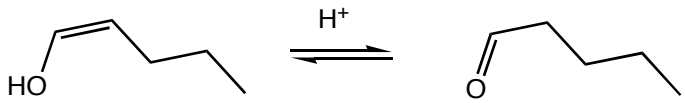
Name _____ Test 4 (12/11)
CHEM 0201 (Organic) Fall 2009

1. (10 pts.) Draw the mechanism for the acid catalyzed tautomerization reaction that is drawn below.



1. _____

2. _____

3. _____

4. _____

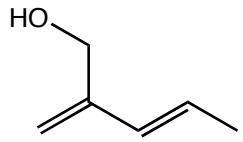
2. a. (6 pts. each) Draw resonance structures for the following molecules

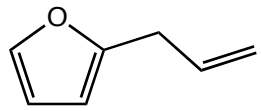
b. (6 pts. each) Rank the resonance structures starting at 1 (lowest) in order of increasing energy. Indicate if any resonance structures are considered insignificant contributors to the resonance hybrid. In a tie, assign the structures the same rank.

5. _____

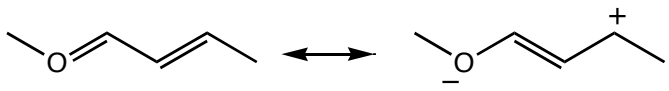
6. _____

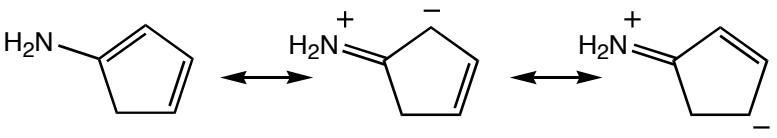
7. _____

i. 

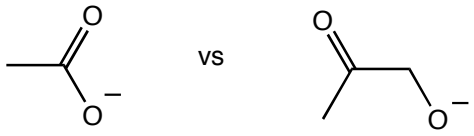
ii. 

3. (8 pts. each) Draw the resonance hybrid for the following molecules

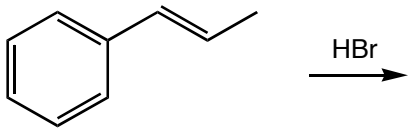
a. 

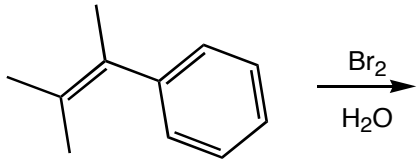
b. 

4. (4 pts. each) For the following pairs of molecules, determine which would be the stronger base.

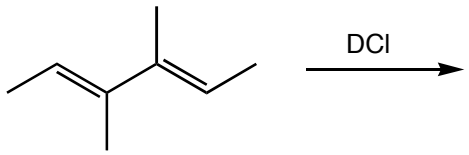
a. 	b. 

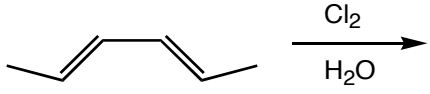
5. (6 pts. each) Predict the products of the following reactions.

a. 

b. 

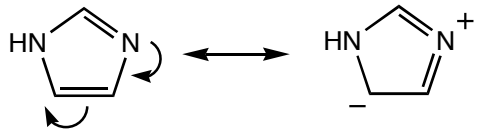
6. (6 pts. each) Predict the products of the following reactions.

a. 

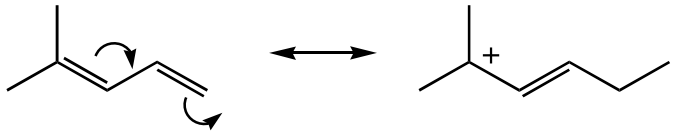
b. 

7. (6 pts. ea.) What is wrong with the following resonance structures?

a.



b.



c.