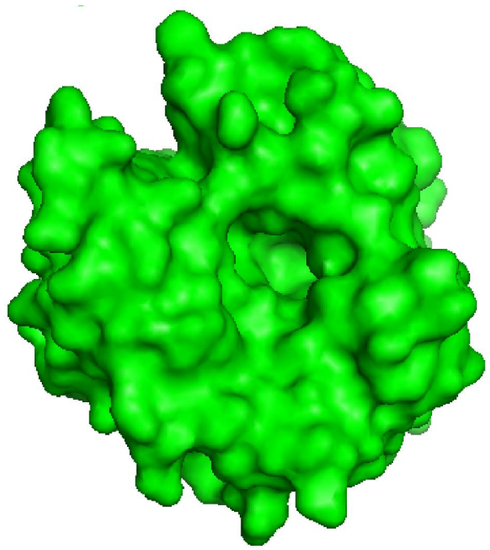
# RC2 - Enzymes, Enantiomers, and DNA – Chemistry Revision

What is the monomer subunit of an enzyme?

Enzymes are examples of biological catalysts. In general, how do enzymes do this?

Why are enzymes stereospecific? And how are they able to differentiate between two enantiomers?

How does an inhibitor stop an enzyme working as effectively?



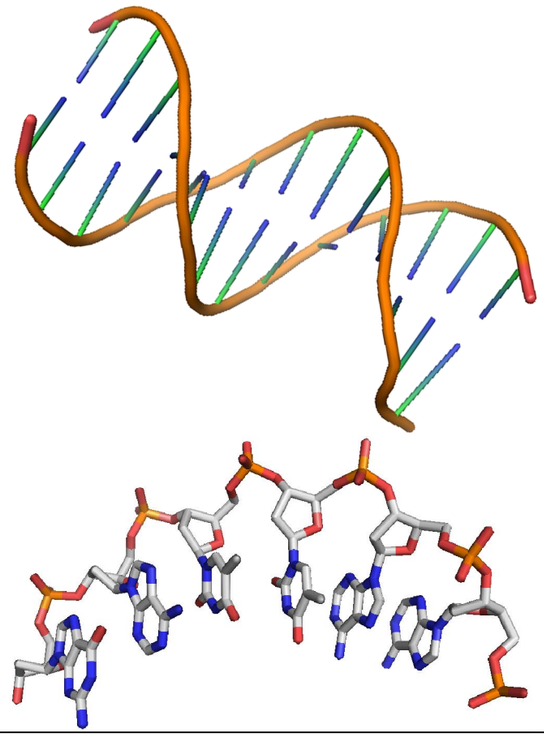
Substrates can exist as enantiomers. Define the term enantiomer:

Draw the enantiomer of the drug shown below:

How do the chemical properties of two enantiomers differ?

How do the physical properties of two enantiomers differ?

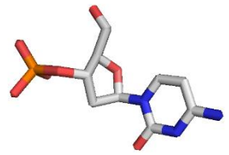
How can two enantiomers be differentiated?



DNA exists as a double helix structure. Explain why the two DNA strands involved are said to be complementary:

Which type of bonding joins the two DNA strands together? How does this type of bonding arise in DNA?

Label the three components of a DNA nucleotide:



Describe how a single strand of DNA can form from nucleotide units. State the type of bonding involved and explain how these bonds form:

Draw the structure of the complex cisplatin:

Give a use of the complex cisplatin:

Explain how cisplatin achieves this:

Why can drugs such as cisplatin have adverse side effects? And how can these be limited?

Produced by Adam Stubbs at Newcastle University as part of a summer outreach project.