
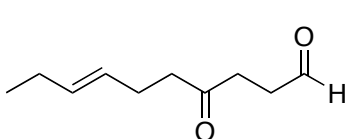
J) From homework, problem 19.32



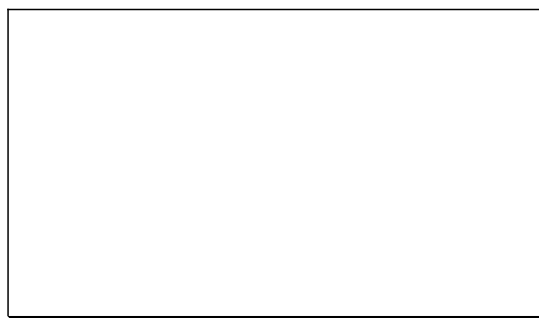
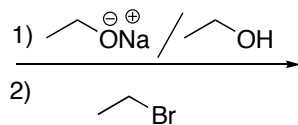
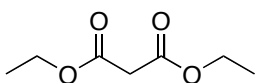
K) From homework, problem 19.21



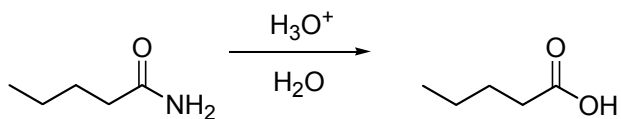
L) From homework, problem 19.22



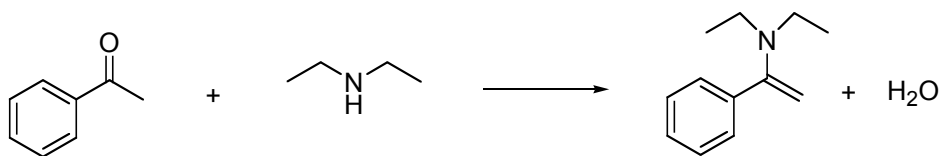
M) From homework, problem 19.43



3) Provide a mechanism for the following reaction. Show all arrow pushing through curved arrows and the intermediates produced. (8 points)

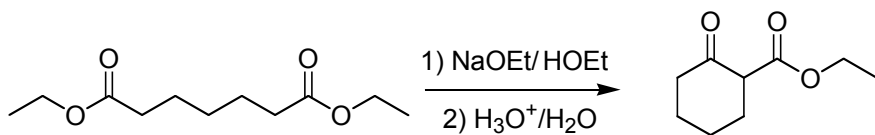


4) Provide a mechanism for the following reaction. Show all arrow pushing through curved arrows and the intermediates produced. (8 points)

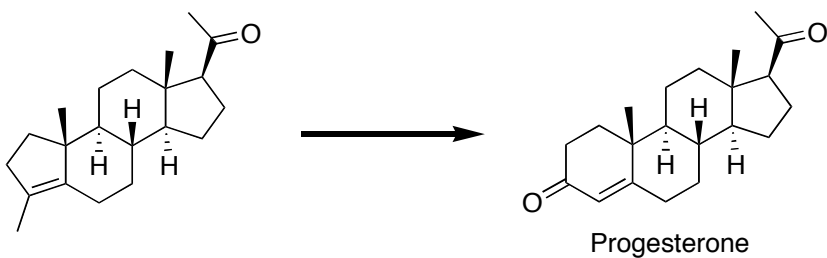


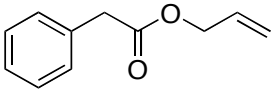
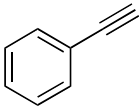
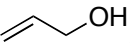


5) Provide a mechanism for the following reaction. Show all arrow pushing through curved arrows and the intermediates produced. (8 points)

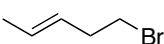
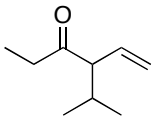
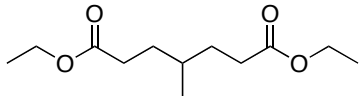
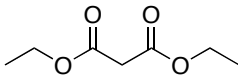
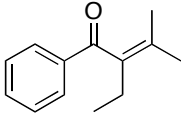
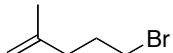
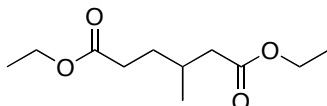
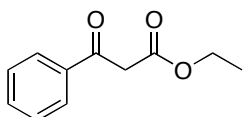
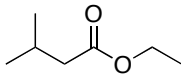
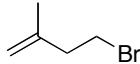
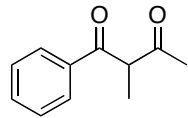
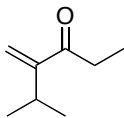


6) Shown below is the structure of the naturally occurring steroid progesterone. Propose a synthesis of progesterone from the given non-steroidal precursor. (Hint: It is only two steps. A reaction from last semester and one from this semester.) (8 points)  
(From homework, problem 19.66)

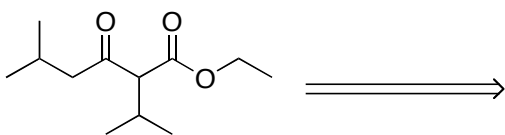


7) Make  from  and . These are your only carbon sources. You can use any inorganic reagent necessary. (8 points)  
(From homework, problem 18.37)

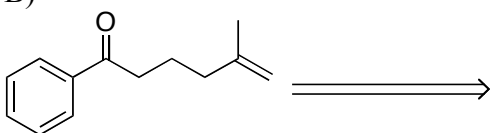
8) Suppose you were trying to devise a synthesis of the following molecules using a retrosynthetic approach. Using the options given in the box below, give the **letters** of the molecules you would use to form these products. You may use some options more than once or not at all. There is an extra copy of the box of options on the last page of the test for you to tear off and use. (18 points)

		
A	B	C
		
D	E	F
		
G	H	I
		
J	K	L

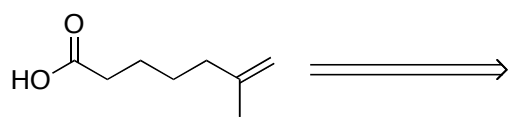
A)



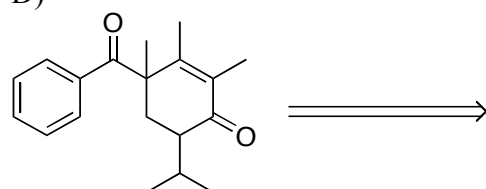
B)



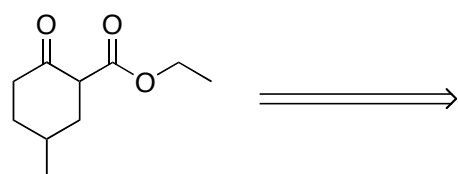
C)



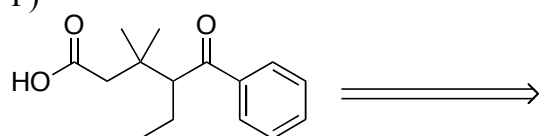
D)

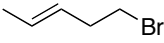
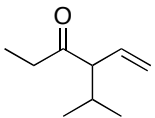
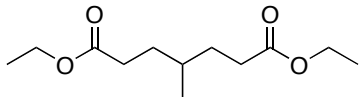
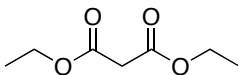
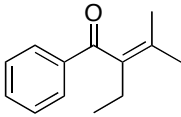
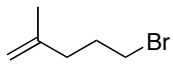
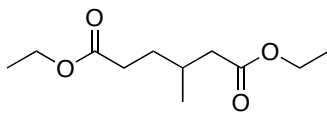
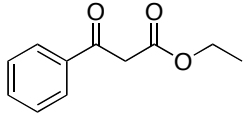
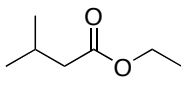
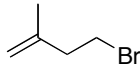
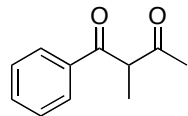
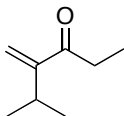


E)



F)



 <p>A</p>	 <p>B</p>	 <p>C</p>
 <p>D</p>	 <p>E</p>	 <p>F</p>
 <p>G</p>	 <p>H</p>	 <p>I</p>
 <p>J</p>	 <p>K</p>	 <p>L</p>