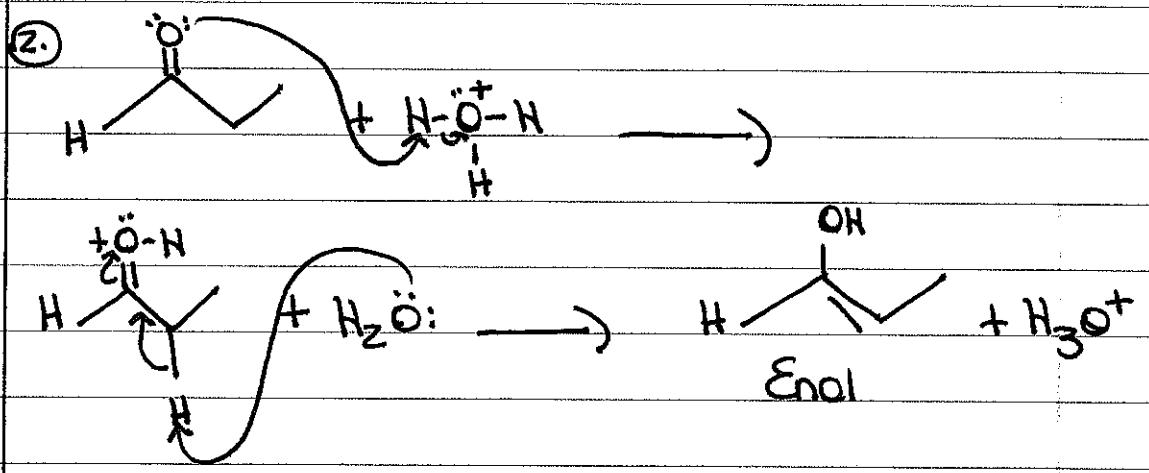
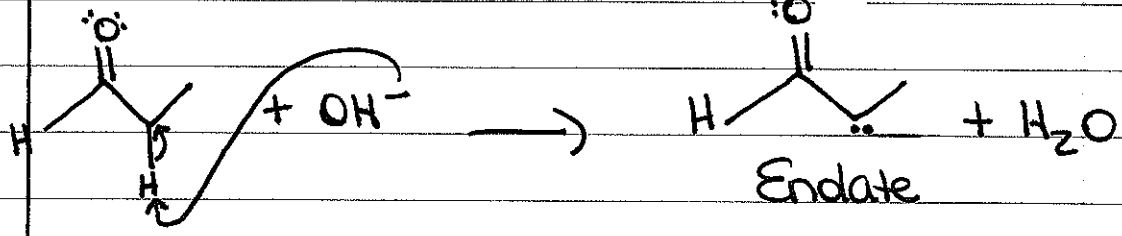
* Reactions at the Alpha Position
Warm-Up Answers

① Their conjugate bases are resonance stabilized

②




③ Acidic : Basic

④ 2 aldehydes, 2 ketones, or 1 aldehyde + 1 ketone w/ a base catalyst

⑤ Base Catalyst

⑥ β-hydroxy aldehyde or ketone: Dehydration

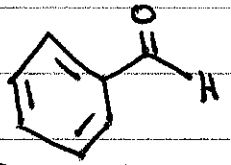
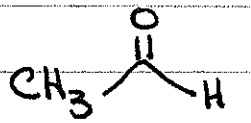
⑦ α,β-unsaturated aldehyde or ketone

⑧ both carbonyls are in the same molecule → the molecule attacks itself

⑨ 5+6: little to no strain

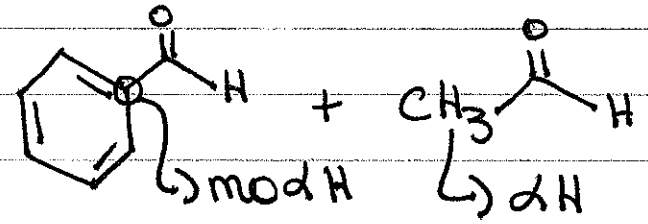
⑩ 2 different carbonyls (named differently) participating in aldol

ex: Non-Crossed: 2  (both acetone)

ex: Crossed:  + 

Benzaldehyde Acetaldehyde

⑪ Synthetically Useful = only one reactant has α H therefore, only one enolate → one product can be formed

Ex: 

Non-Synthetically Useful = both reactants have α H therefore, more than one enolate & more than one product can be made

Ex: