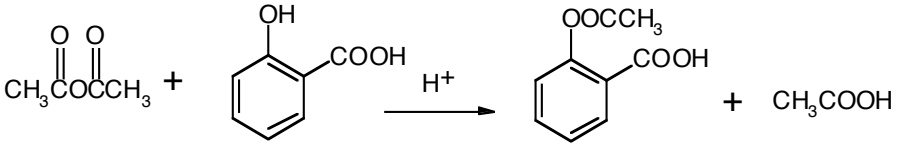
Names: _____

Introduction to Organic Synthesis (Prelab-B)

1. Complete the following information.



Molecular Formula	_____	_____	_____	_____
Molar Mass	_____	_____	_____	_____
Density	_____			_____
m.p. ^{o}C		_____	_____	
b.p. ^{o}C	_____			_____

Calculate the relative amounts (g) of 20. mmoles of salicylic acid and 20. mmoles of aspirin, and the amount (g) with corresponding moles of 5.0 mL of acetic anhydride.

Mass (g)	_____	_____	_____
moles	_____		

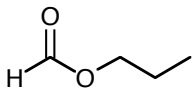
Circle the limiting reagent in the reaction.

2. What is the molecular formula of digitoxigenin, a component of digitalis?

Draw a line structure for for digitoxigenin and in a few words describe the biological activity of digitalis.

3. Name the acid and name the alcohol that would be reacted to produce each of the following esters.

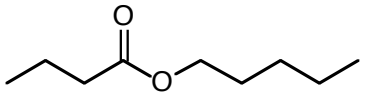
Raspberries: Acid: Alcohol:



4. Draw structures for the ester, and the acid and the alcohol that would be reacted to produce the ester.

   Bananas: n-pentyl acetate Acid: Alcohol:

5. The following ester gives apricot is flavor. Name the ester. _____



6. Draw the structure of the product produced in the acid catalyzed reaction of phenol with salicylic acid.

7. Describe what would be expected in the differences between the IR spectrum of the reaction mixture of the reactants versus the products. That is, what key peaks are expected to be observed in each and what disappearance(s) or appearance(s) would indicate that the reaction had occurred?