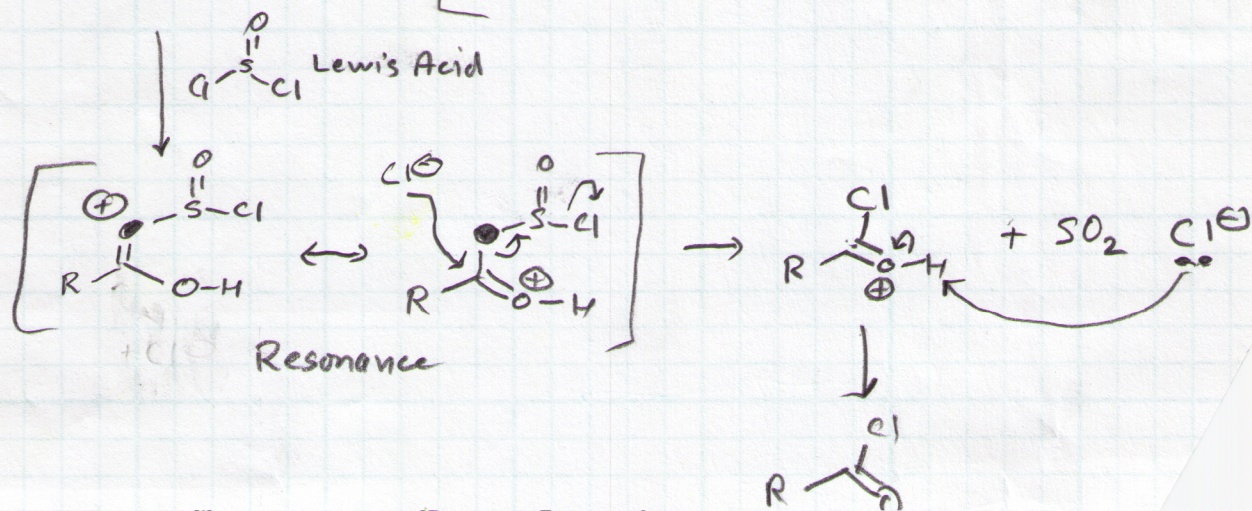
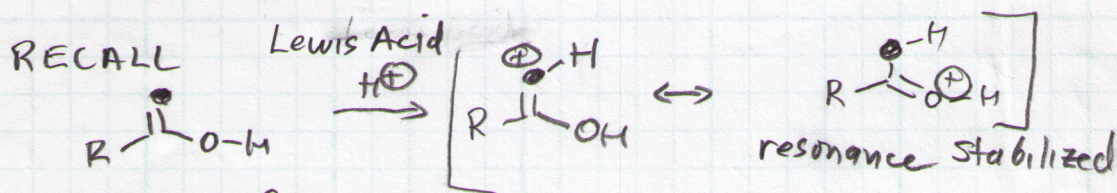
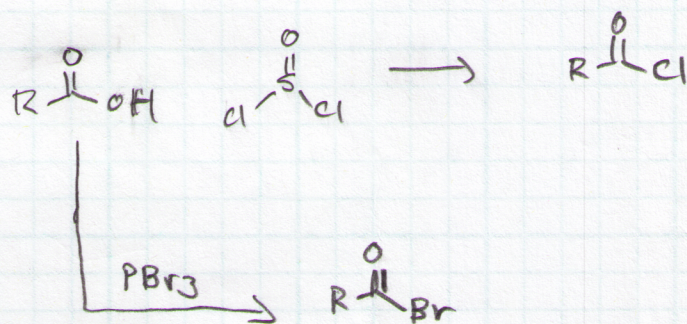
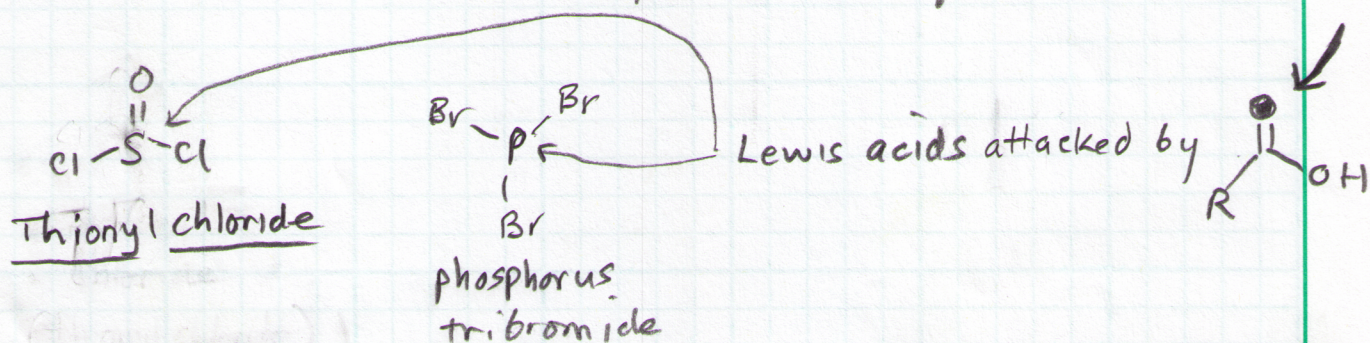
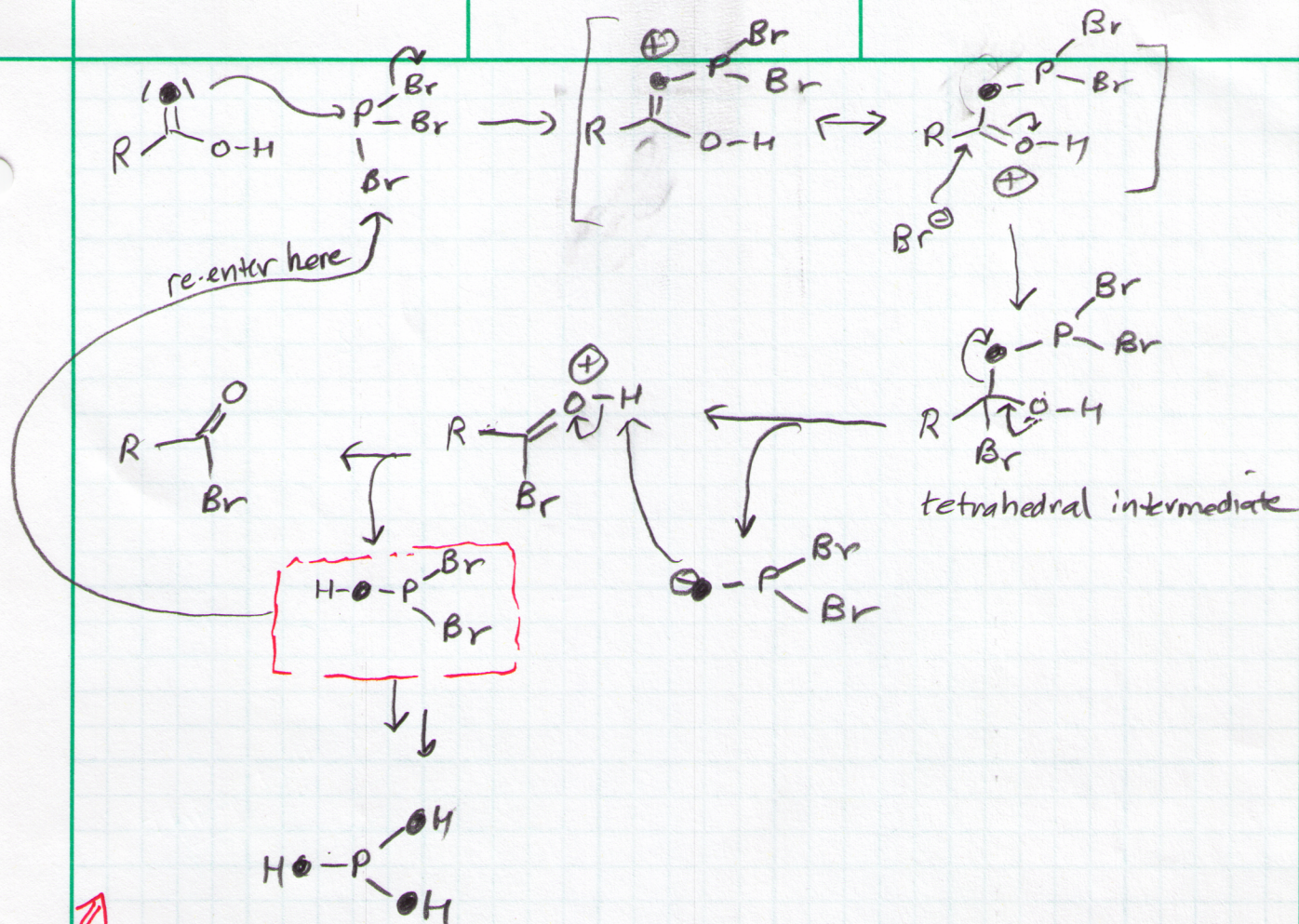


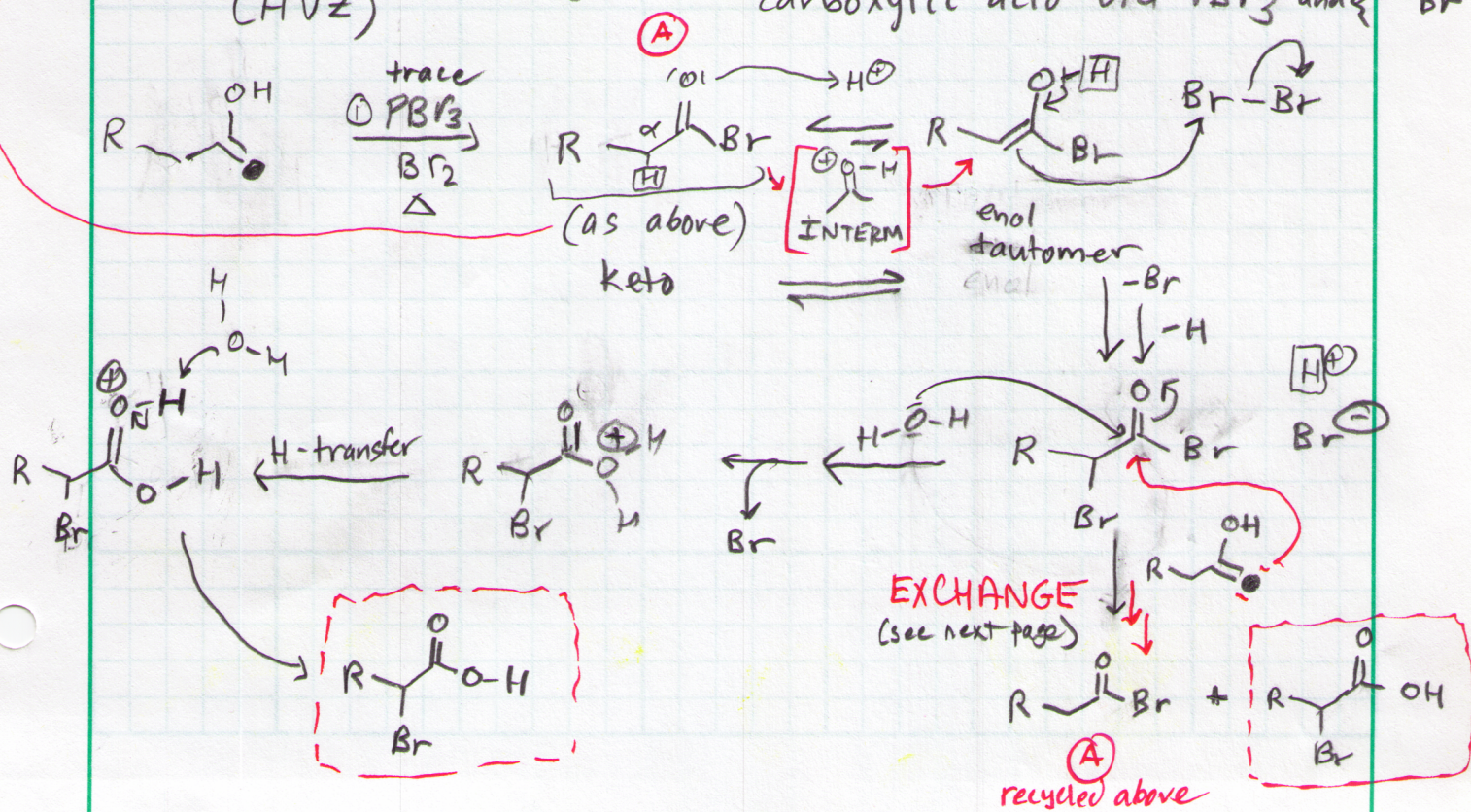
How to place L.g. onto a carbonyl group via a  $R-\overset{\overset{O}{\parallel}}{C}-OH$





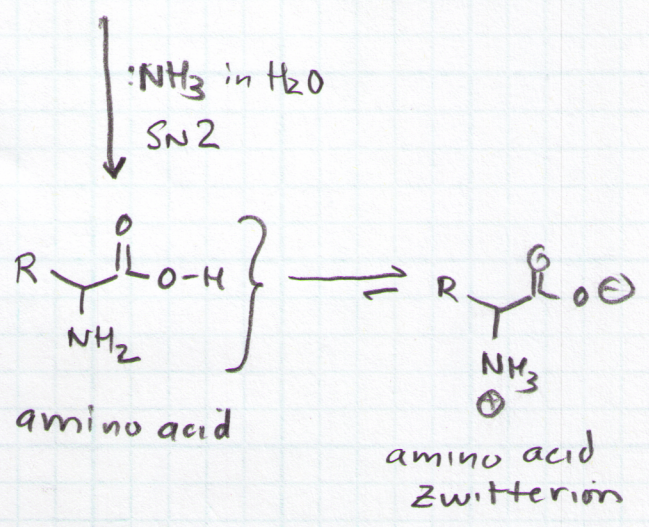
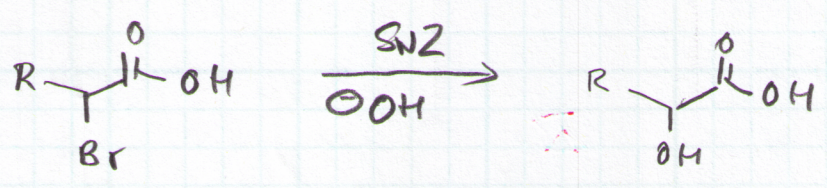


Hell - Volhard - Zelinsky Rxn. Monobromination of a carboxylic acid via  $\text{PBr}_3$  and  $\text{Br}_2$

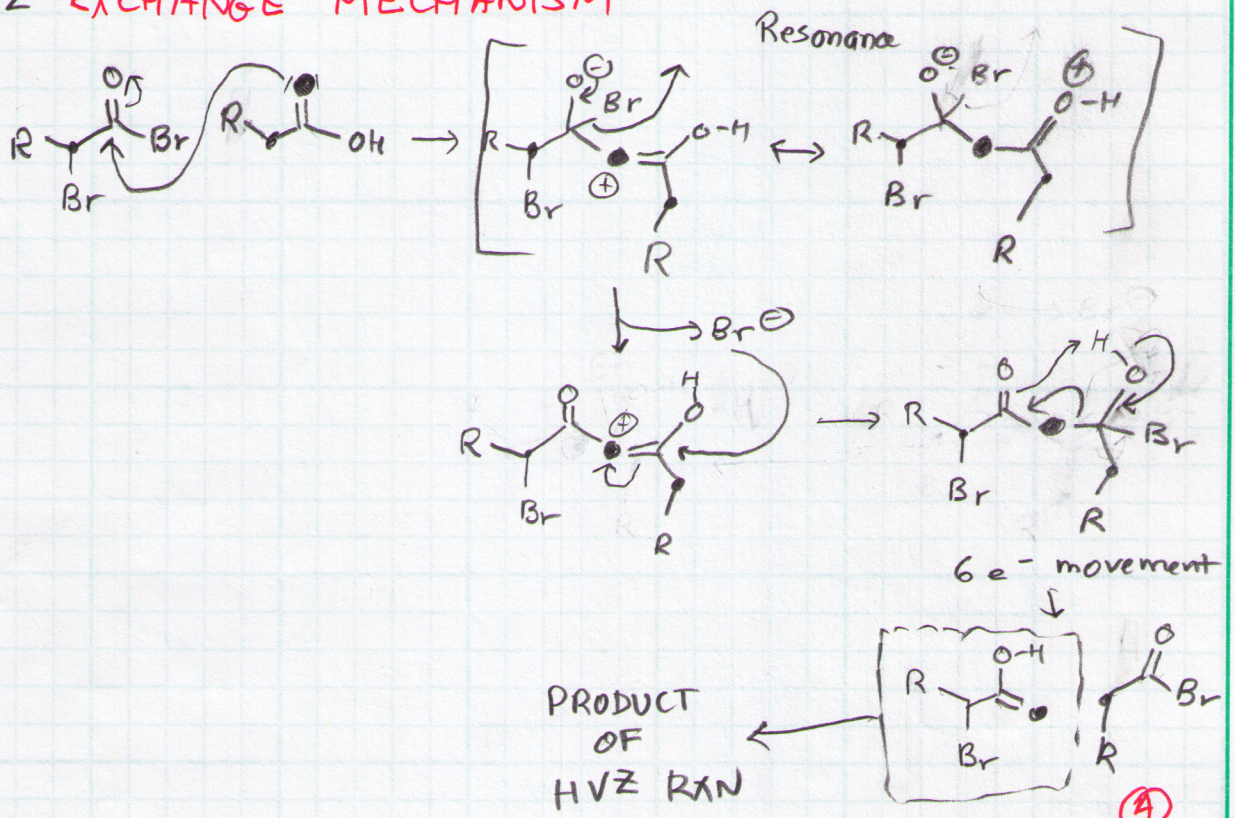




From HVZ product on previous page



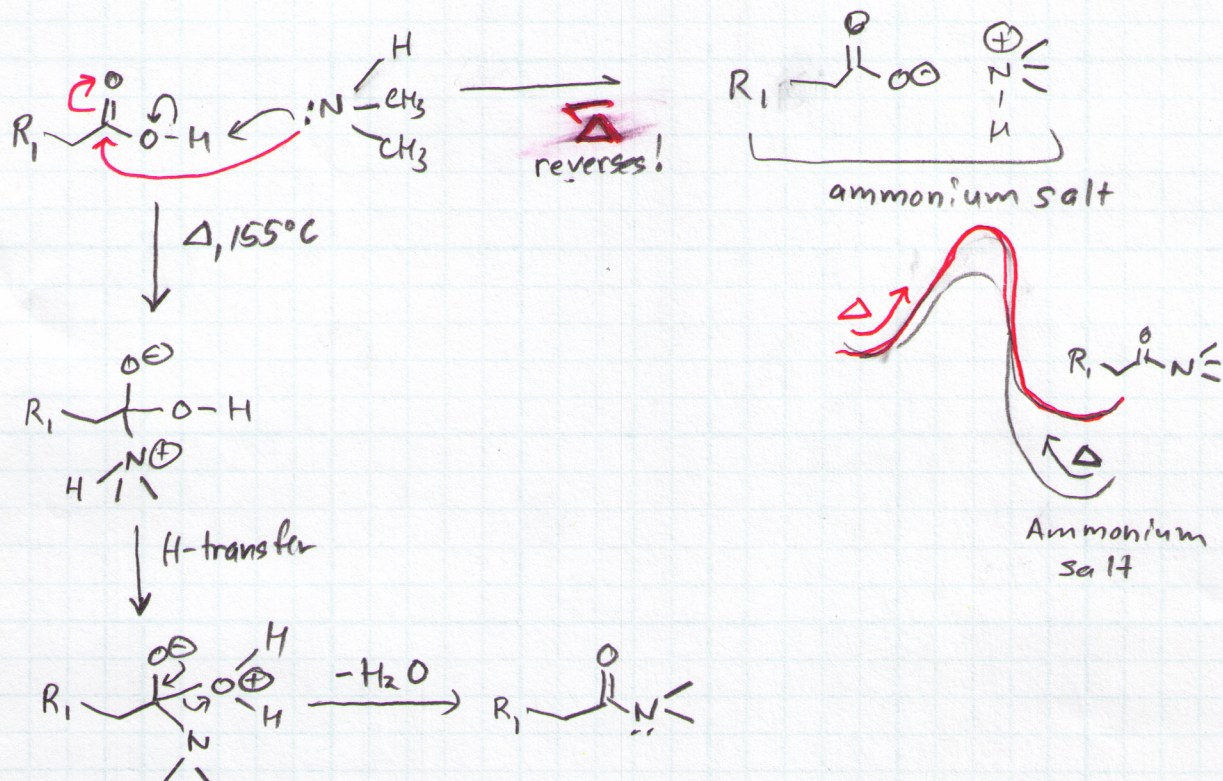
### HVZ EXCHANGE MECHANISM



(A)  
on previous page  
RECYCLED

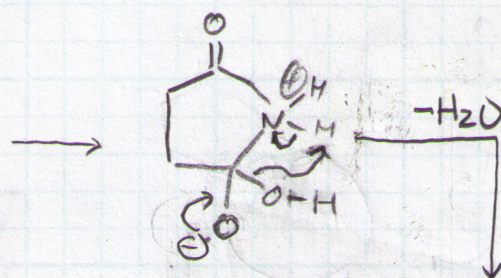
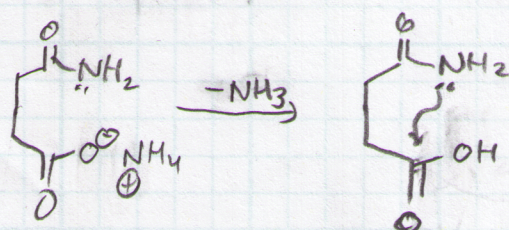
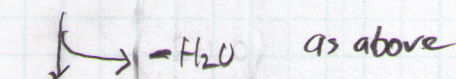
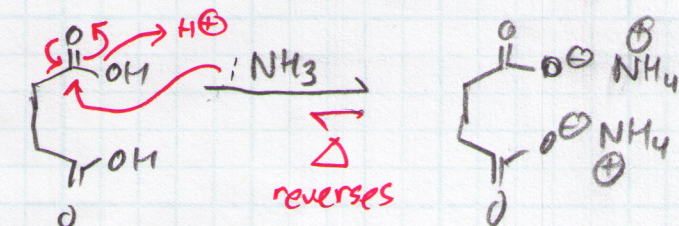


Using  $\Delta$  (heat) to modify  $\text{R}_1\text{COOH}$

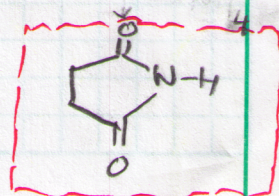


### Intramolecular Imide Formation

succinic acid

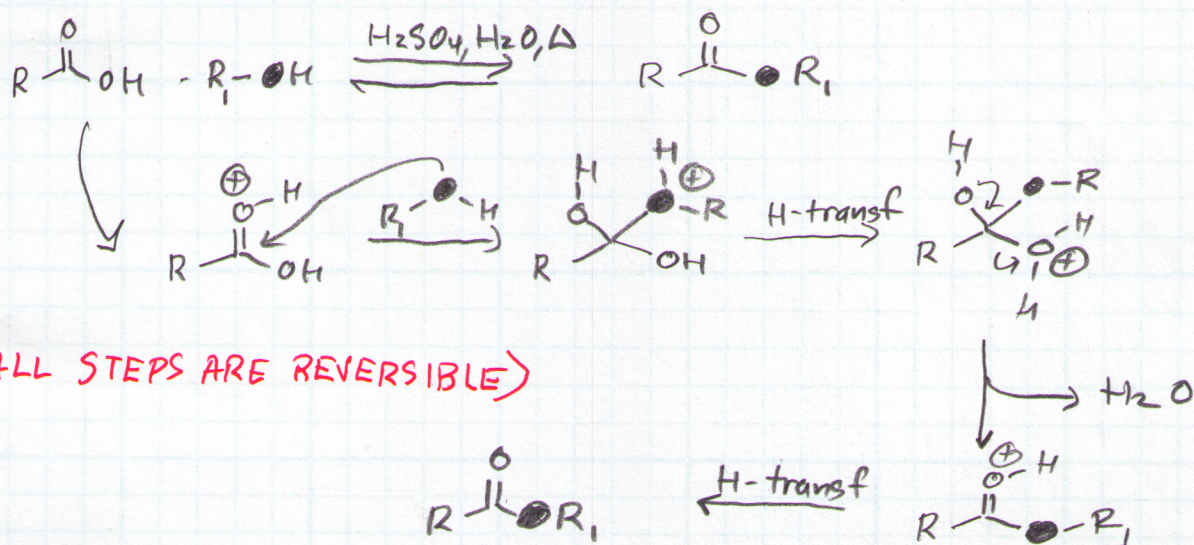


Imide (Succinimide)





## Fischer Esterification



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  $\alpha$ -C changes relative to functional group.

