

SCH 4U Reactions of Organic Compounds Modeling Activity

Part Two:

Elimination

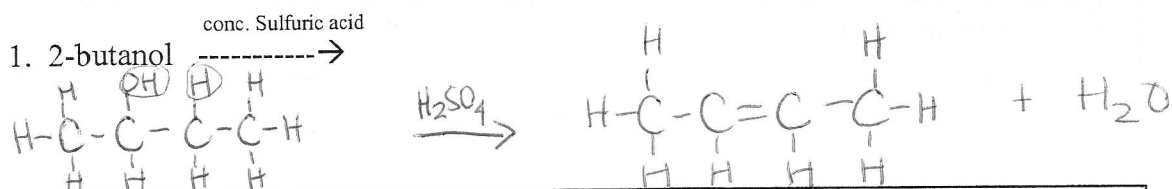
Oxidation

Esterification (Condensation)

Hydrolysis

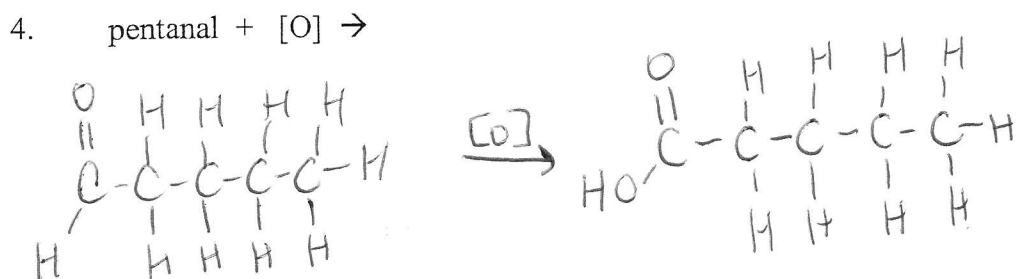
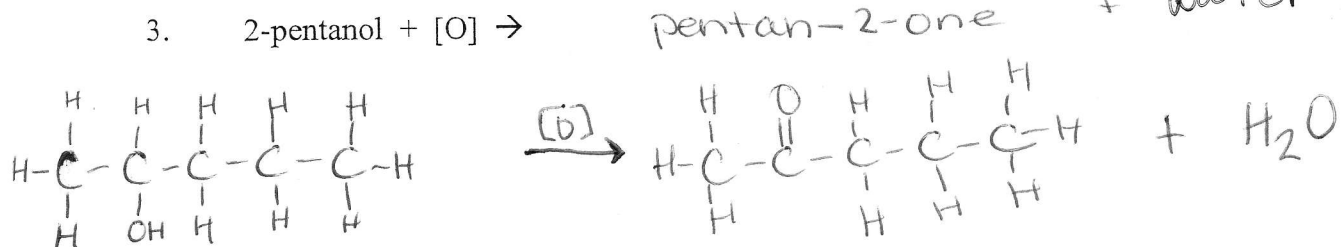
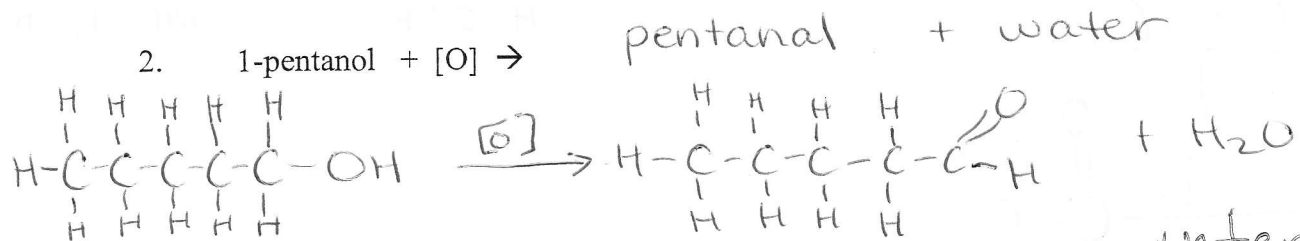
**Build the following examples, and draw out the structural equation.
Finish the word equation.**

Elimination: Removal of water from an ALCOHOL to make an ALKENE
Concentrated Sulfuric acid is needed as a catalyst



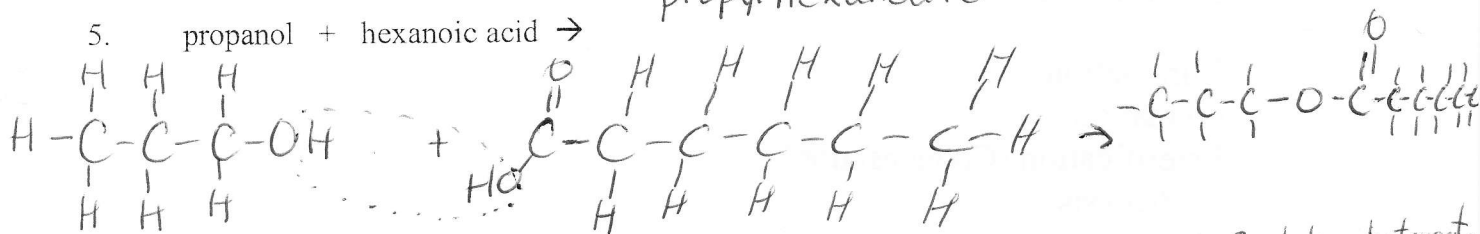
Oxidation: oxygen atom is used to reduce the number of C-H bonds. Water is a byproduct after the first oxidation. **When an aldehyde is oxidized to a carboxylic acid, there is no other product.

Oxidizing agents may be KMnO_4 or $\text{K}_2\text{Cr}_2\text{O}_7$, but is symbolized by $[\text{O}]$

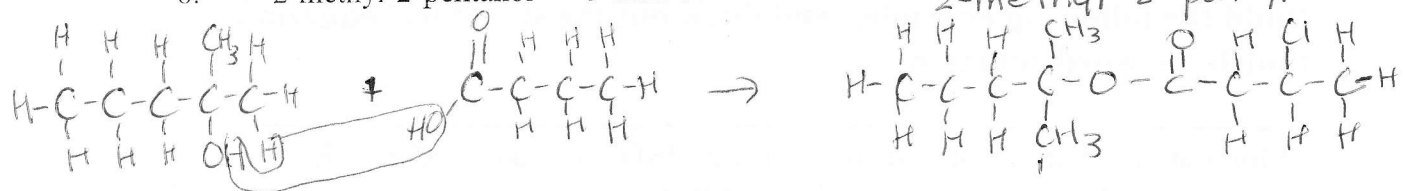


Esterification (Condensation): An ALCOHOL and a CARBOXYLIC ACID combine to produce an ESTER. Water is a by-product.

5. propanol + hexanoic acid \rightarrow propylhexanoate



6. 2-methyl-2-pentanol + 3-chlorobutanoic acid \rightarrow 2-methyl-2-pentyl-3-chlorobutanoate



Hydrolysis: The addition of water to an ESTER to produce an ALCOHOL and a CARBOXYLIC ACID

7. 2-butylpropanoate + water \rightarrow butan-2-ol + propanoic acid

