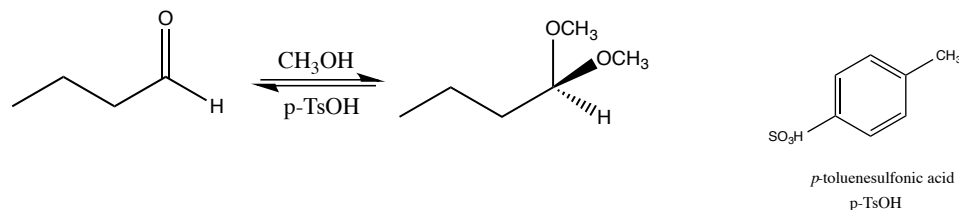
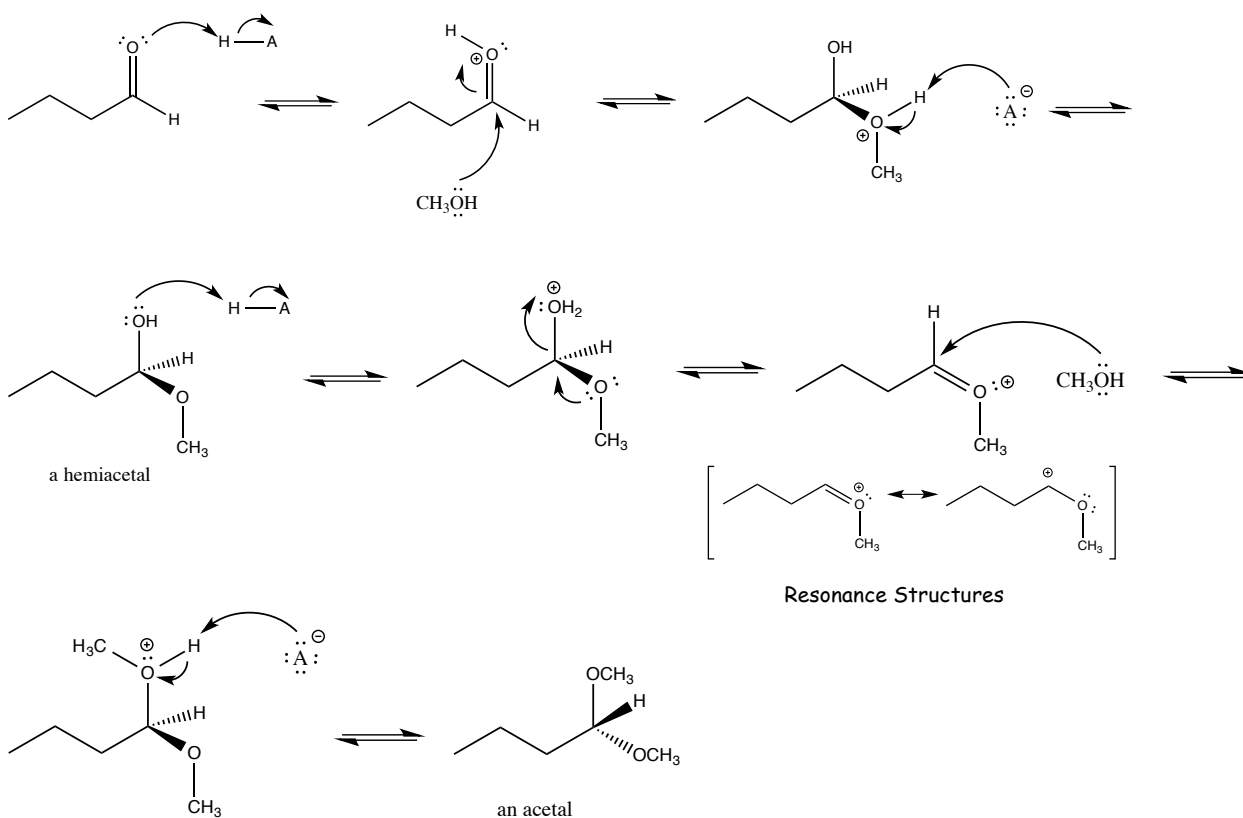


Synthesis of Acetals

Reaction:



Mechanism:



Acetals can only be synthesized in acidic media. Although the reaction is under equilibrium conditions we can increase the amount of product formed by having large amount of the alcohol or diol and another way is to use molecular sieves to extract the water formed. There are drying reagents that form a complex with water are: Na_2SO_4 , CaSO_4 , CaCl_2 , MgSO_4 . On the other hand there are reagents that react chemically with water, i.e., CaH , NaH , K -metal. Although in this latter group the only inert organic solvents are can be used.

One of the great uses of acetals is as protecting groups. Although ketones can also undergo acetal formation aldehydes are more reactive carbonyl compounds.