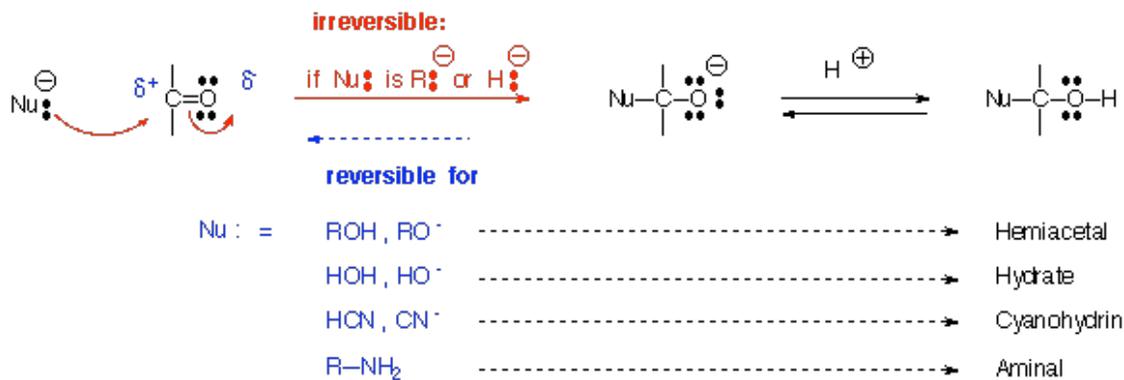


Reactions of Aldehydes & Ketones

Most of the reactions of aldehydes and ketones can be classified as:

1. Addition to carbonyl by strong (irreversible) or weak (reversible) nucleophiles
2. Addition to carbonyl followed by an elimination (RNH₂ and Wittig)
3. Reaction at alpha carbon with an electrophile

1. Addition to Carbonyl



Usual Final Product for all but :



ROH excess

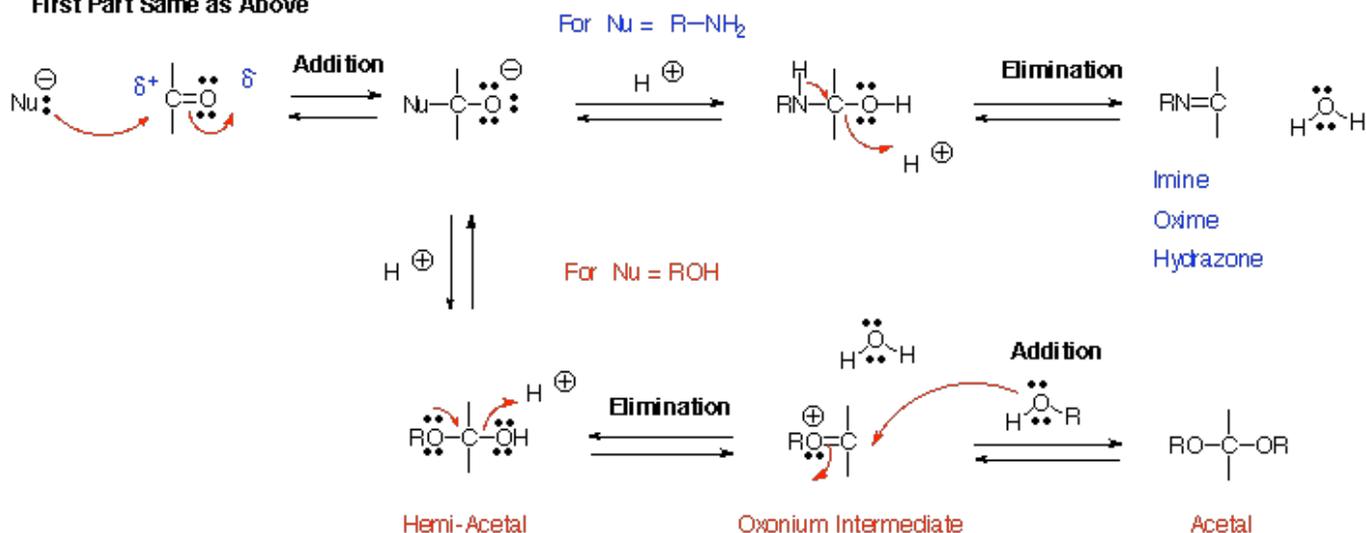
which react further to form

imines (see below)

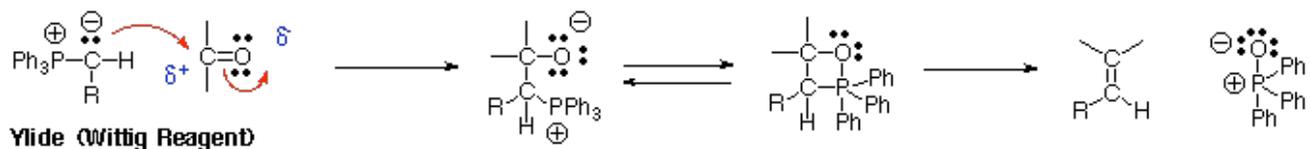
or acetals (OH replaced by OR)

2. Addition to Carbonyl Followed by Elimination (for RNH₂ and ROH Excess)

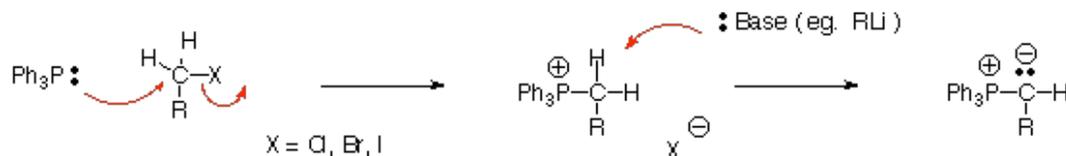
First Part Same as Above



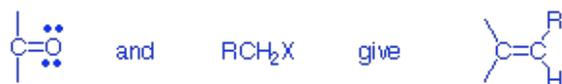
3. Wittig Reaction (also an Addition-Elimination)



Wittig Reagent can be formed by:



Overall Transformation:



4. Reaction at alpha Carbon

