Today

Reactions of Carboxylic Acids and Carboxylic Acid Derivatives

Sections 15.4 -15.9

Next Class

Reactions of Carboxylic Acids and Carboxylic Acid Derivatives

Sections 15.4 -15.9

Reaction of Amides, Nitriles, and Acid Anhydrides
Sections 15.10 – 15.16

Second Class from Today

Aldehyde and Ketone Nomenclature
Section 16.1

Relative Reactivities
Section 16.2

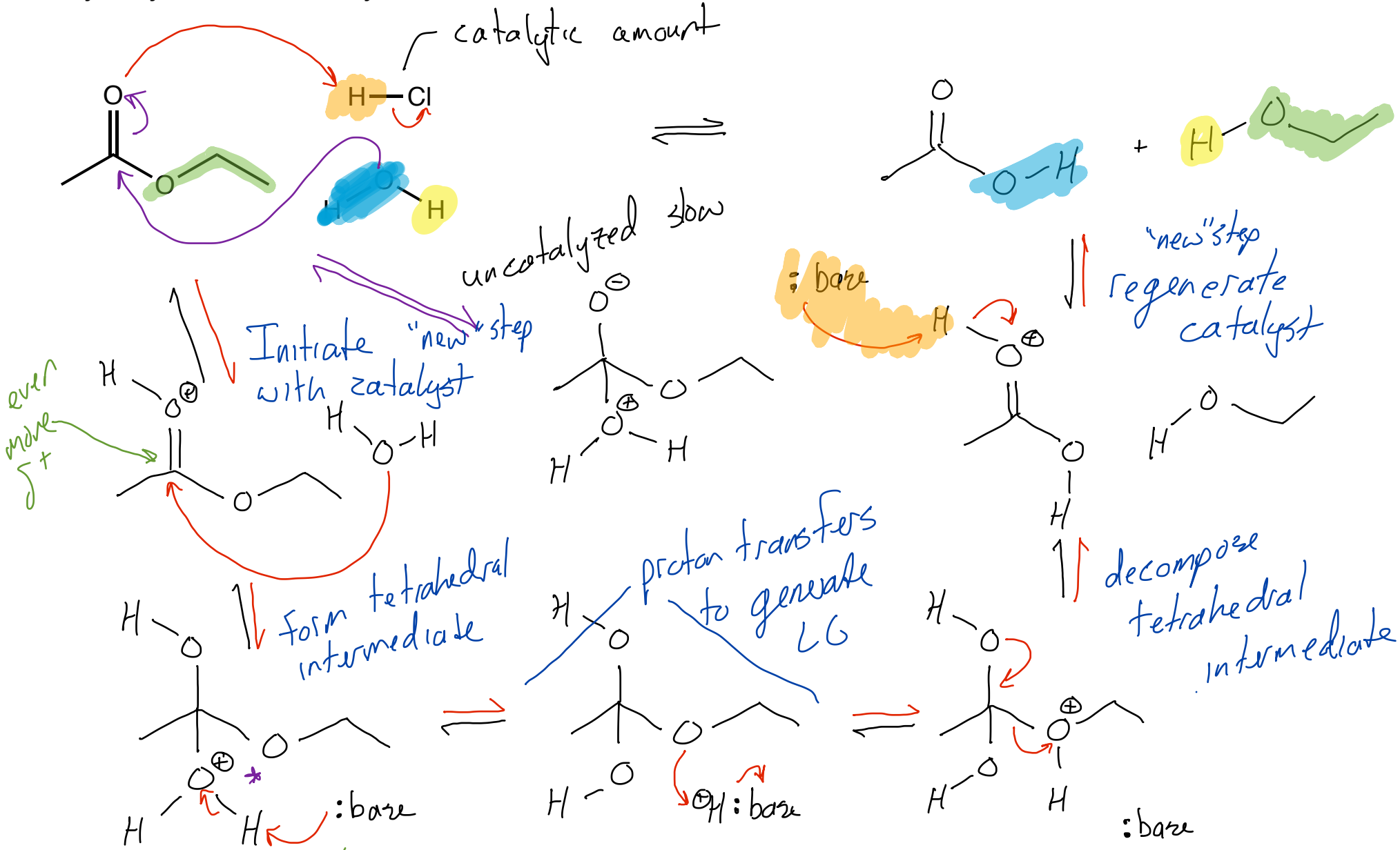
Third Class from Today

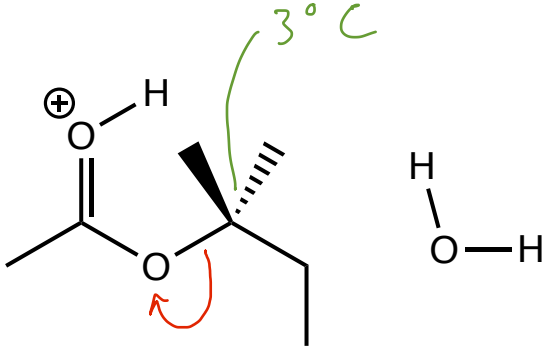
Aldehyde and Ketone Nomenclature
Section 16.1

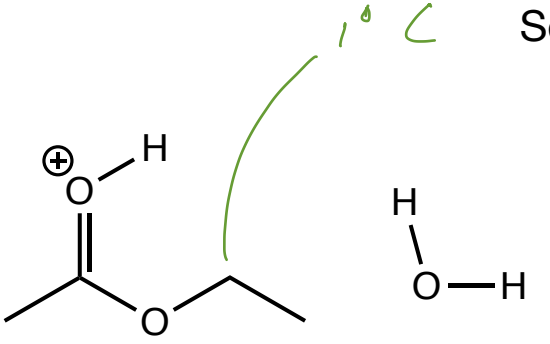
Relative Reactivities
Section 16.2

How Aldehydes and Ketones React
Section 16.3

Reactions with Carbon Nucleophiles
Section 16.4


catalytic amount
H—Cl
uncatalyzed slow
Initiate "new" step with catalyst
even more ↓ +
form tetrahedral intermediate
proton transfers to generate LG
:base
"new" step regenerate catalyst
decompose tetrahedral intermediate
:base
this tetrahedral intermediate is lower in E. It is not zwitterionic
* direct H⊕ transfer is unlikely because there would need to be a 4-membered ring





1° α-C

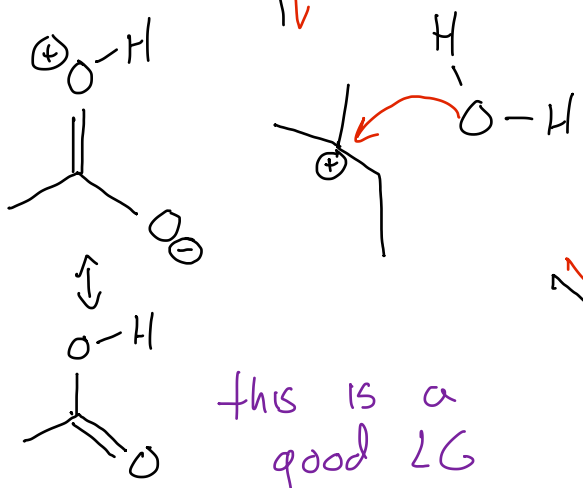
good LG

~~SN1~~

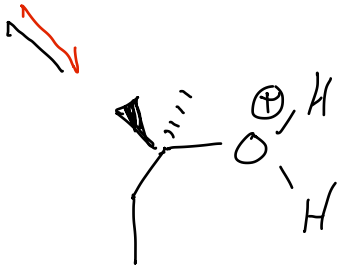
S_N2 needs a very good nucleophile

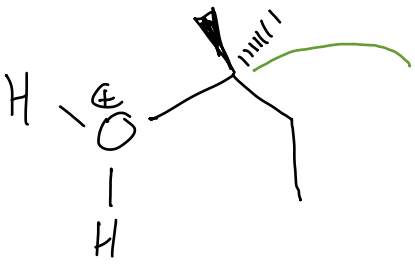
S_N2 prefers aprotic solvents

conditions do not favor S_N2 chemistry, so nucleophilic acyl substitution predominates



this is a good LG

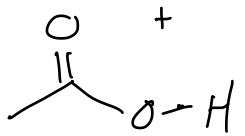




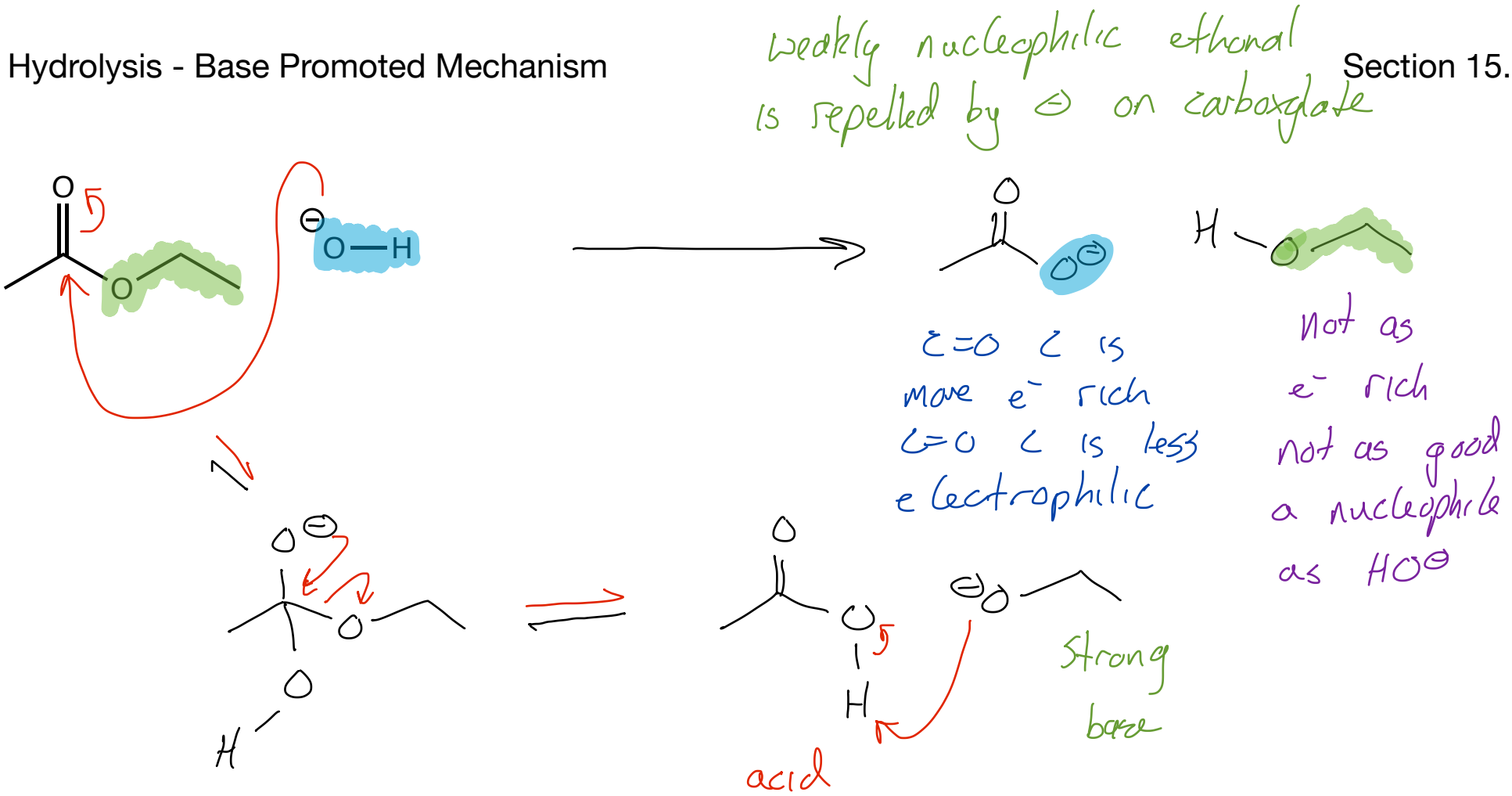
H_2O LG

protic solvent

S_N1

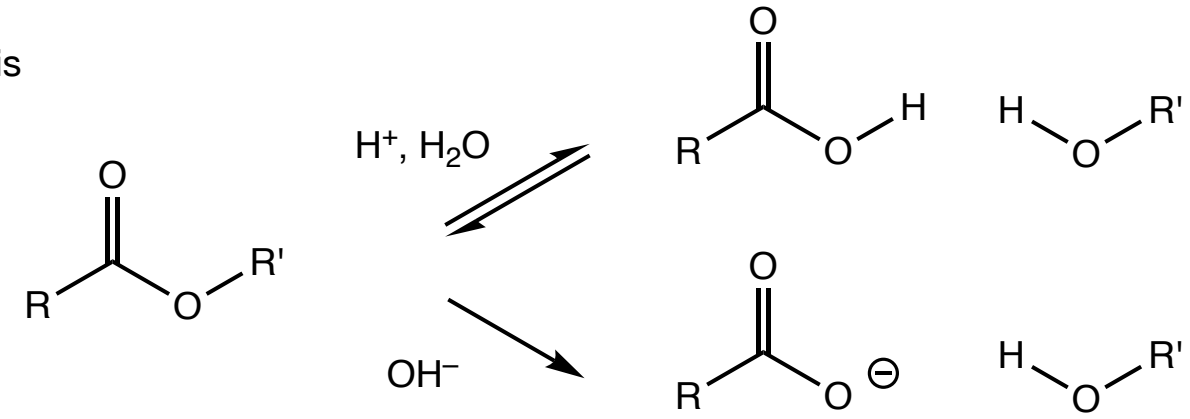


both S_N1 + nucleophilic acyl substitution can run simultaneously

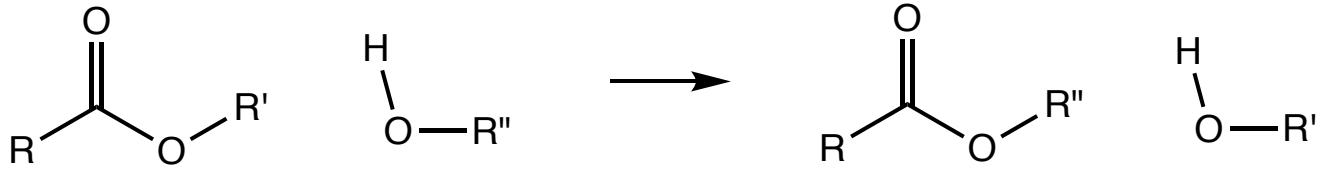


Speed up reaction by using a better nucleophile instead of making the C=O more reactive

Hydrolysis



Transesterification



Aminolysis