

Preface

Chemistry is a subject that makes human life better. In the past few hundred years, the development of modern chemistry has also explained this meaning perfectly. Naturally, supramolecular chemistry also needs to move from theory to application, from laboratory to society, and ultimately benefit mankind.

Insoluble drugs refer to poorly water-soluble drugs, which will lead to difficult absorption and transportation in vivo and low bioavailability. About 40% of the newly discovered natural active substances and nearly 60% of the chemically synthesized drugs are insoluble drugs. Their solubility (in water) is poor and it is difficult to achieve satisfactory clinical efficacy, so they have not been successfully developed into new drugs. Natural β -cyclodextrin can form supramolecular inclusion complexes with insoluble drugs, thus increasing the solubility of insoluble drugs. As a new drug delivery carrier, it has been widely studied and applied. Sulfobutyl ether- β -cyclodextrin is a derivative of β -cyclodextrin. Because of its good water solubility and biocompatibility, sulfobutyl ether- β -cyclodextrin can significantly increase the solubility, bioavailability and low nephrotoxicity of drugs. As a new type of injection drug delivery carrier, it has become one of the hot spots in the research and development of new drugs at home and abroad.

The research of cyclodextrin in pharmaceuticals will focus on the drugs with poor water solubility. With the optimization of the preparation process of cyclodextrin and the successful development of more cyclodextrin derivatives with superior performance and definite structure, cyclodextrin inclusion technology will have a broader market prospect and application scope in industrial pharmaceuticals. This book mainly introduces the latest research progress of cyclodextrin inclusion complex and the preparation of cyclodextrin inclusion complex with ziprasidone hydrochloride as the research object. It is hoped that the application of cyclodextrin self-assembly in drug delivery system will be further promoted.