Data analysis to determine action of the various variables to the rate of starch ...

The influence of the activity of the enzyme amylase on starch is governed by the following parameters.

- Temperature

- Substrate concentration

- Ph

- Enzyme concentration.

The above table shows the action of the enzyme a- amylase enzyme XK-60 varying the substrate between 100 to 300g. 1-1. The table shows that between 250 to 300g1-1. the level of hydrolysis of starch is almost the same at 30. 1% and 30. 3%. This is deduced as to be a result of the amount of sugar obtained from the hydrolysis of starch by the enzymes. On the other hand, the rate of hydrolysis is directly proportional to the enzyme concentration. From experiments applied in the test, it was established that the optimal level of enzyme concentration was 12 units of the enzyme per ml suspension. As the data in the table shows, the most significant highest figure of hydrolyzed starch is at 30. 1 where the enzyme concentration was at 12 units

On the other variables affecting the reaction such as temperature and ph, data obtained from the reaction showed that hydrolysis over a period of sixty minutes at four different temperatures of -30C, 60C, 90C and 100C showed that, 90C was the optimal temp[armature to conduct the hydrolysis. Ph influence over the enzymatic hydrolysis was studied at the range of 6-8 maintained through phosphate buffers. The maximum rate of reaction is observed at ph= 7 for the already determined conditions of the substrates, enzyme and temperature.

Works Cited

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