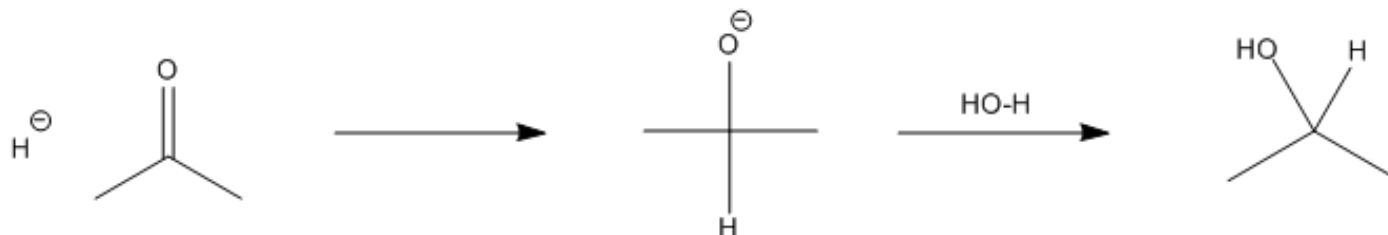


CONCEPT: REDUCING AGENT

□ Reducing agents are used to reduce molecules

- These reagents add hydrogens across π -bonds. Unsaturated hydrocarbons and carbonyls can be reduced.

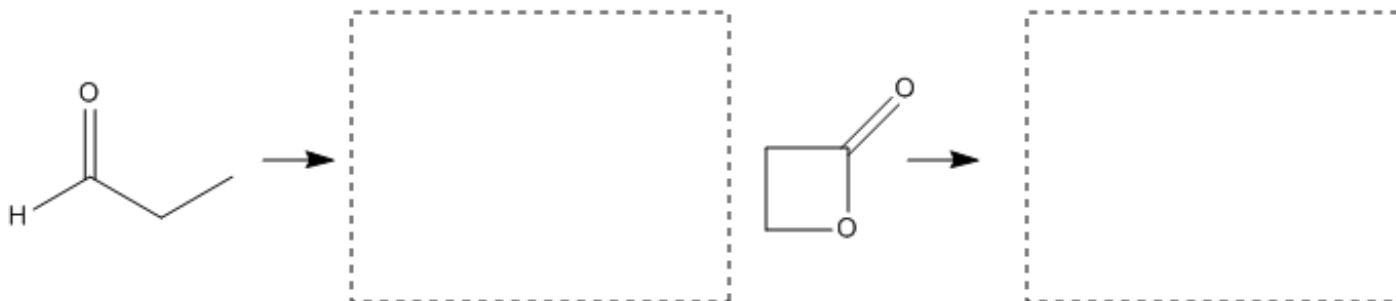
General Mechanism: Nucleophilic addition of hydrogen



□ Reducing agents add to *ALL* π -bonds present. Multiple equivalents of hydrogen will react if possible.

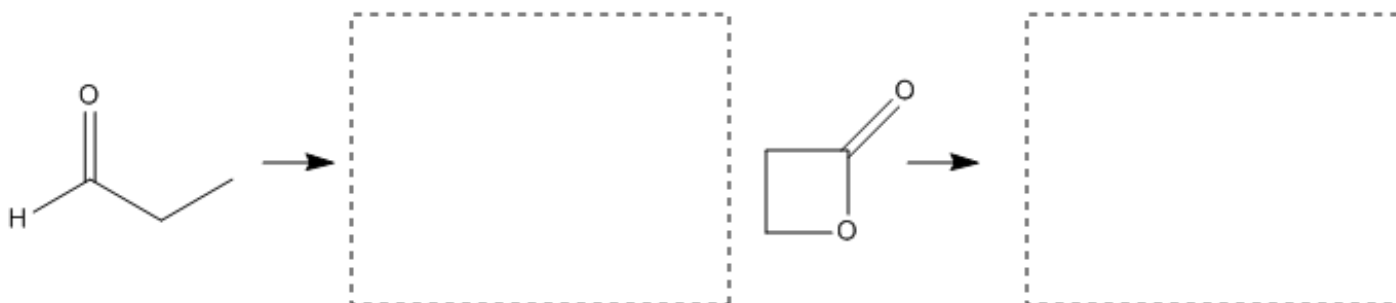
- LiAlH_4 is a **strong** reducing agent. It is able to reduce ANY carbonyl compound into alcohol

EXAMPLE: Draw the products of the following molecules reacted with LiAlH_4



□ NaBH_4 is a **weak** reducing agent. It can only add ____ equivalent of hydrogen and can only reduce CHO and ketones

EXAMPLE: Draw the products of the following molecules reacted with NaBH_4



PRACTICE: Predict the product of the following reactions

