**30 Organic synthesis and analysis**

**Topic summary**

**•**  General organic synthetic reactions can be used to make a large variety of organic compounds from simpler, easily available compounds.

**•**  Pharmaceutical molecules can be designed to target specific enzymes and/or receptors, to treat a variety of diseases and illnesses.

**•**  The use of **prodrugs** is a method of protecting drug molecules from degradation before they reach their site of action.

**•**  Various methods are available for the synthesis of **optically pure** compounds for use as drugs.

**•**  Knowledge of the reactions of organic functional groups allows the identities of organic compounds to be determined and isomers to be distinguished.