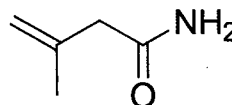
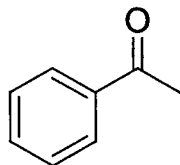


Chem 30A- Week 5

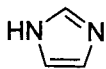
Warm up exercise

Identify the acidic and basic sites on each of the molecules below.



Group problems

1. Imidazole acts as a base in water.
 - a. Write a balanced equation for that reaction.



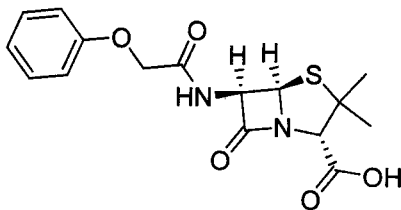
imidazole

- b. Explain why one nitrogen in imidazole is favored over the other for protonation.

- c. Draw resonance forms of protonated imidazole.

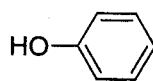
Chapter 4

2. How many stereogenic carbons does Penicillin V have? What are their configurations?



Penicillin V

3. Use the pKa's listed for the following questions.



phenol

pKa = 10



methanol

pKa = 16



acetone

pKa = 18



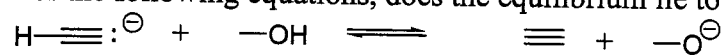
acetylene

pKa = 25

- a. Why is phenol more acidic than methanol and acetone?

Chapter 4

b. For the following equations, does the equilibrium lie to the right or left?



c. Can acetone protonate acetylide anion? Write the reaction- label the acid, base, conj acid and conj base.