

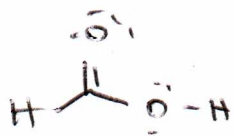
propyl acetate (common)

propyl ethanoate



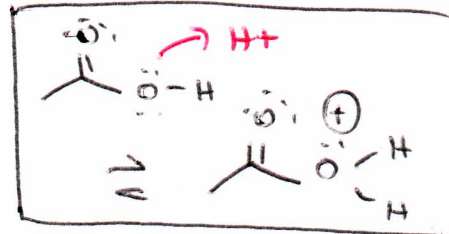
ethanoic acid

(acetic) ending for carboxylic acids

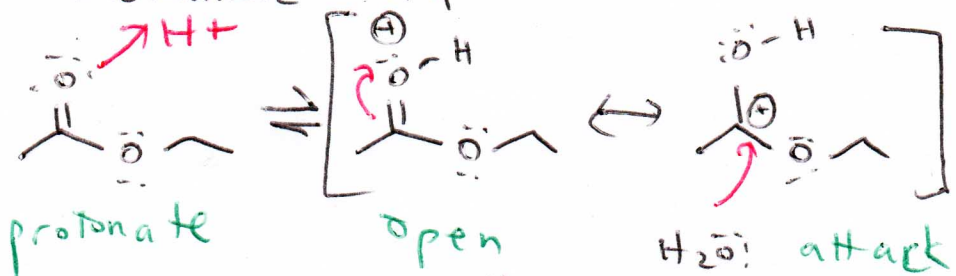


formic acid

methanoic acid



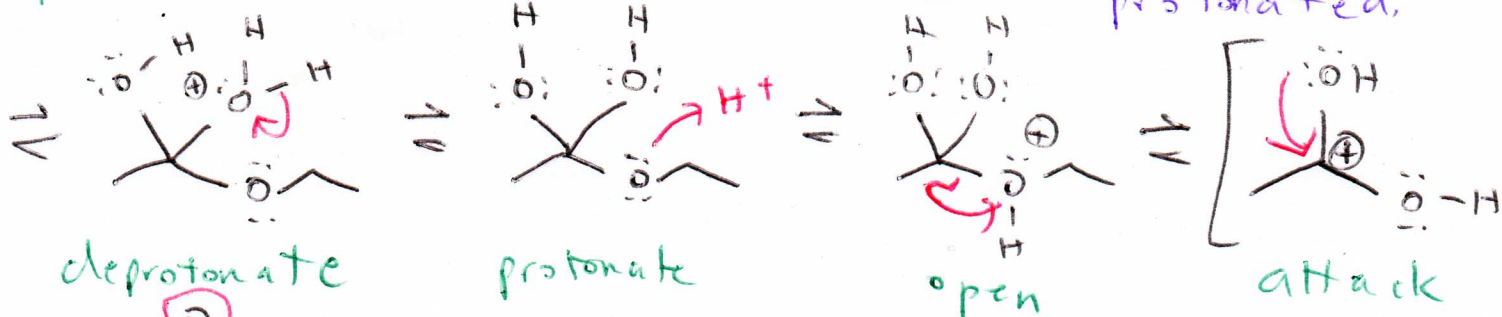
no resonance stabilization; less likely to be protonated.



protonate

open

H₂O: attack

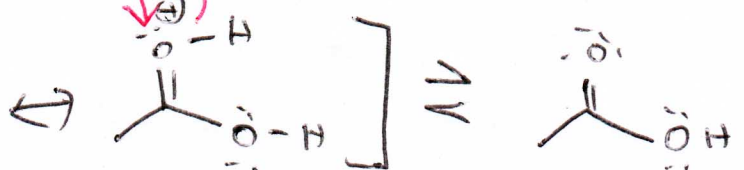


deprotonate

protonate

open

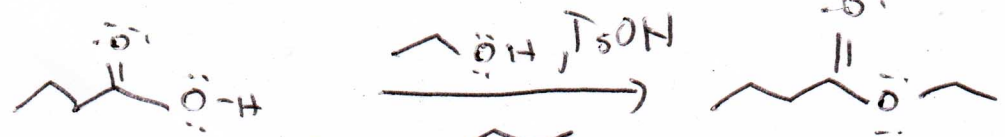
attack



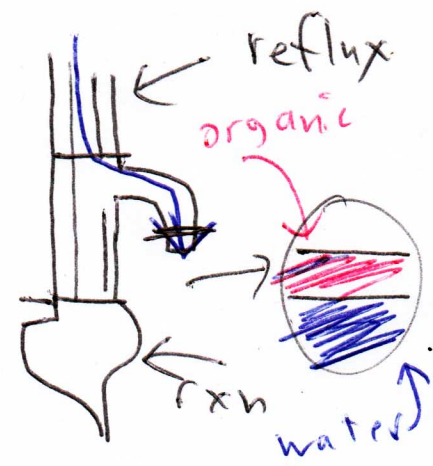
deprotonate

Favoring Equilibrium

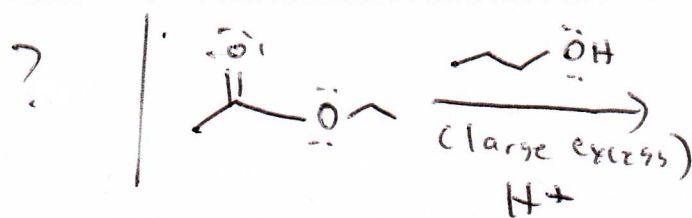
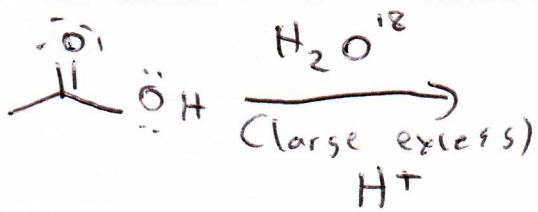
Dean-Stark Trap



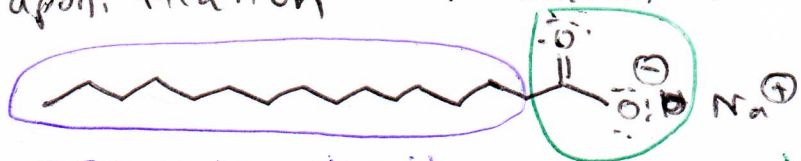
butyric acid



Toluene forms an azeotrope w/ H₂O (a mixture of two or more compounds that would be immiscible in the liquid phase). It is used in Fischer esterifications to help pull water out of sol'n while refluxing.



Saponification → Formation of Carboxylate salts



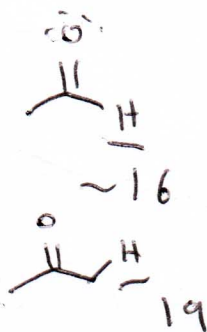
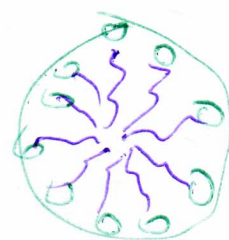
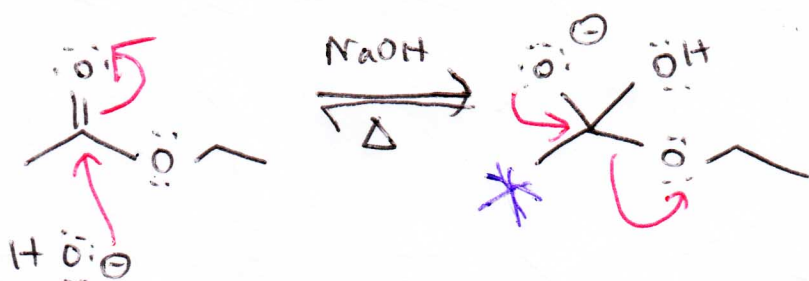
organic tail

ionic head group

hydrophobic / lipophilic

hydrophilic / lipophobic

CMC - critical micelle concentration



pKa

H-OH 15.7

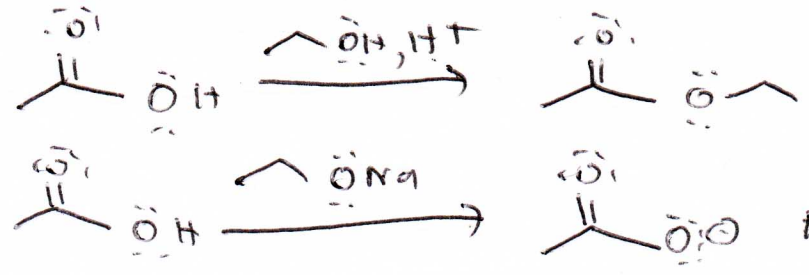
H-OCH₂CH₂CH₃ 16

H-O⁺CH₂CH₂CH₃ 18

CH₃C(=O)OH 4.76

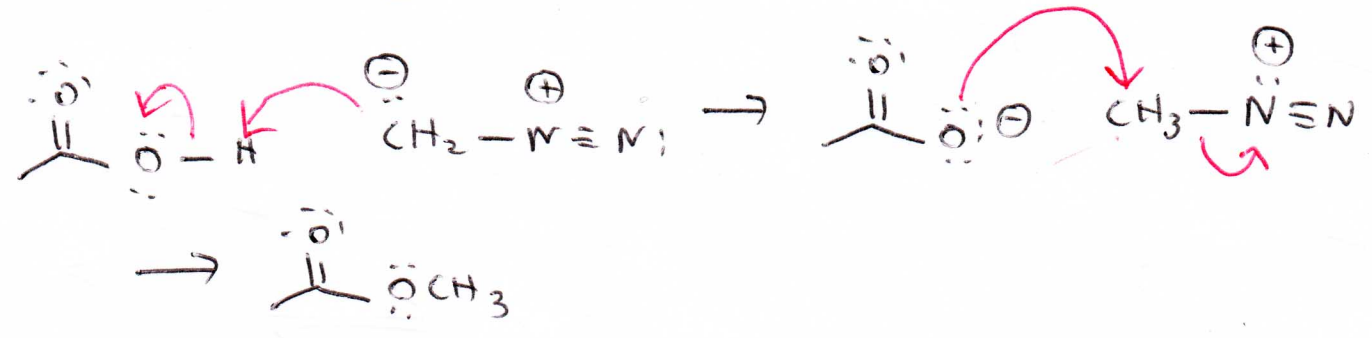
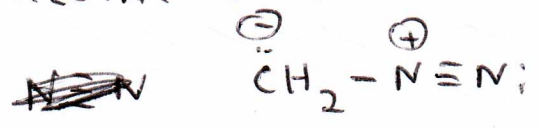
* The initial portion of this saponification rxn is technically reversible since the base used and the intermediate formed are similar enough to each other in terms of basicity.

* At the end of the mechanism, both an acid and base are produced, which instantly react w/ each other and prevent the rxn from reversing.



Esterification not possible under basic conditions

Diazomethane



- hydrolysis (H₂O, Δ, time)
- solvolysis (ROH, Δ, time)
- reduction (LiAlH₄) vs NaBH₄
- alkylation (Grignard)

