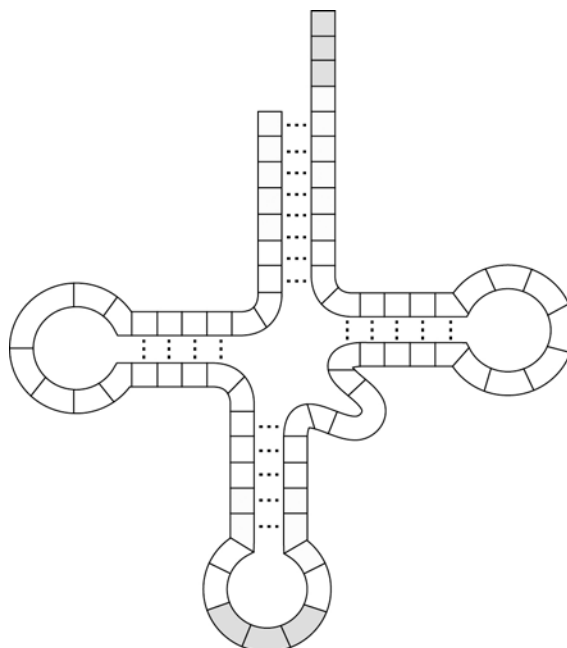


Extension worksheet – Chapter 7

- 1 Copy and complete this table to summarize the types of bond found in protein structure. (4)

Level of protein structure	Types of bond
primary	
secondary	
tertiary	
quaternary	

- 2
- a** A sample of DNA was analysed and found to contain 36% adenine. What were the percentages of the other bases present? (3)
- b** Can you predict what percentages of each base would be present in mRNA transcribed from this DNA? Explain your answer. (3)
- 3 Explain the following statements:
- a** During the synthesis of polypeptides, a ribosome accommodates three tRNA molecules. (2)
- b** Amino acids must react with ATP for polypeptide synthesis to occur. (2)
- c** There are ‘stop’ and ‘start’ codons in an mRNA molecule. (2)
- 4 The diagram below represents a tRNA molecule. Identify the following regions and explain their importance.
- a** 3' end (1)
- b** hydrogen bonds (1)
- c** bases (1)
- d** anticodon (1)





- 5** An allosteric, non-competitive inhibitor may combine with an enzyme and cause the shape of the active site to change so that the substrate cannot bind to it. Such inhibitors, if they bind reversibly, can act in end-product inhibition of metabolic reactions. End-product inhibition is an example of negative feedback.
- a** Explain the meanings of these terms:
- i** allosteric site
 - ii** non-competitive
 - iii** active site
 - iv** end-product inhibition
 - v** negative feedback (5)
- b** Why do most enzymes work only with one substrate? (2)