Principles

A) Enzyme Activity :

Occurrence of an enzymatic reaction which is the conversion of one molecule into another; a chemical reaction catalyzed at the active sites on the enzyme and required presence of an enzyme and substrate both in suitable environment .

B) Chemical Nature of poly phenol oxidase:

All known enzymes are proteins. They are high molecular weight compounds made up principally of chains of amino acids linked together by peptide bonds.
Therefore it expected that every factor effect on protein will affect the enzyme relatively. These factors could be: Temperature, PH value, concentration of certain substances salts, or strong acids.

C) Substrate Specificity:

The polyphenol oxidase enzyme catalyzes the oxidation of di- and tri- hydroxyl phenol to form quinine. This reaction is accompanied by a color change (quinines absorb light in the visible region of the spectrum).

In this part three types of chemical compounds (phenol, Hydroquinone, catechol) are used as substrate and according to their chemical composition the enzymatic activity well obtained

D) *Temperature and Enzymatic Activity*:

The reaction rate increases with temperature to a maximum level, then suddenly declines with further increase of temperature, because most enzymes rapidly become denatured at temperatures above 40°C.