

Student
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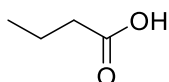
Chemistry 3331
Organic 2
Professor Eaton
Spring 2015

EXAM 3

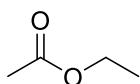
1. (2 pts) Draw the structure of Formic Acid.

2. (2 pts) Draw the structure of Acrylic Acid.

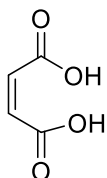
3. (3 pts) For the molecule drawn below, provide the IUPAC name.



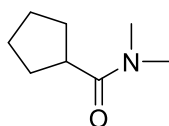
4. (3 pts) For the molecule drawn below, provide IUPAC or common name.



5. (3 pts) For the molecule drawn below, provide the common name.



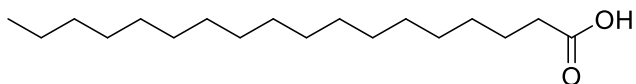
6. (3 pts) Name the drawn below according to the IUPAC rules.



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Student ID# _____

7. (3 pts) For the molecule drawn below, give the common name.



8. (3 pts) The carboxylic acid carbonyl oxygen is:

- sp² hybridized
- sp³ hybridized
- a hydrogen bond donor
- rapidly equilibrating between sp² and sp³
- a and c
- a and d

9. (5 pts) Draw the MO diagram for the carboxylate anion and explain what orbital would be involved if it was attacked by a nucleophile.

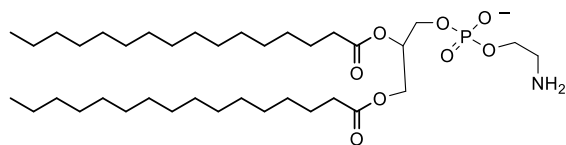
10. (3 pts) The order of reactivity at the carbonyl carbon for a carboxylic acid derivatives is:

- ester > amide > carboxylic acid > anhydride
- amide > ester > anhydride > carboxylic acid
- carboxylic acid > anhydride > ester > amide
- acid chloride > anhydride > ester > amide
- amide > ester > acid chloride > carboxylic acid
- none of the above

Student Name _____

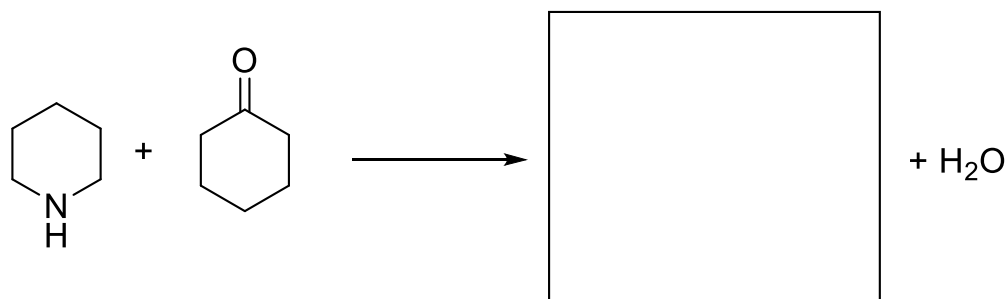
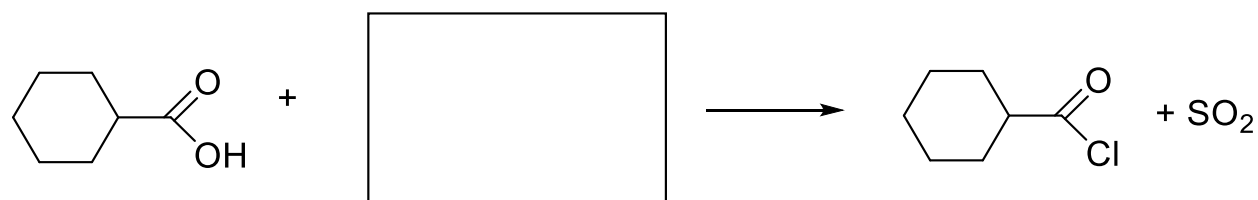
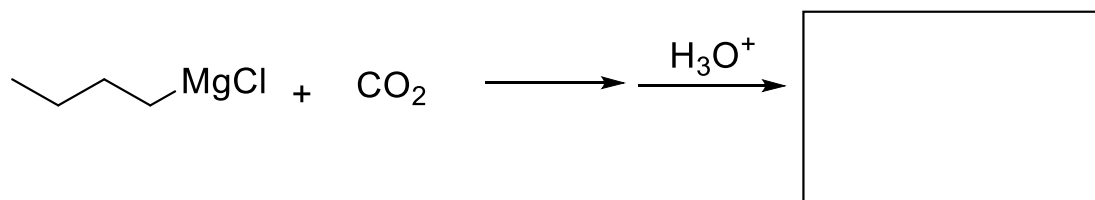
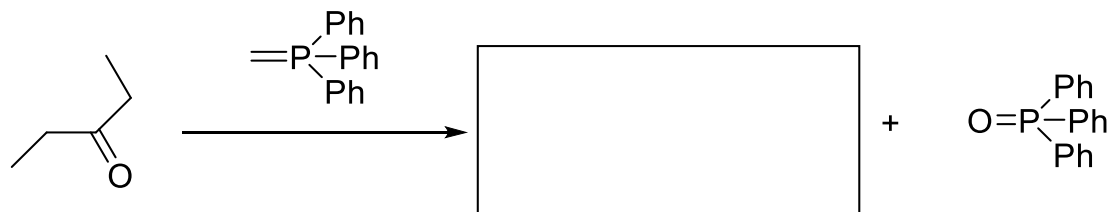
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11. (2 points) The molecule drawn below is an example of a:



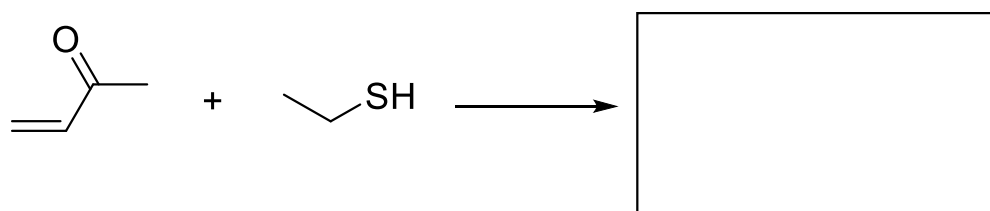
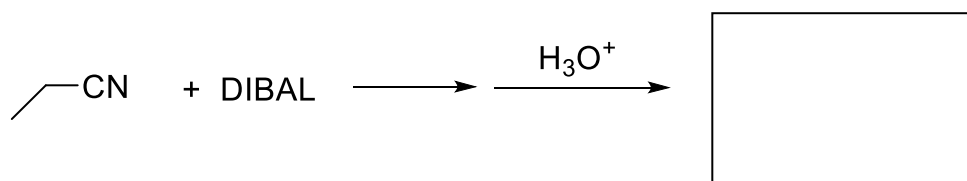
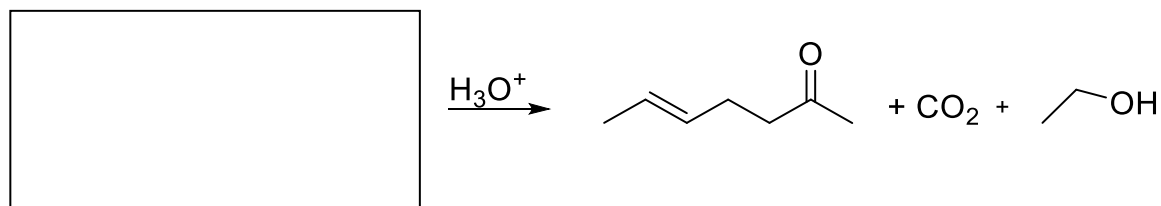
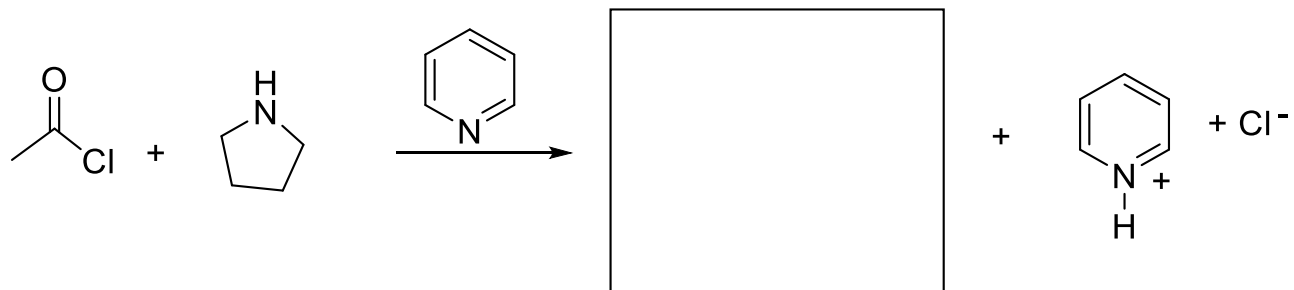
- a. Wax
- b. Soap
- c. Triglyceride
- d. Phospholipid

12. (68 pts) For the reactions shown below, fill in the box to complete the chemical equation. Draw only organic products.



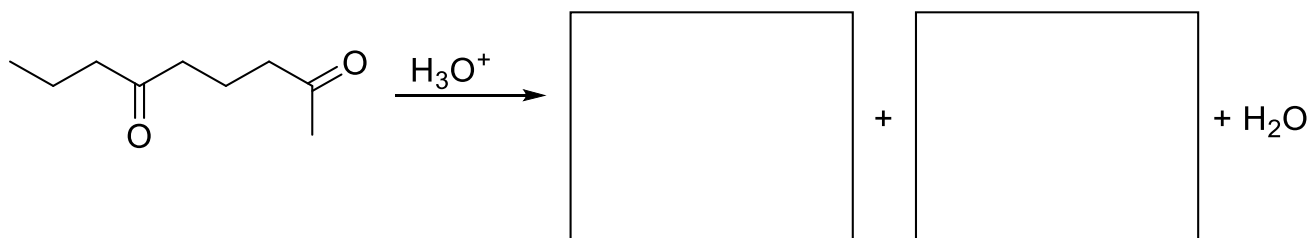
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Thermo Product

