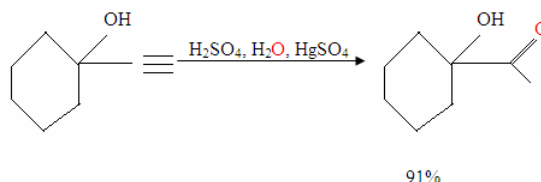


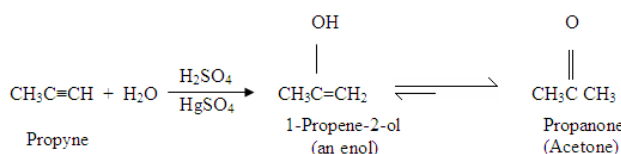
Figure 8



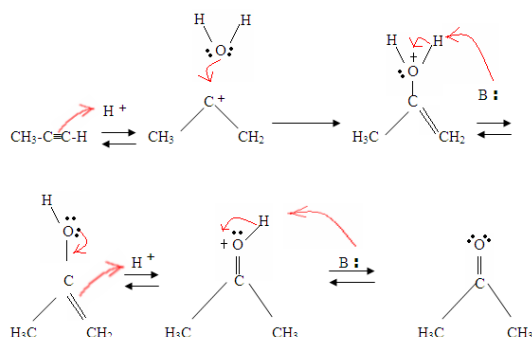
Just as described in Figure 7 the electrons will attack a proton, forming a carbocation, which then gets attacked by the nucleophilic water molecules. After deprotonation, we generate an enol, which then tautomerizes into the ketone form shown.

Hydration of Alkyne

Figure 9



Mechanism:



As you can see here, the electrons of the triple bond are attacking the proton, which forms a covalent bond on the carbon with the most hydrogen substituents. Once the hydrogen is bound you have a carbocation, which gets attacked by the water molecule. Now you have a positive charge on the oxygen which results in a base coming in and deprotonating the molecule. Once deprotonated, you have an enol, which then gets tautomerized.

Tautomerism is shown here when the proton gets attacked by the double bond electrons forming a covalent bond between the carbon and the hydrogen on the less substituted carbon. Electrons from the Oxygen end up moving to the carbon, forming a double bond with carbon and giving itself a positive charge, which then gets attacked by the base. The base deprotonates the Oxygen resulting in the more stable final product at equilibrium, which is a ketone.

Contributors

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