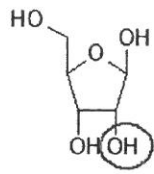
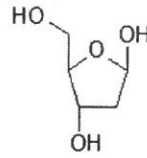


## Biochemistry of DNA

The difference between DNA and RNA:

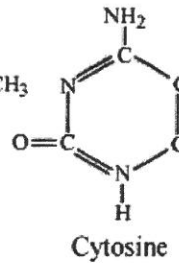
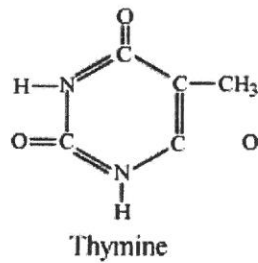
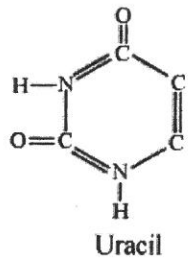
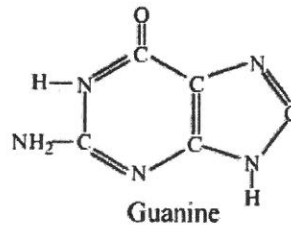
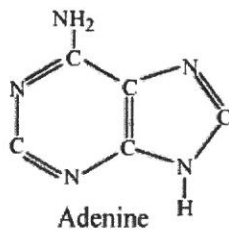


ribose

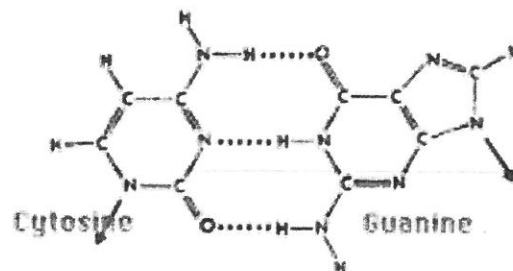
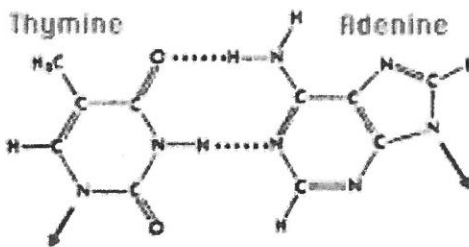


deoxyribose

The 5 Nitrogen bases of DNA:



How the bases bond together:



How point(substitution) mutations affect these bonds:

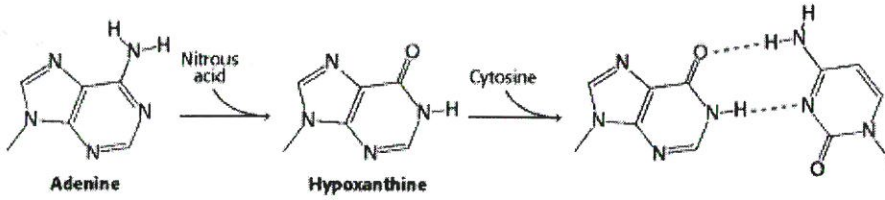


Figure 27.43 Chemical Mutagenesis

Treatment of DNA with nitrous acid results in the conversion of adenine into hypoxanthine. Hypoxanthine pairs with cytosine, inducing a transition from A-T to G-C.

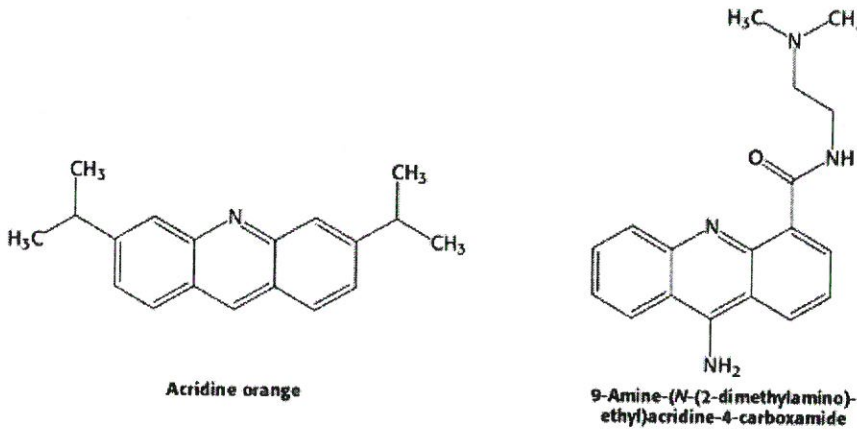


Figure 27.44 Acridines

Acridine dyes induce frameshift mutations by intercalating into the DNA, leading to the incorporation of an additional base on the opposite strand.

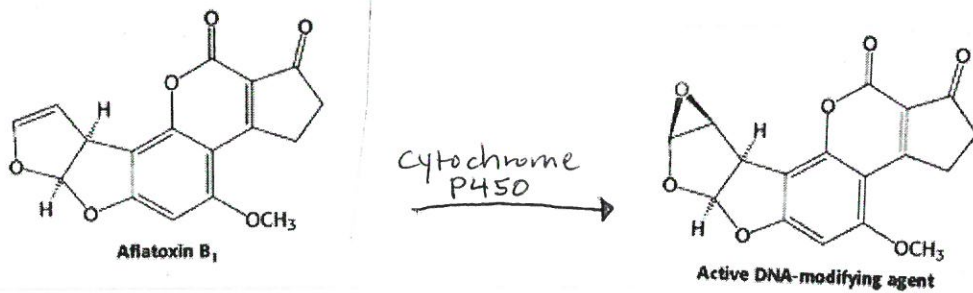


Figure 27.45 Aflatoxin Reaction

The compound, produced by molds that grow on peanuts, is activated by cytochrome P450 to form a highly reactive species that modifies bases such as guanine in DNA, leading to mutations.