Preface

The majority of drugs used clinically exert their action in one of two ways: (1) by interfering with a component (agonist) in the body, preventing interaction with its site of action (receptor), i.e., receptor antagonist, or (2) by interfering with an enzyme normally essential for the well-being of the body or involved in bacterial or parasitic or fungal growth causing disease and infectious states, where the removal of its activity by treatment is necessary, i.e., enzyme inhibitors. In recent years the proportion of current drugs described as enzyme inhibitors has increased, and this book gives an account of the steps taken for designing and developing such inhibitors — from identification of the target enzyme to be blocked in a particular disease or infection to their introduction in the marketplace.

Once the enzyme target is selected or discovered, a knowledge of the structure, substrates, kinetics, and mechanism of the enzyme can be brought together in the rational design of an inhibitor. However, the transfer of a prospective drug candidate from the laboratory bench to the marketplace follows a prolonged and difficult pathway due to the body's requirements for suitable absorption, distribution, metabolism, and selectivity characteristics so as to arrive at its site of action at a satisfactory concentration level devoid of unnecessary side effects.