

AS Level Biology A
H020/01 Breadth in Biology

Question Set 20

1. Fig. 25.1 represents the tertiary structure of the enzyme lysozyme.

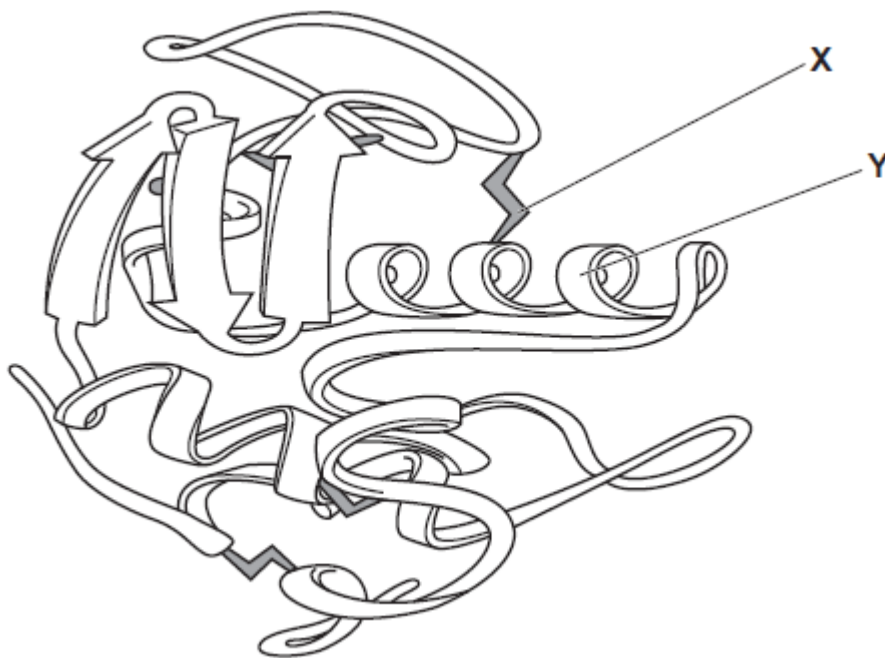


Fig. 25.1

- (a) (i) Name the covalent chemical bond labelled **X** which links two cysteine amino acids. [1]
- (ii) Name the structure labelled **Y** which forms part of the secondary structure of lysozyme. [1]
- (iii) Lysozyme consists of a single polypeptide chain of 129 amino acids.
- State which level of protein structure is **not** shown by lysozyme. [1]
- (b) The function of lysozyme is to break down the cell walls of bacteria.
- (i) Name the molecule that is found in the cell walls of bacterial cells. [1]
- (ii) Lysozyme is also known as a glycoside hydrolase.
- Suggest the type of chemical bond that lysozyme breaks and name the molecule other than the substrate that is needed for this reaction.
- Type of bond
- Other molecule needed for this reaction
- [2]

- (c) Enzymes are affected by temperature. Fig. 25.2 shows the time course of a mammalian enzyme reaction at different temperatures.

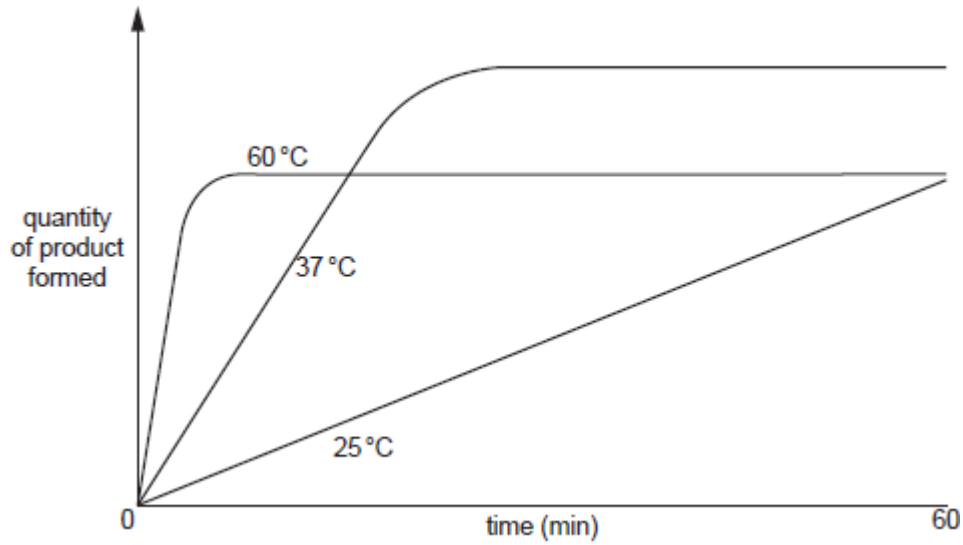


Fig 25.2

- (i) Explain why there is a difference in the shapes of the curves at 37°C and 60°C. [2]
- (ii) Explain why there is a difference in the shapes of the curves at 25°C and 37°C. [2]

Total Marks for Question Set 20: 10

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