

## **High Yield Hints – Enzyme Inhibition**

### **Competitive inhibition**

Substances similar in structure with the substrate inhibits enzyme action is the competitive inhibition. For example, Malonate resembles Succinate. Enzyme Succinate dehydrogenase is inactivated by Malonate.

### **Non- Competitive inhibition**

A substance that has no structural similarity with the substrate, bind at a different site of enzyme and cause inhibition. For example, Cyanide inhibits Cytochrome oxidase. Silver ions act on Saccharase enzyme of yeast and cause inhibition. This is the basis of Silver pollution in the Ecosystems.

### **Allosteric enzymes**

Some substances bind to the specific site of enzyme other than the active site and modify its action. These are allosteric enzymes. For example, Phosphofructokinase catalyse phosphorylation of Fructose – 6 – phosphate to Fructose 1,6 diphosphate. When ATP is present at high concentration, it act as an allosteric inhibitor for the enzyme.

### **Feed back inhibition**

The products of some reaction will inhibits the enzyme action. This is feed back inhibition. For example, Bacteria converts L-Threonine to L- Isoleucine. If L- Isoleucine is added to the culture, the reaction stops. The enzyme L-Threonine deaminase is inhibited.