

7 - swans a swimming

6 - Robin sons NEW LYRICS are to Remind You THAT

5 - Golden Rings

4 - Calling (or Colly) Birds

3 - French hens

2 - Turtle Doves

1 - Partridge

A ROBINSON ANNULATION

INVOLVES A 6 - ATOM RING

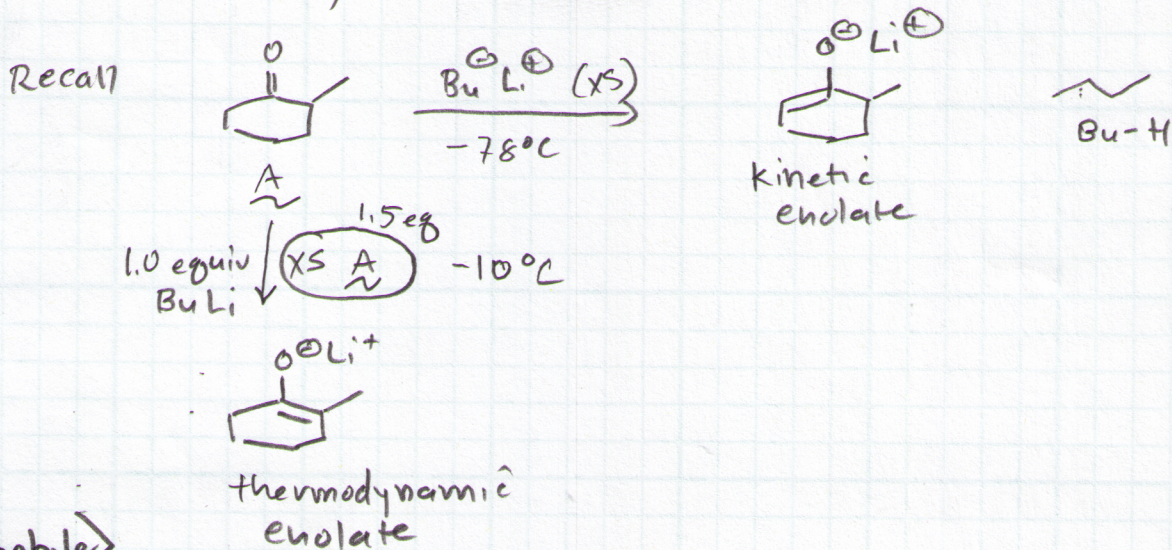
ANNULATION: Latin ANNELUS

SMALL RING

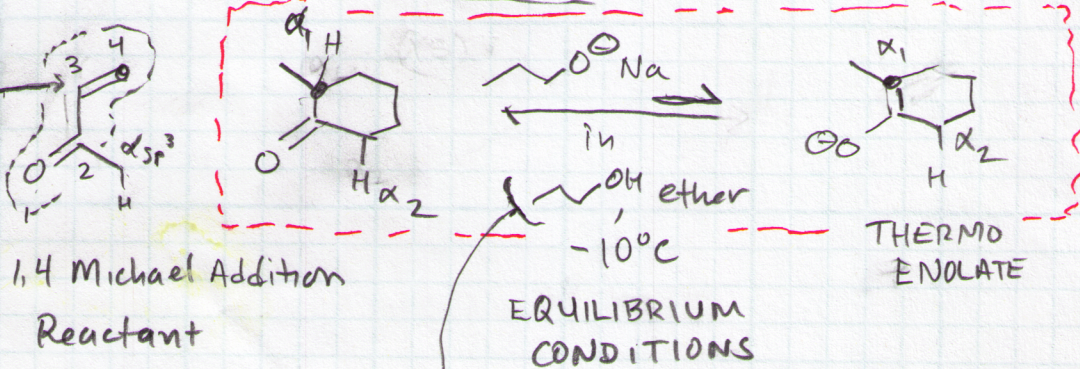
ANNELUS

Pronounced Approximately
as "Anal Ass" meaning

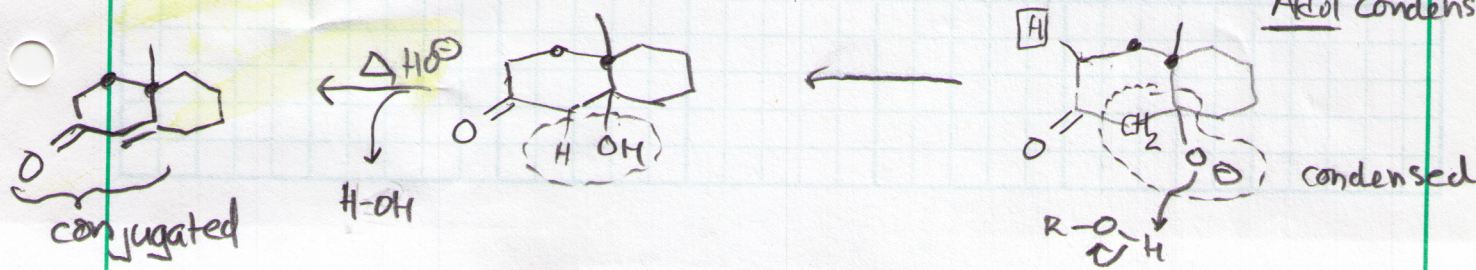
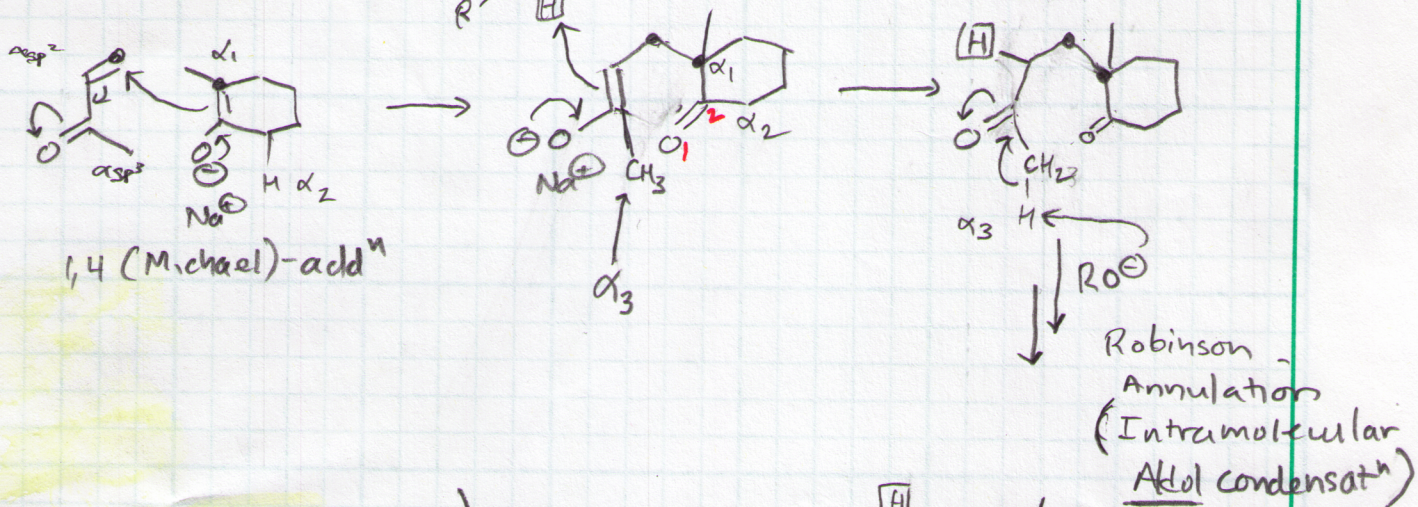
1,4-addⁿ followed by intramolecular aldol condensation.



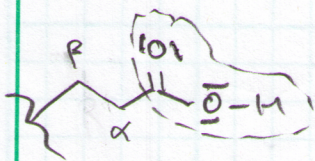
<1,4-electrophile>



Let's Redraw

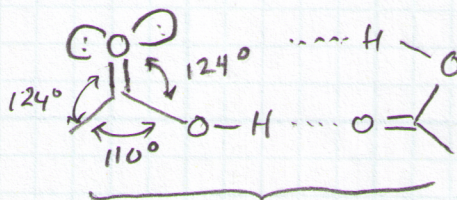
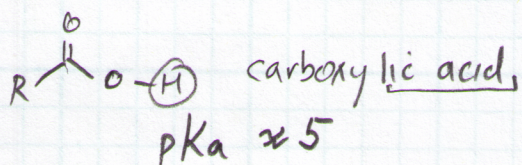


Carboxylic Acids (Functional Group)

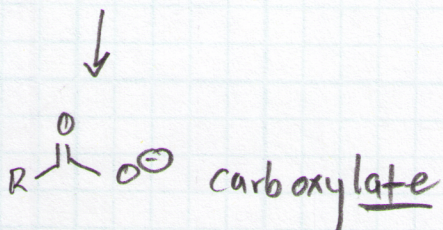


sp^2 , trigonal planar.

1-C removed from functional group; β - 2 C removed ...



H-bonding dimer
 \uparrow m.p. \uparrow b.p.
 over alkanes + alcohols

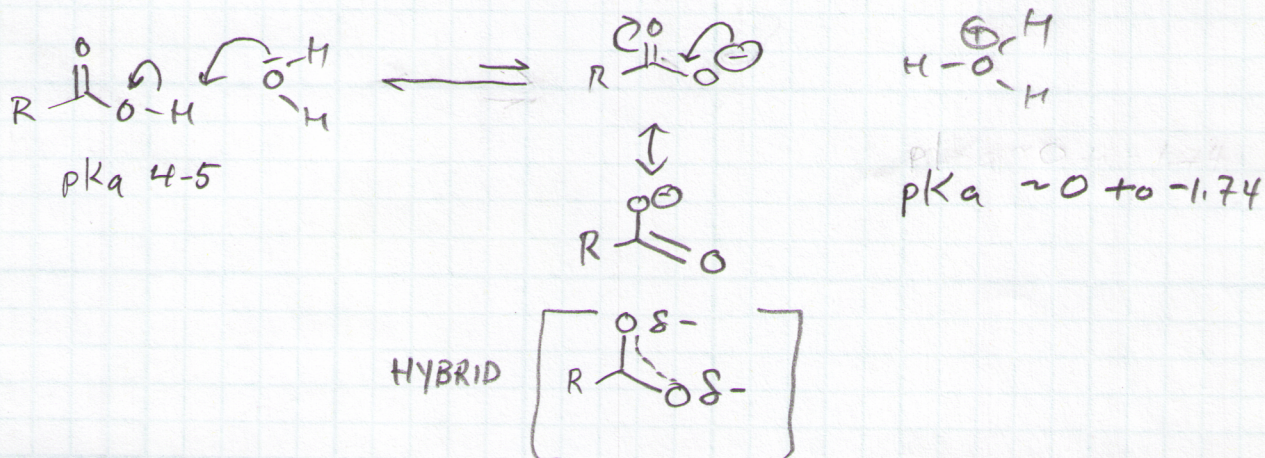


^{13}C , 1H -NMR and IR Spectroscopy

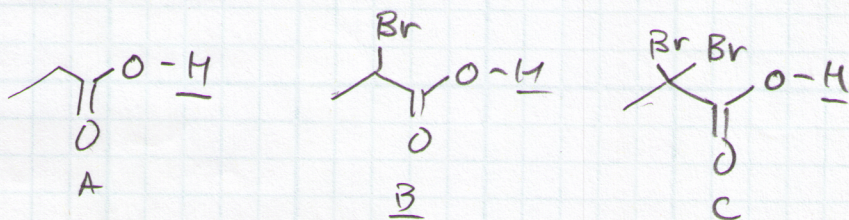
overhead

pentanoic acid
 common name: valeric acid
 isolated from plant species
Valeriana (minor amount)

Acidity of Carboxylic Acids

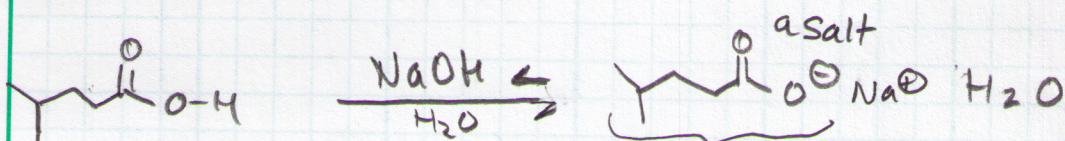


Practice Intuition and Understanding



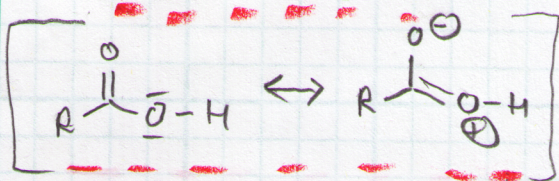
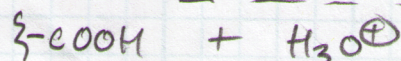
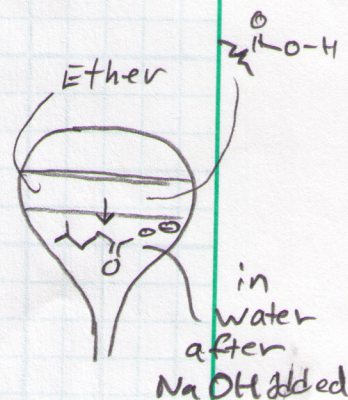
Which is most acidic (above)? Least? Why?

Hint: Answer why? in terms of the stability of the lone e⁻ pair of the conj. base.

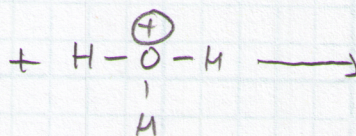


insoluble in H₂O
but soluble in
diethyl ether

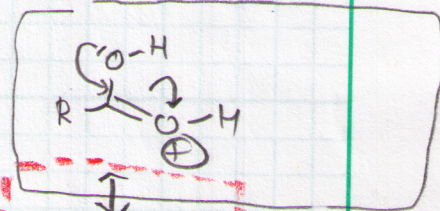
as a salt
will partition into
H₂O, leaving the
ether



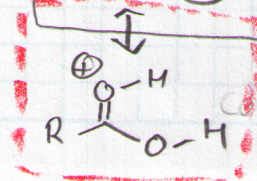
Resonance



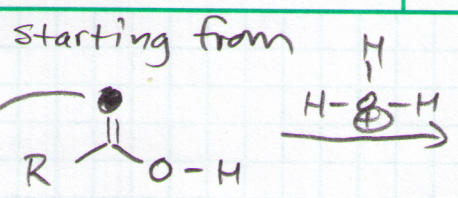
Which O will add H⁺?



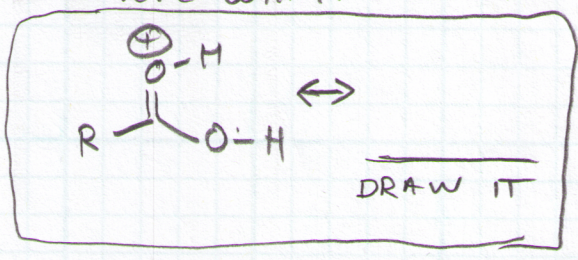
protonated form
is resonance
stabilized



cont'd



where will H^{\oplus} Add?



This \ominus is protonated because resonance stabilization is maintained.

Keep the resonance stabilization structures in mind from previous page

Synthesis of $\text{R}-\overset{\text{O}}{\parallel}{\text{C}}-\text{OH}$

One example of an Industrial Method

Wacker Process

