

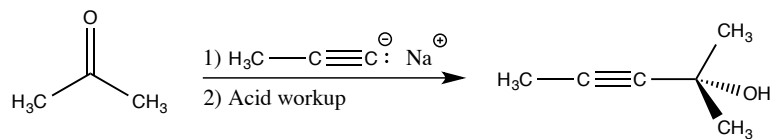
Chem 345 – Organic Reactions Chapter 19

Prepared by José Laboy, MS

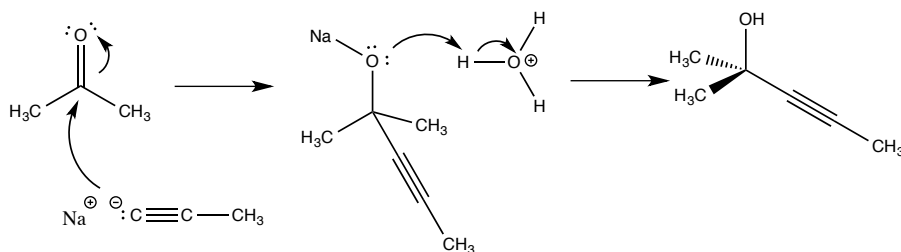
<http://www.chem.wisc.edu/areas/clc> (Resource page)

Reaction of Acetylides with Aldehyde and Ketone

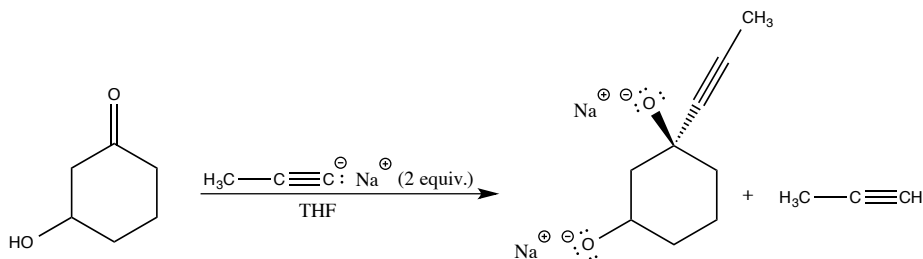
Reaction:



Mechanism:



Acetylide reagents are powerful bases and nucleophiles. Care should be taken when there are other acidic protons on the molecule. Acid-base reactions are faster than addition reactions. Use of more than one equivalent will be necessary (see reaction below).



Another important issue is the use of a strong acid in the acid workup process. When ketones are reagents the product of an acetylide addition reaction is a tertiary alcohol. These can readily undergo dehydration in the presence of strong acids. Usually the reagent of choice for the acid workup is aqueous ammonium chloride, NH_4Cl . This compound is a weak acid and dehydrations are avoidable.