

Hints:

N1: If no strong acid or base present what is the only carbonyl fate you can do? And what do you form?

N2: What do we look to do first?

N2': If we can't do N2, what is the ONLY OTHER thing the oxyanionic tetrahedral intermediate does?

A1: What do acids normally do?

A2: What have you done to the carbonyl reactivity in A1?

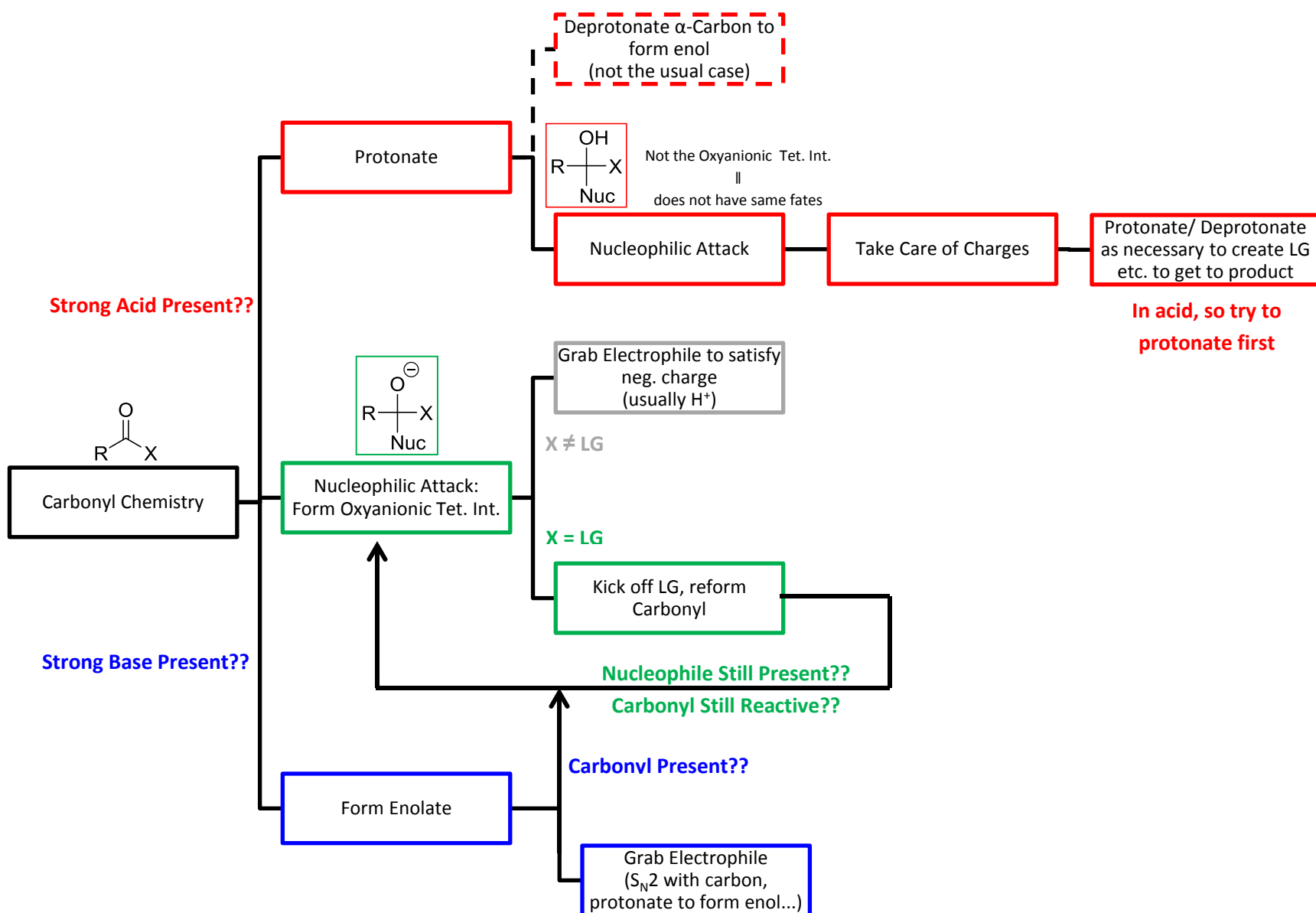
A3: Do you have oxyanionic tetrahedral intermediate? Do atoms look unhappy?

A4: How do you get to product? What do acids like to do?

A2': Think tautomerization in acid...

B1: What do bases like to do?

B2: What have you formed in B1? Nucleophile, Electrophile? And what does it act on?



- Proton Transfer (PT) is quick and easy acid-base chemistry so look to do this for your carbonyl fate depending on if acid or base is present
- The Oxyanionic Tetrahedral intermediate shown in green has ONLY 2 FATES! First, look to kick off leaving group, if this is not possible then grab an available electrophile (usually a proton, H^+)
- The tetrahedral species in red is not anionic therefore it does not have the same fates