Acid Chlorides

2/24/2023

Exam 1 Corrections

Will be posted as a Moodle assignment

Correct **EVERYTHING** you missed, and get (up to) 5 points back!

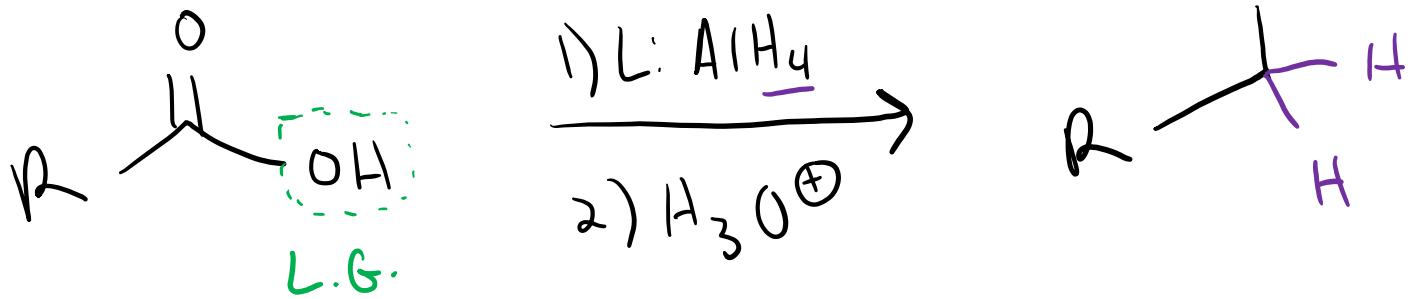
Scan and upload your exam to the Moodle assignment, as well as your corrections.

The deadline will be mid-late March (definitely before next exam!)

Talk to me or a TA if you need help figuring out what you did wrong, or what the correct answer should have been!

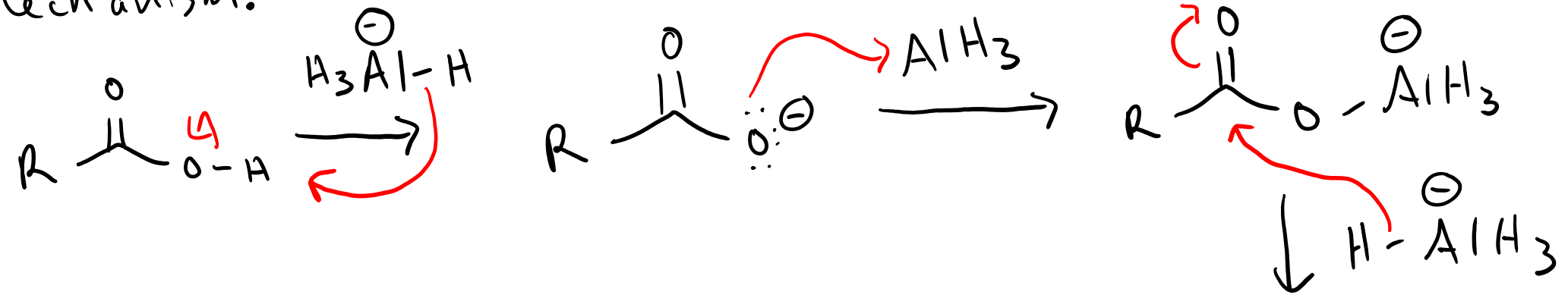
Reduction of Carboxylic Acids

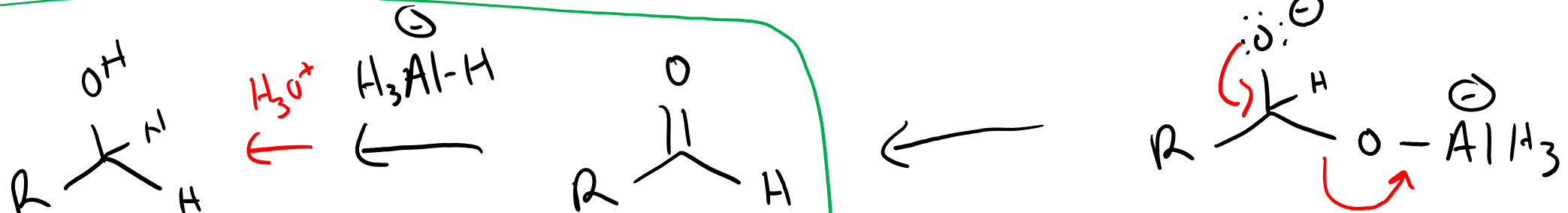
(20.5)



Two H's added!

Mechanism:

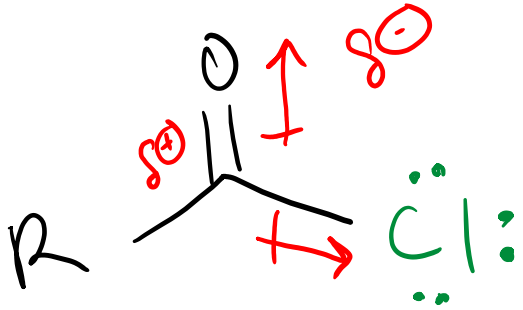




Ch 19

Synthesis of Acid Chlorides (20.8)

most E⊕ carboxylic acid derivative



best L.G. of carboxylic acid derivatives

most reactive → easy to make other carbonyl F.G. from this one

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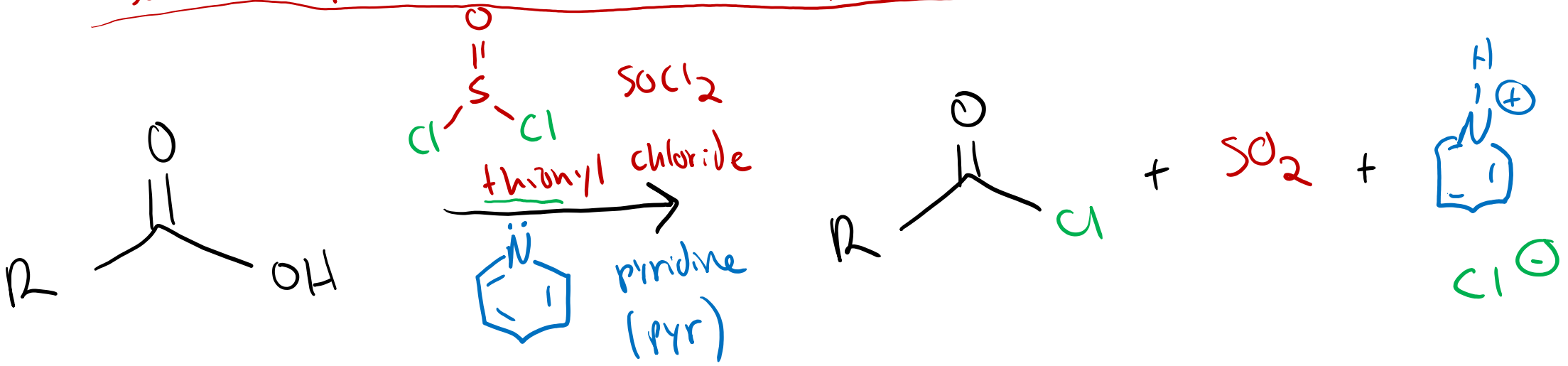
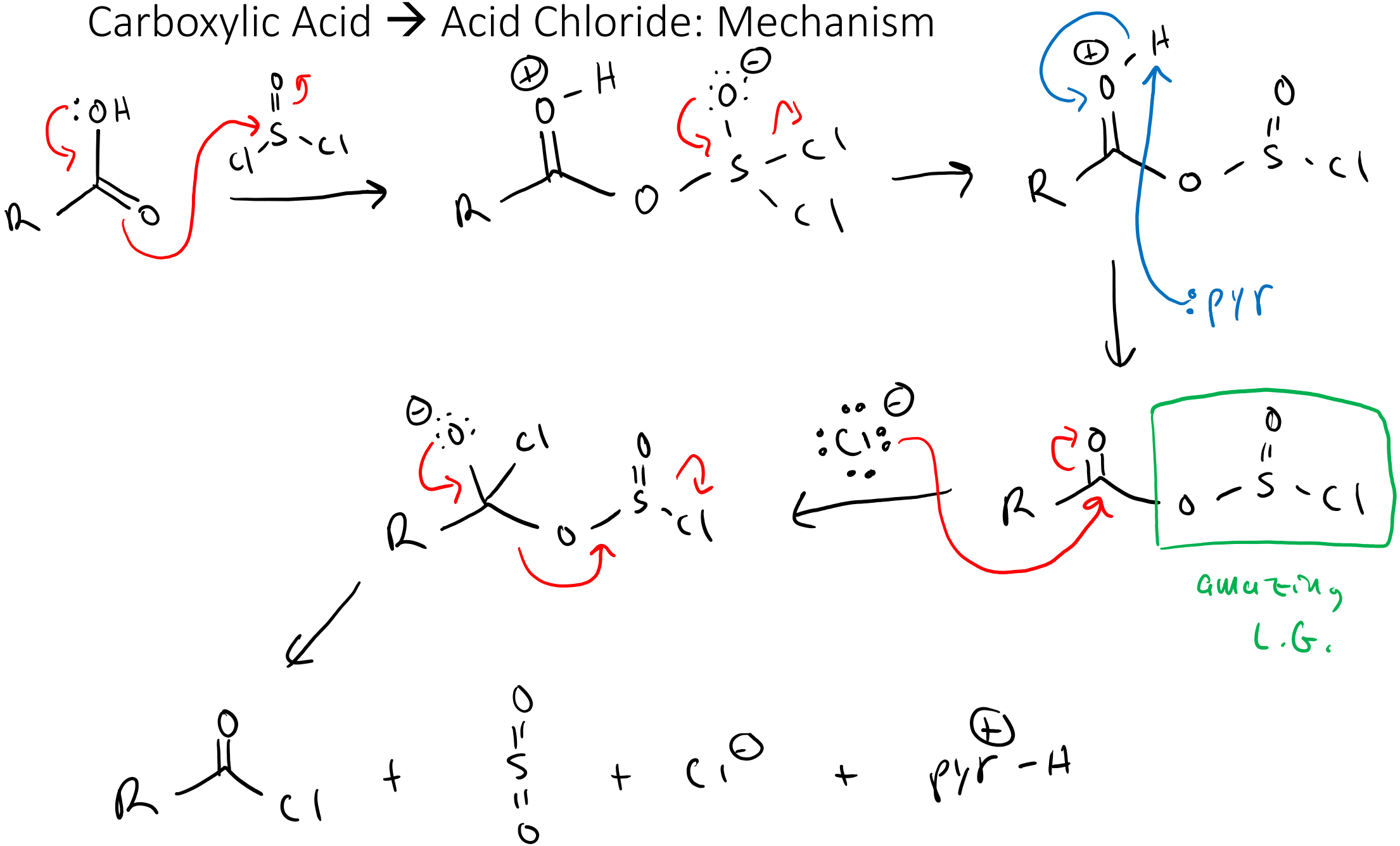
same recipe as alcohol → alkyl chloride

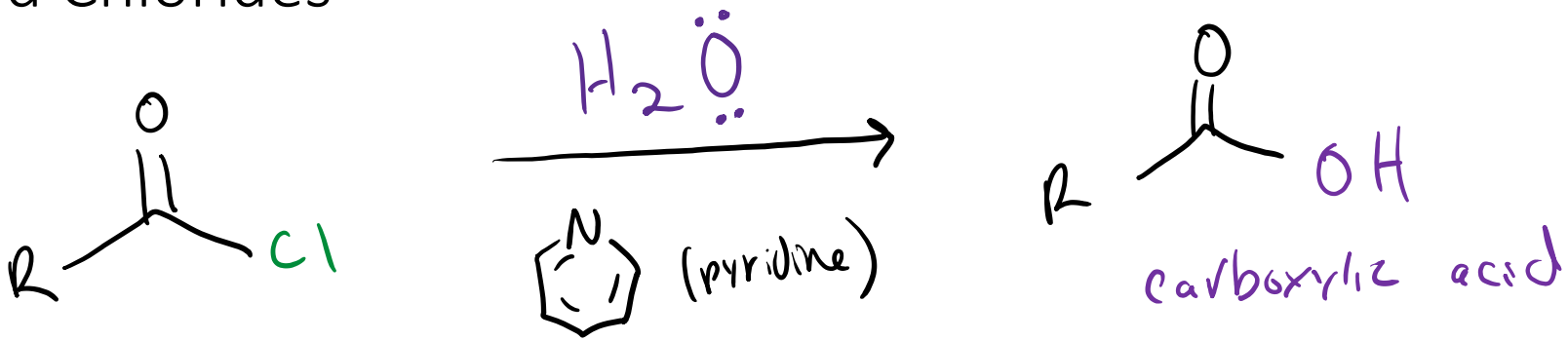


Carboxylic Acid → Acid Chloride: Mechanism



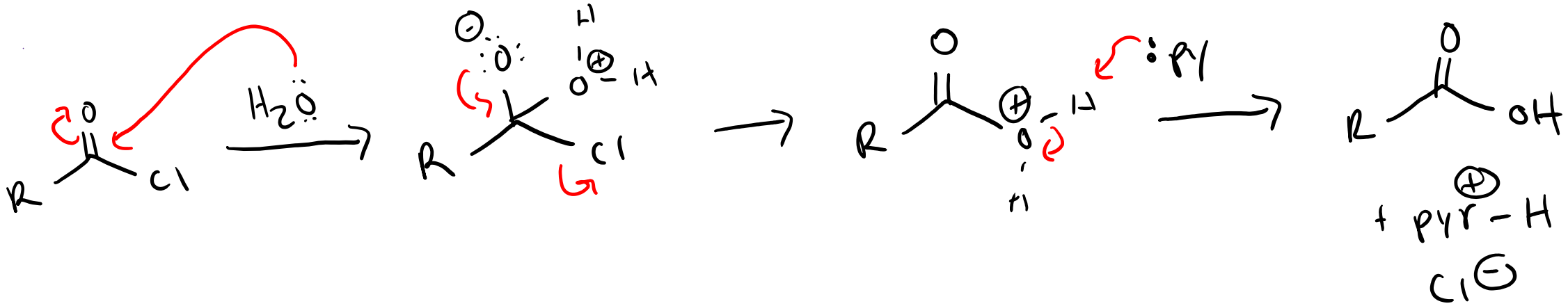
Reactions of Acid Chlorides

Hydrolysis:

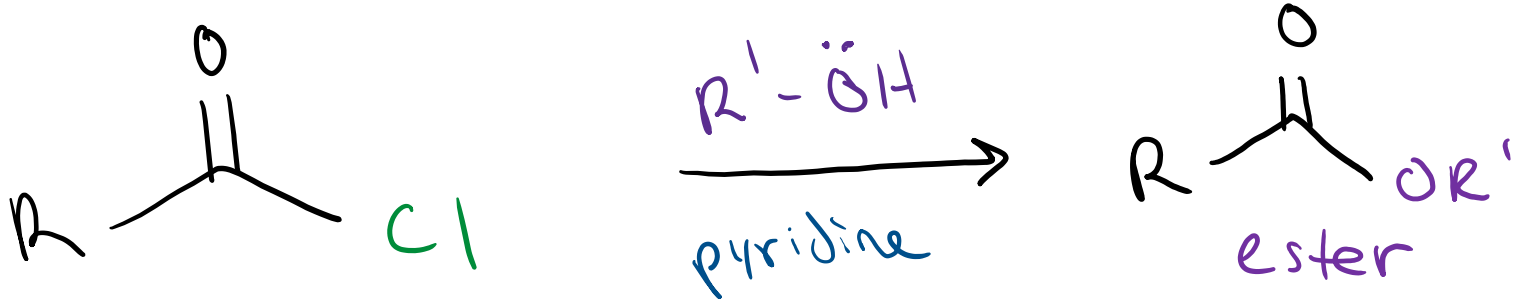


acyl transfer
weak nuc/weak base

mechanism:



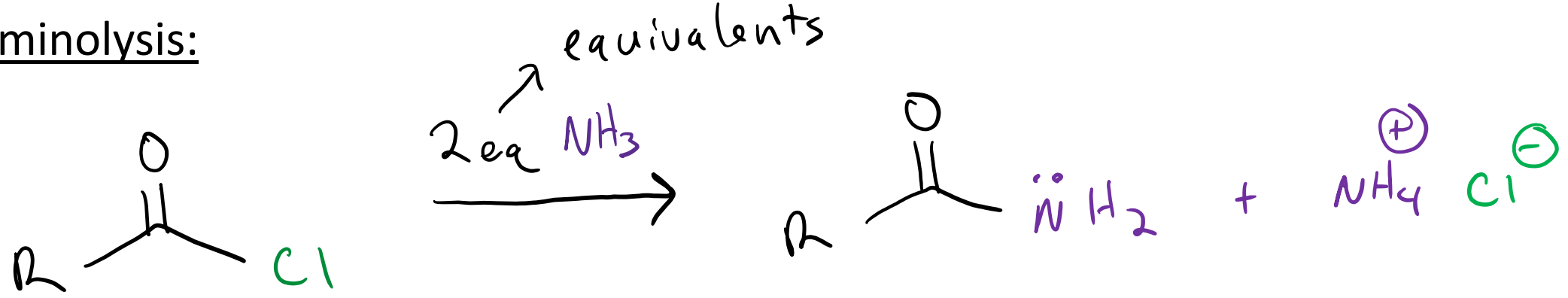
Alcoholysis:



mech? same as hydrolysis

Reactions of Acid Chlorides

Aminolysis:



mechanism: same as hydrolysis (weak nuc, weak base)

2nd eq of NH_3 acts as base

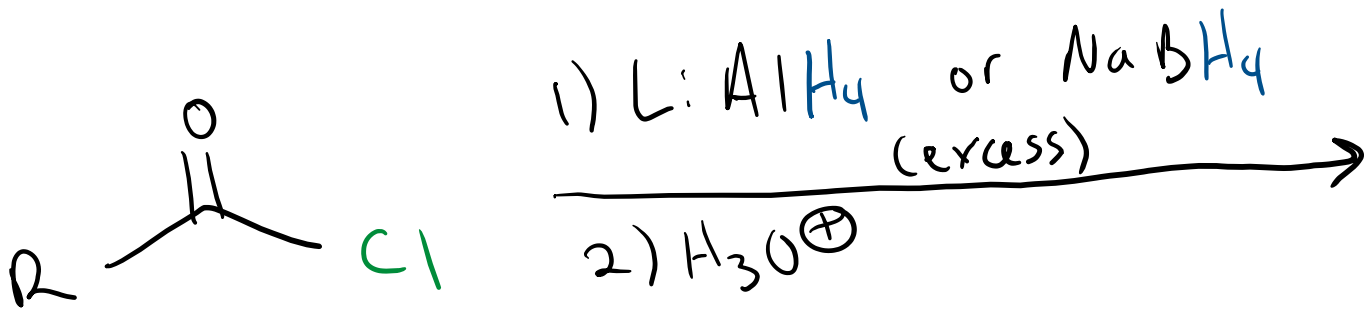
works for H_3N: , H_2NR' , HNR'_2

(ammonia) 1^0 amines 2^0 amines

★ NO rxn w/ 3^0 AMINES ($:NR'_3$) ★

Reactions of Acid Chlorides

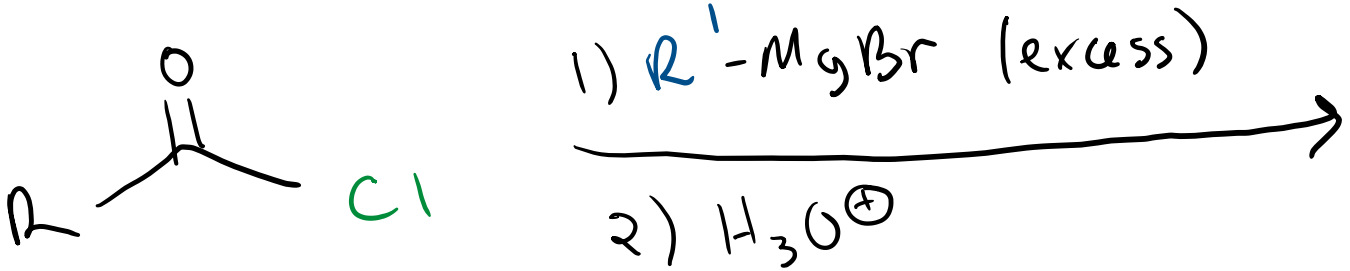
With Reducing Agents: (hydride transfer agent)



mechanism:

Reactions of Acid Chlorides

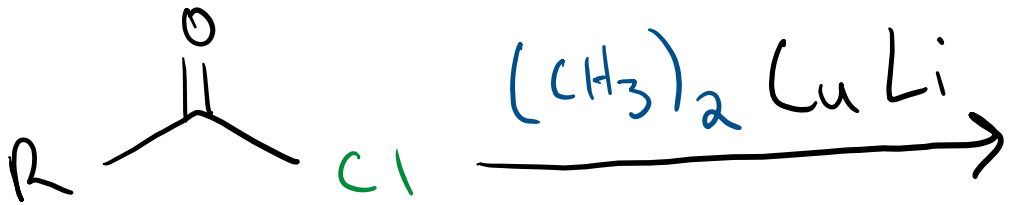
With Grignard Reagents



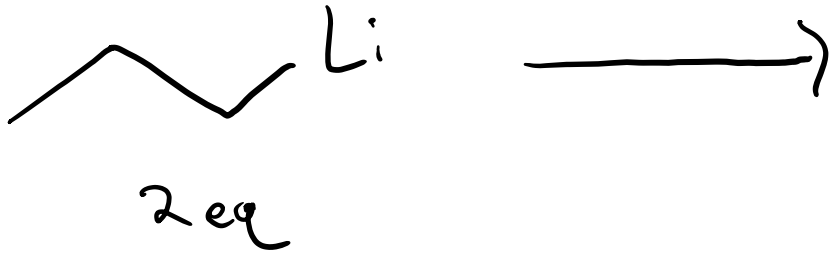
mechanism:

Reactions of Acid Chlorides

With Organocuprates ("Gilman Reagents"):



making the organo cuprate



acyl transfer mechanism: