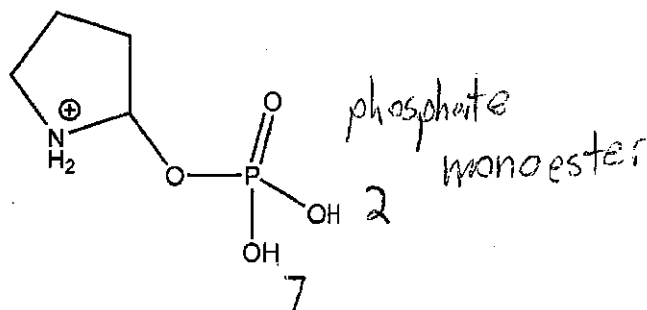
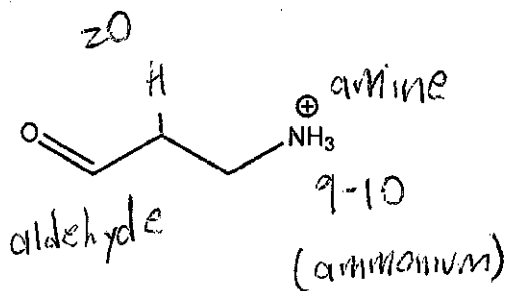
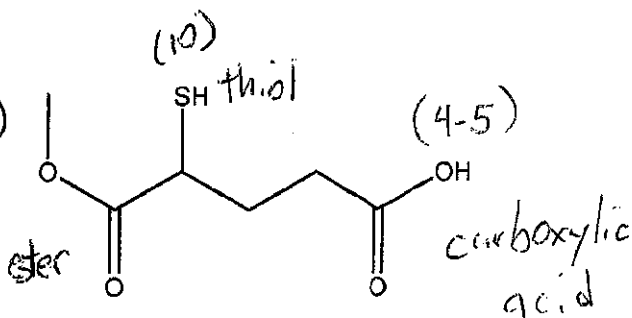
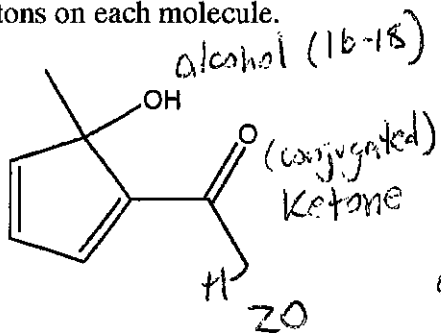
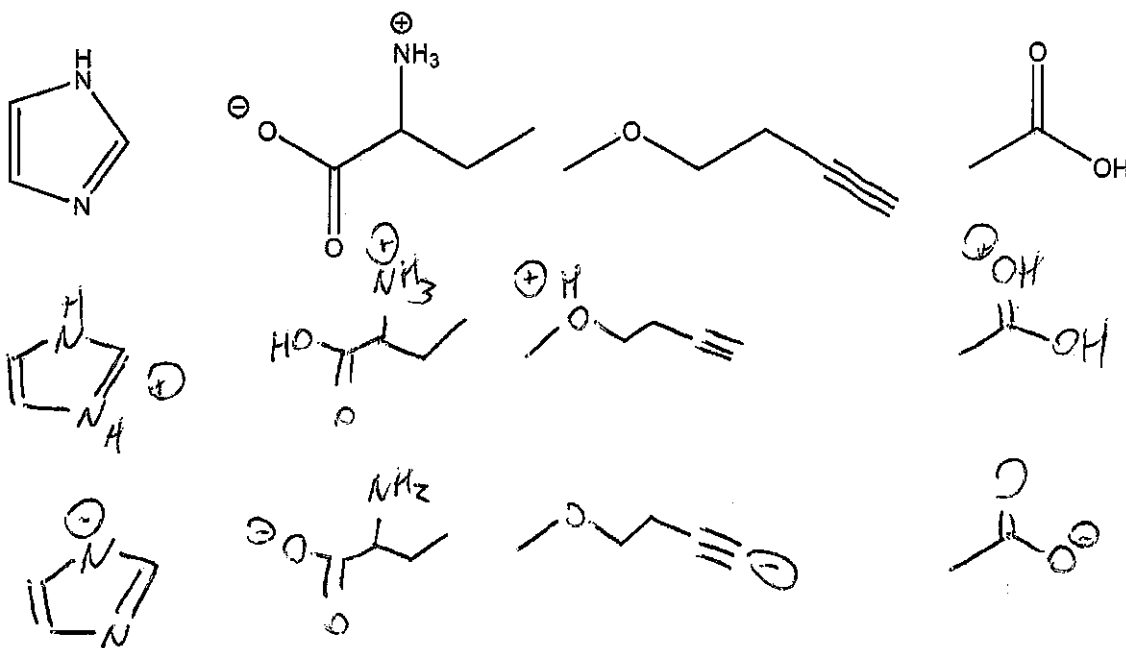


Review of Organic Chemistry

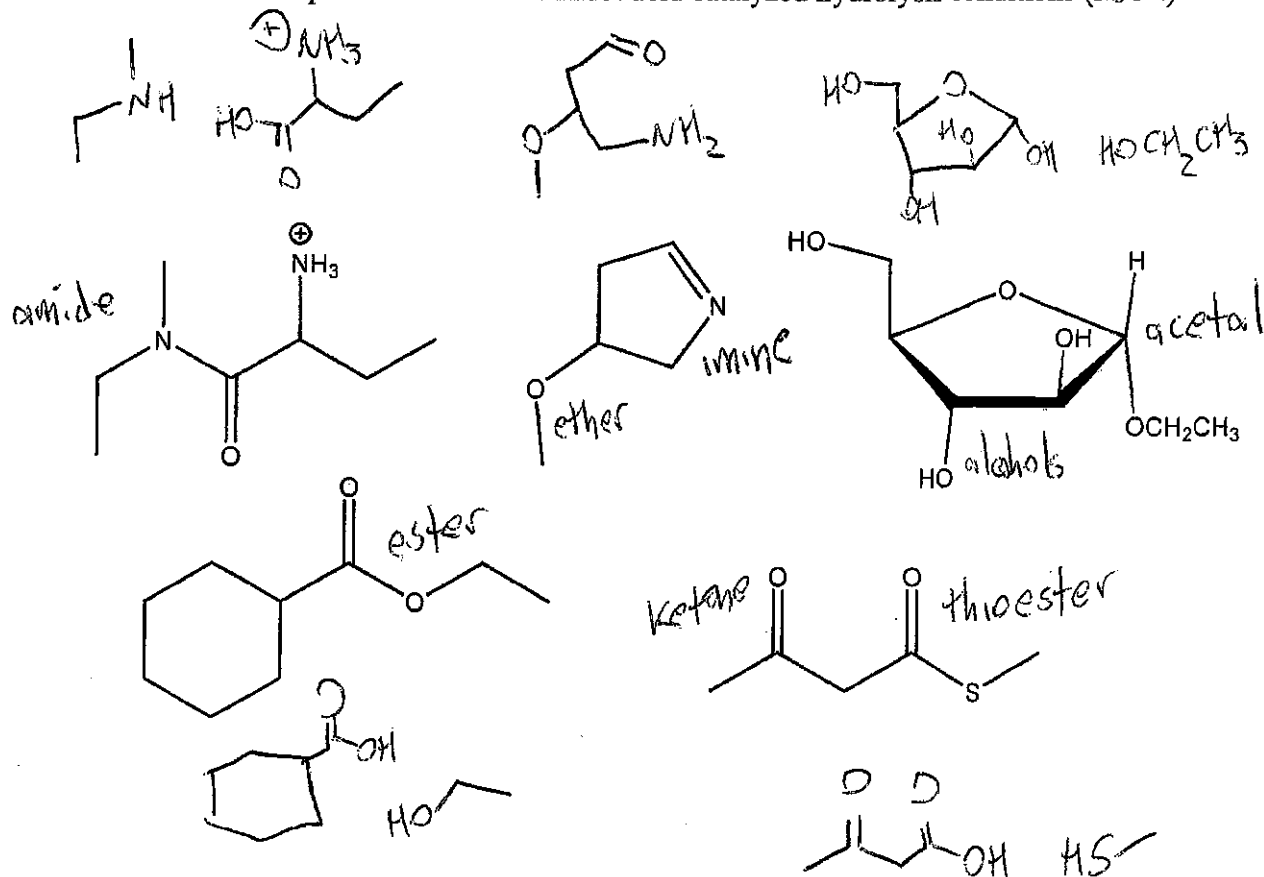
1. Name the functional groups. Indicate the approximate pKa values of the two most acidic protons on each molecule.



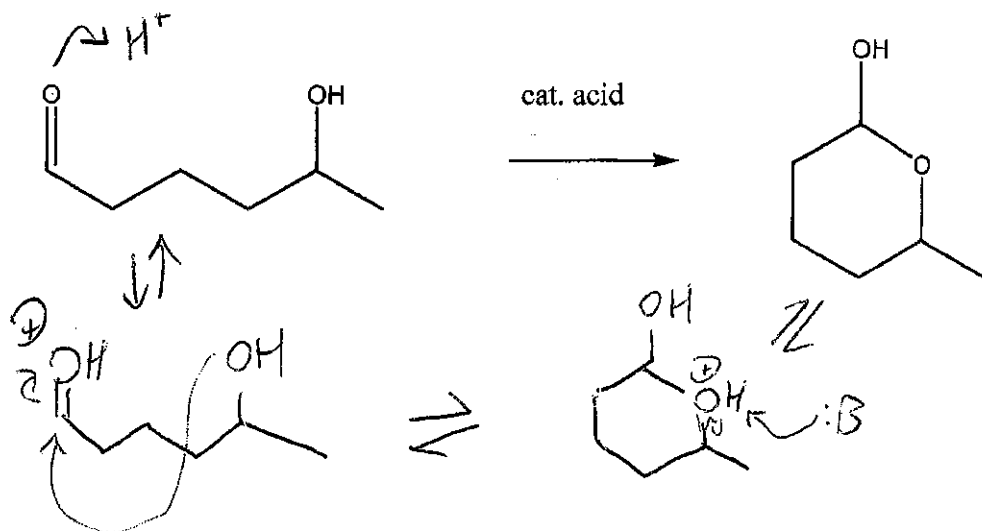
2. Draw the conjugate acid and the conjugate base of each of these molecules.



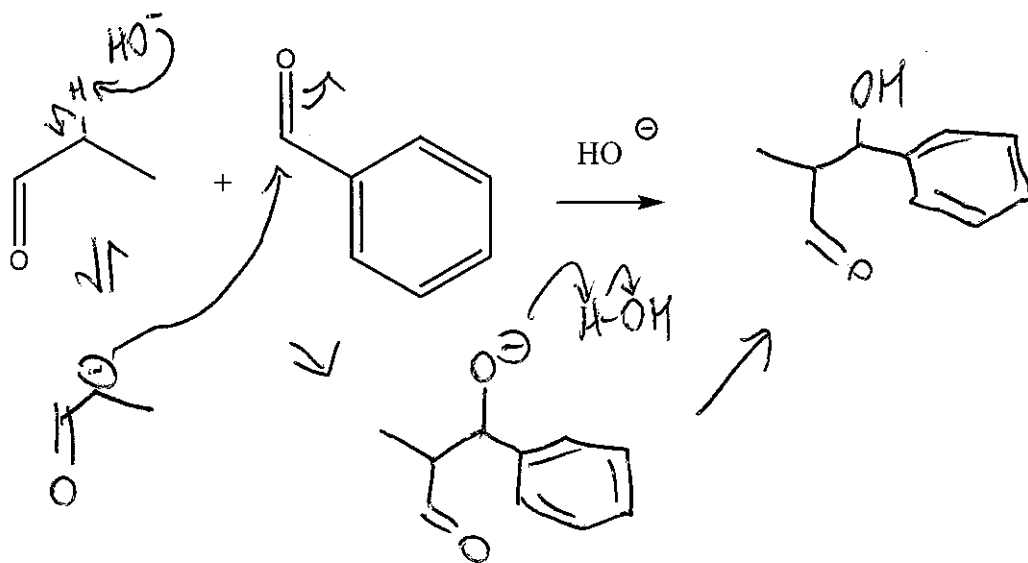
3. Name each of the functional groups in these molecules. Then draw the products that would form if each compound were treated under acid catalyzed hydrolysis conditions (H_3O^+)



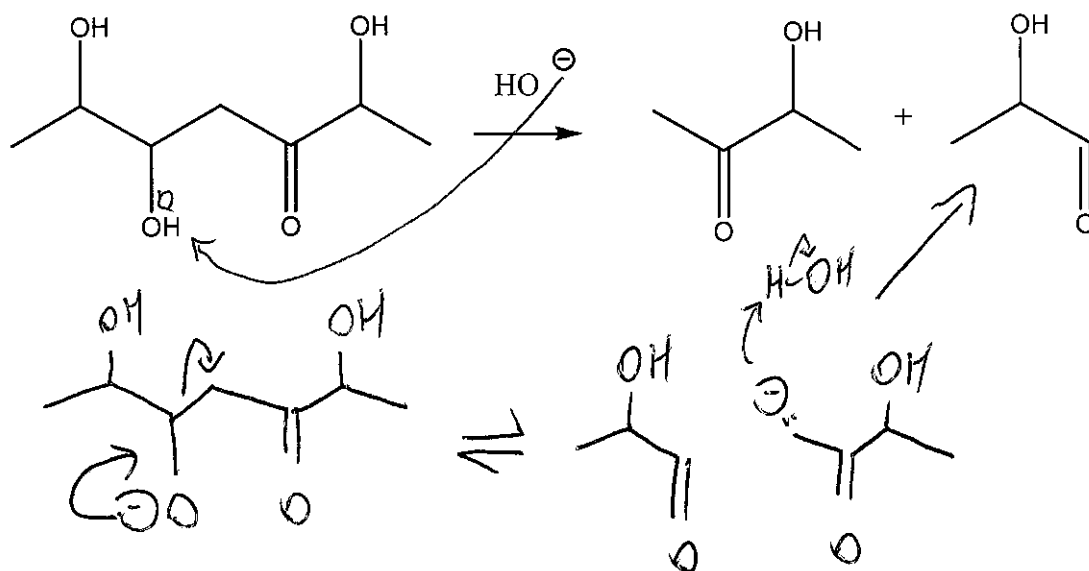
4. Draw an arrow mechanism for hemiacetal formation.



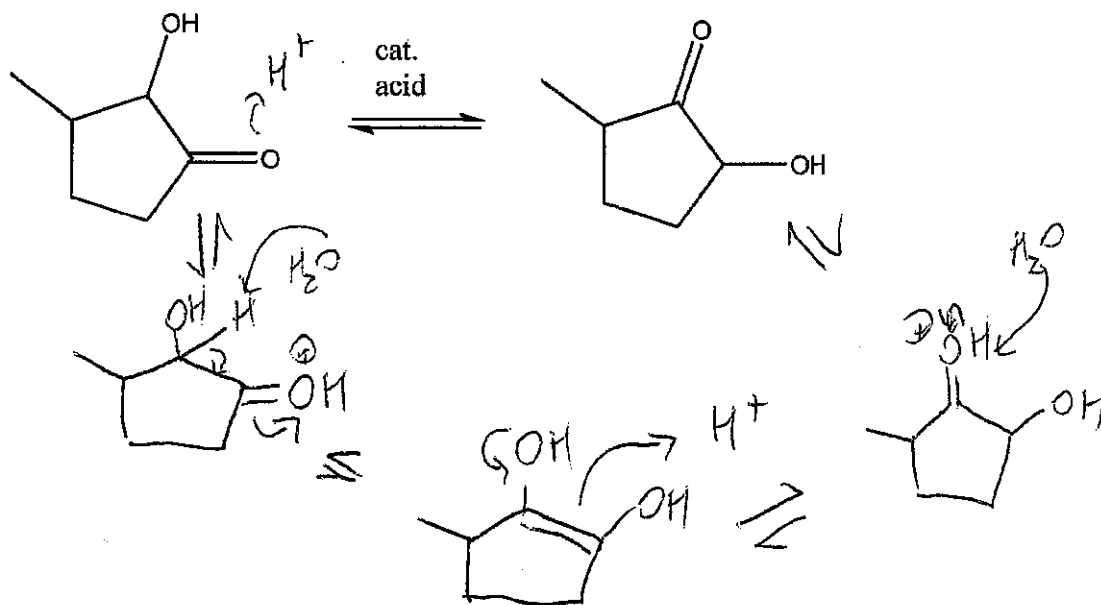
5. Predict the product and draw an arrow mechanism for this aldol reaction.



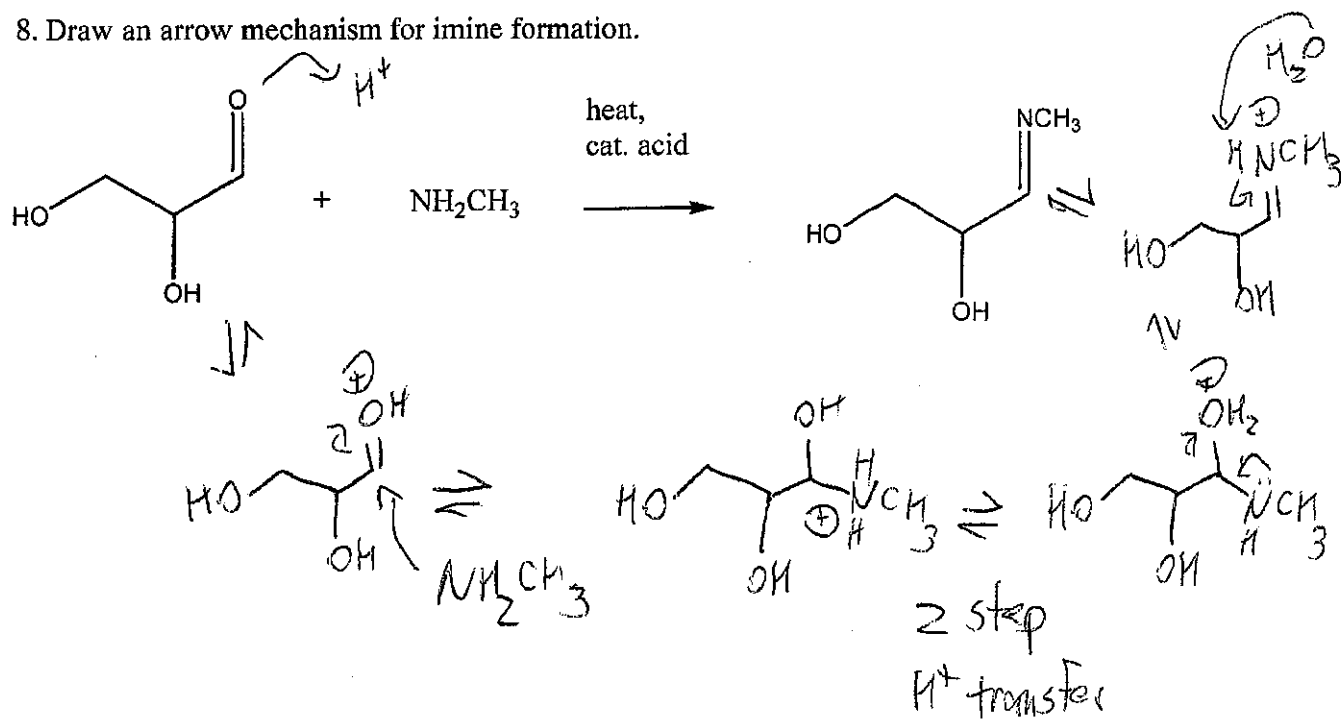
6. Draw an arrow mechanism for retroaldol reaction.



7. Draw an arrow mechanism. (Hint: enol tautomerization followed by another tautomerization.)



8. Draw an arrow mechanism for imine formation.



9. Label each half reaction as an oxidation, reduction, or neither.

