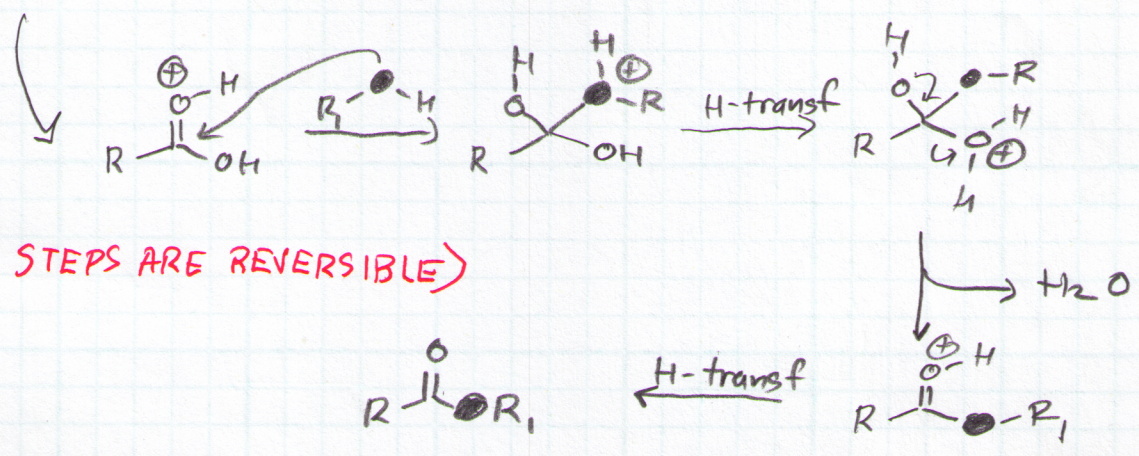
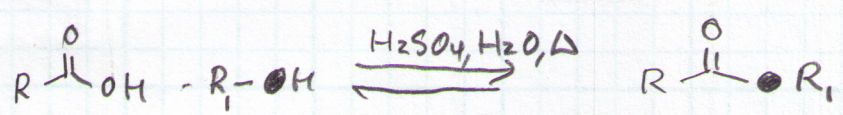


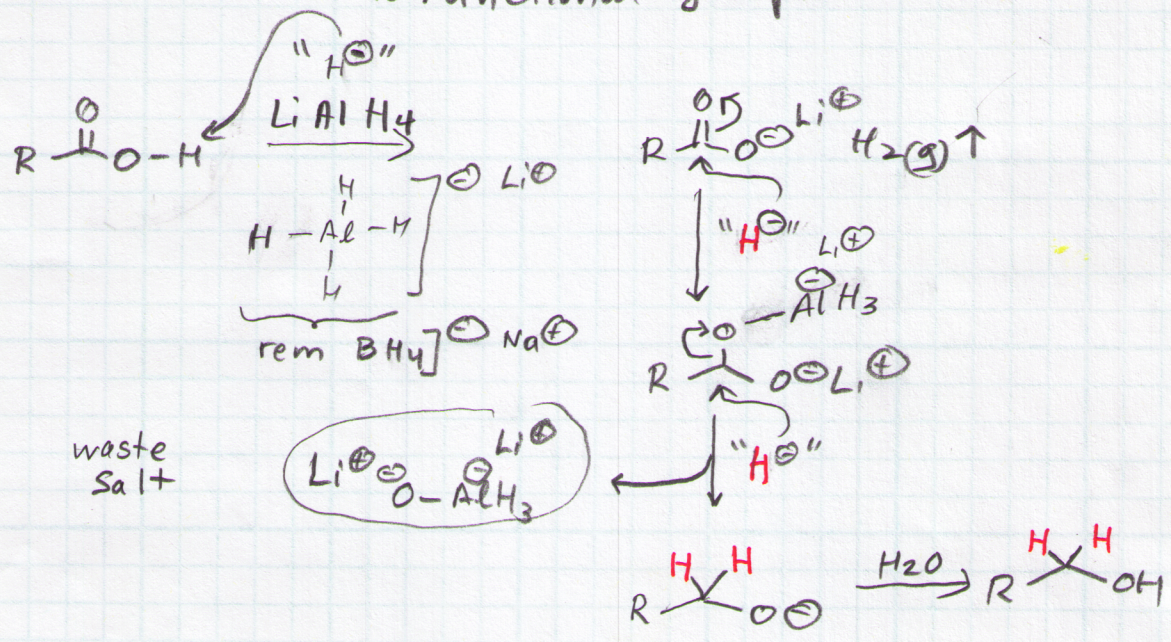
Fischer Esterification



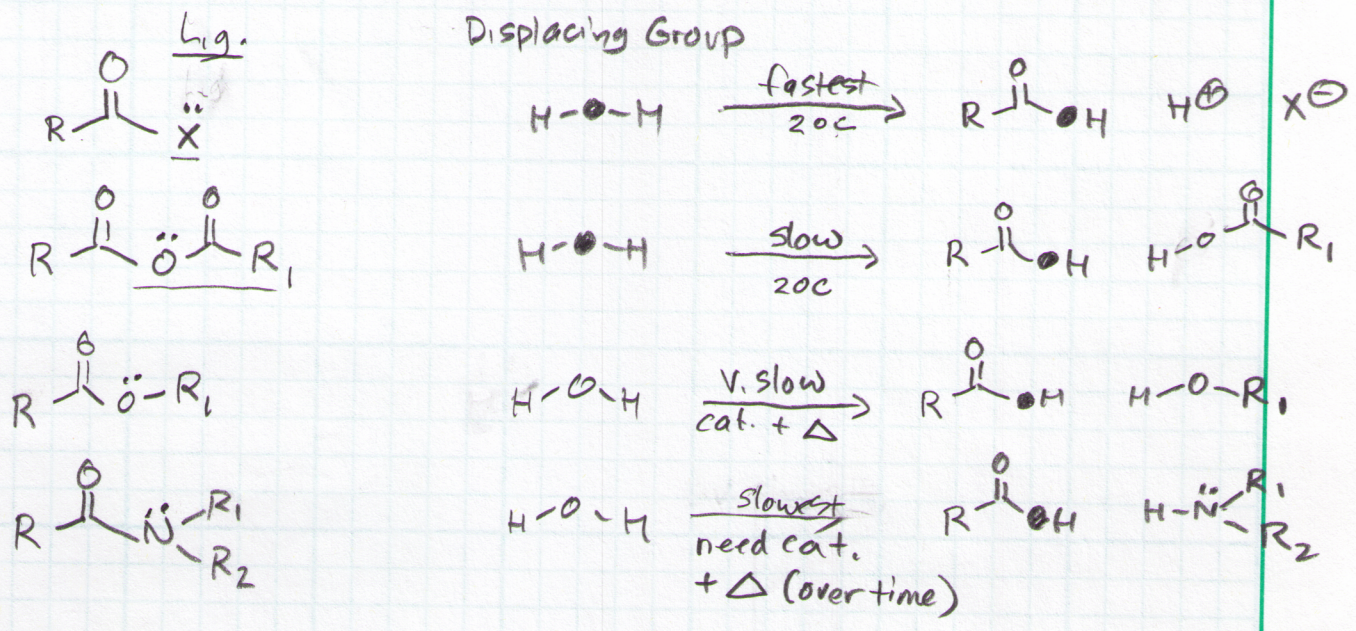
<ALL STEPS ARE REVERSIBLE>

Converting $R-\overset{\overset{O}{\parallel}}{C}-OH$ to $R-\overset{\overset{H}{\mid}}{C}-\overset{\overset{H}{\mid}}{C}-OH$ clearly an " H^{\ominus} " source is needed to attack $C=O$

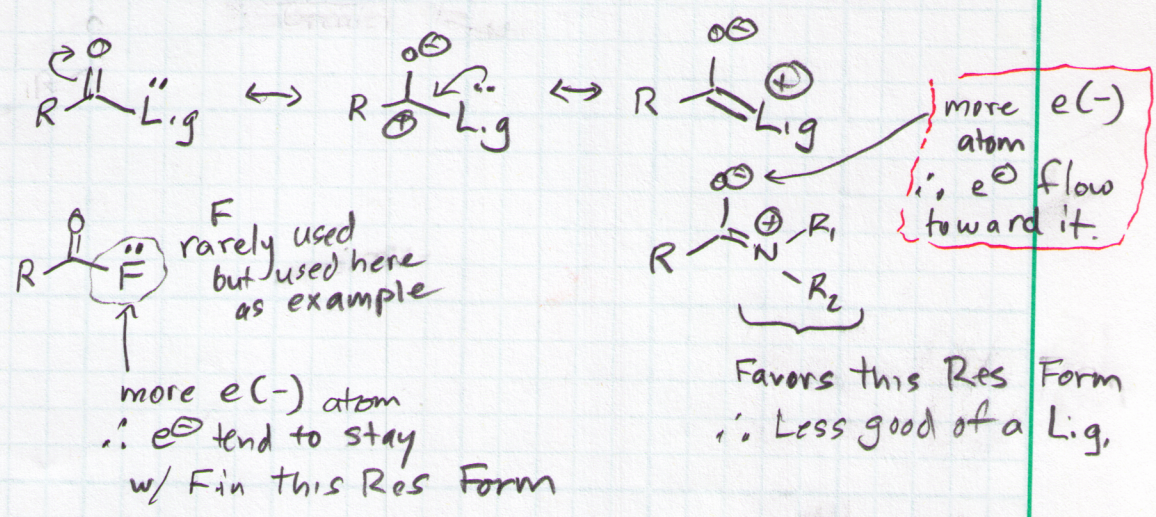
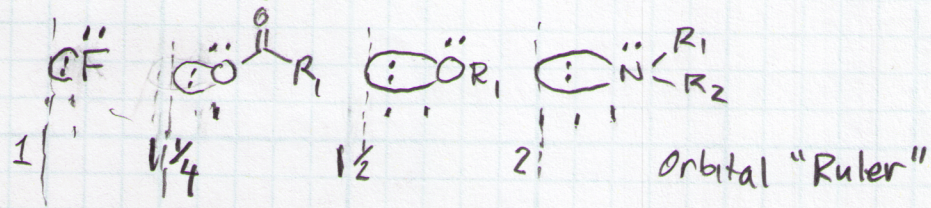
NOTE THAT α -C changes relative to functional group.



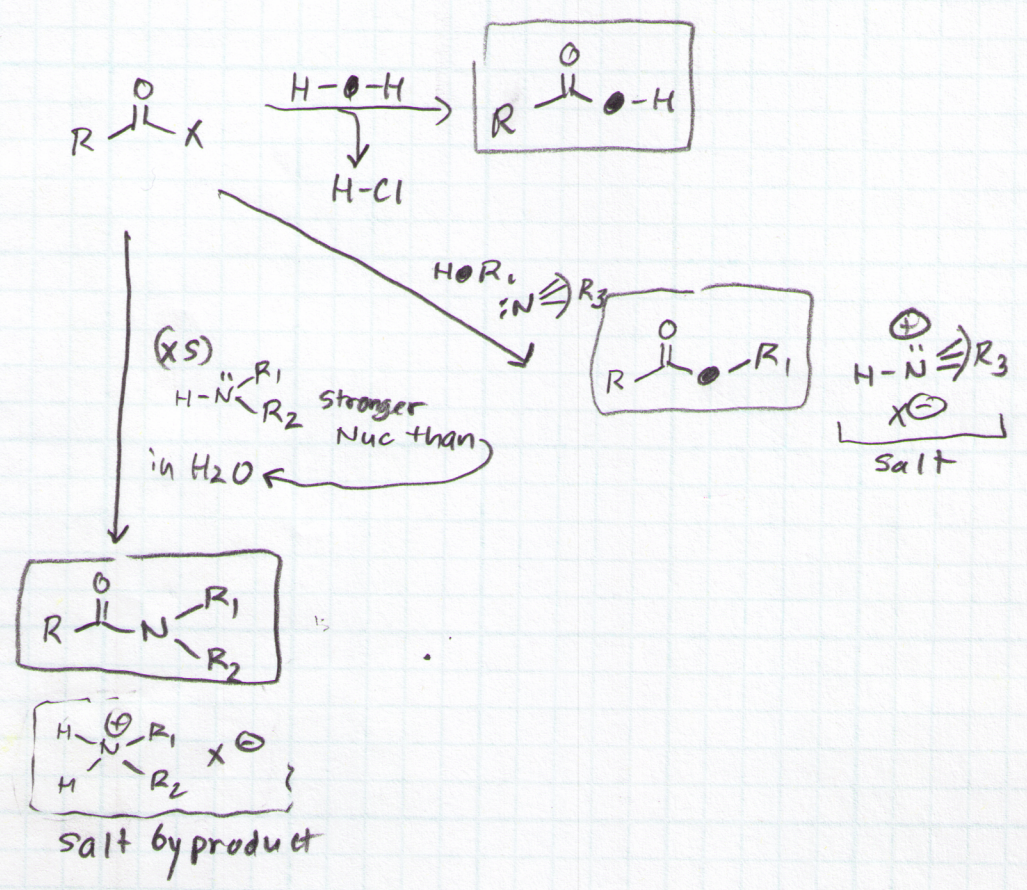
Evaluate why the Lig. attached to the $\overset{\text{O}}{\parallel}{\text{C}}$ affect the relative rates of rxn as indicated (Lig. = Leaving group)



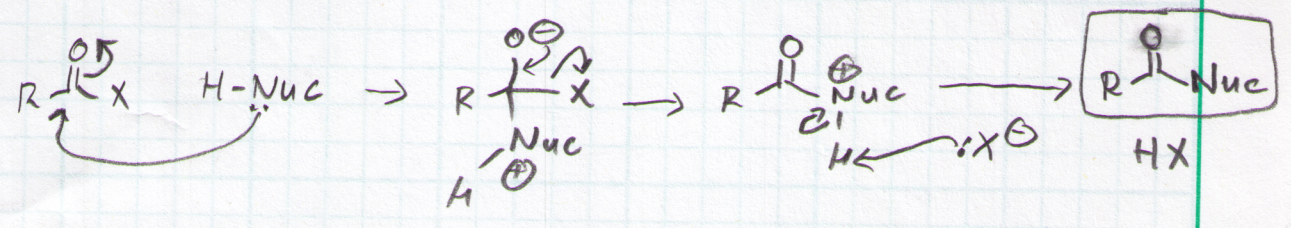
Evaluate Lig.



Acyl Halide Conversion To →

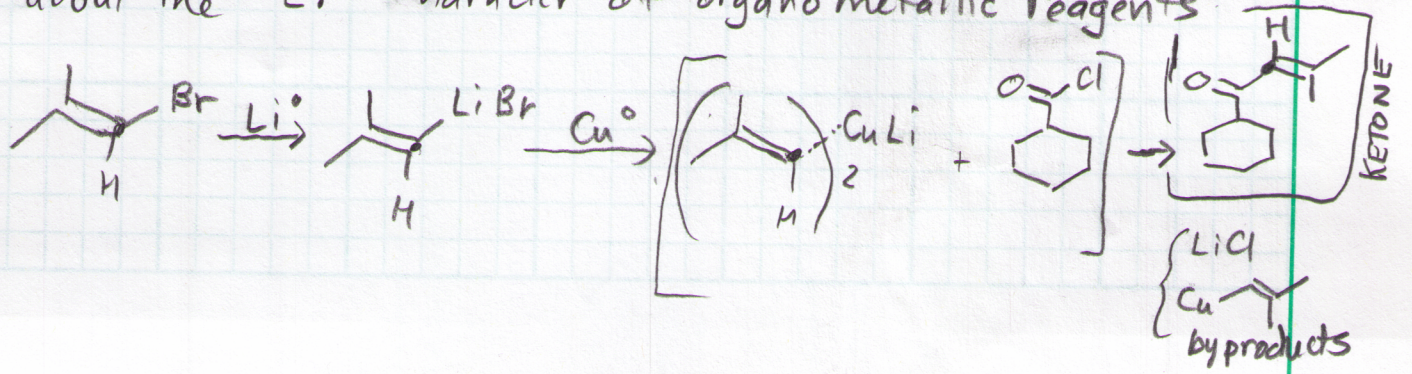


General Mechanism



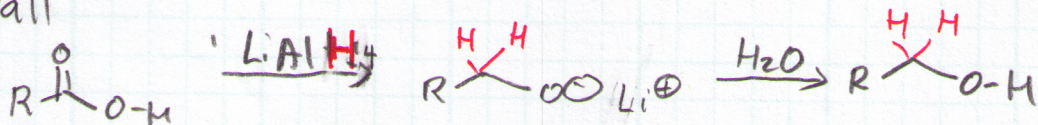
Organometallic Reagents w/ Acyl chlorides

This subject will NOT be a surprise based on what we know about the "C:⊖" character of organometallic reagents.

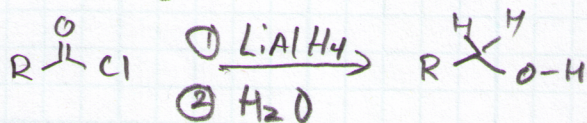


Reduction of an Acyl Chloride to An Aldehyde.

Recall

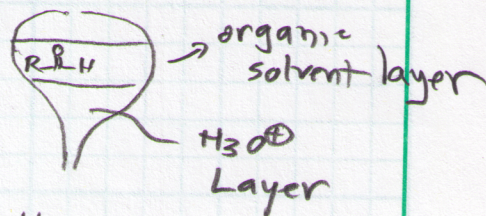
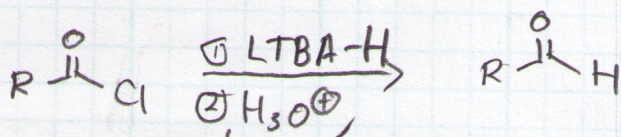
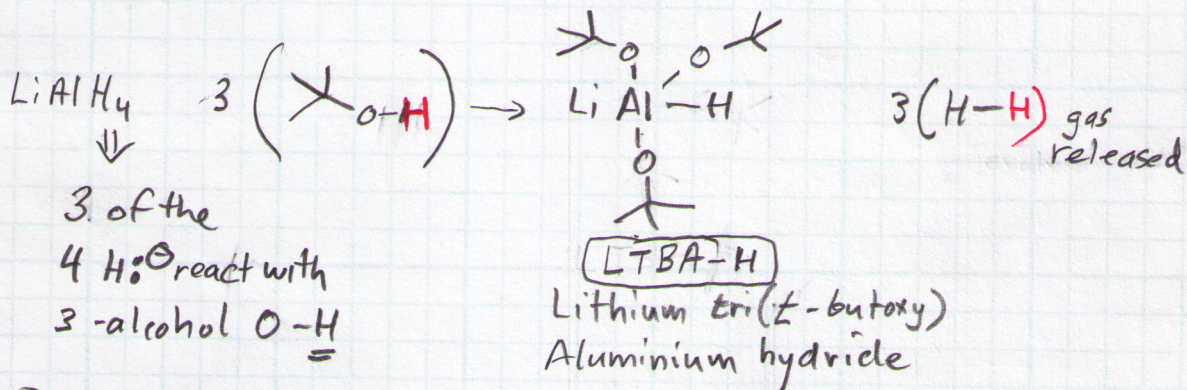


The following will also happen



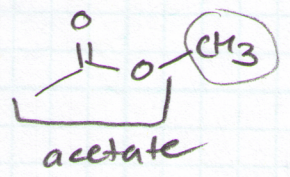
How does a chemist "tune" the hydride reagent so only one H^{\ominus} is added?

Convert LiAlH_4 to a one "Hydride" reagent



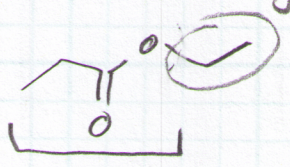
this step simply dissociates salts from "dative" bonds with the C=O

Esters methyl



methyl acetate

ethyl

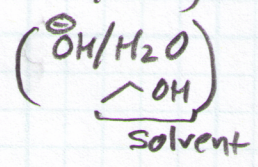


propanoate
ethyl propanoate

Acid Catalyzed (H^+ / H_2O) Ester Hydrolysis

Base

"



"

"

(Final Acid/Base) rxn
drives this

LOW OR