NATURAL PRODUCTS

Essential Resources for Human Survival

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Essential Resources for Human Survival

editors

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*This book is lovingly dedicated to
our children,*

*Julia and Linda ZHU
Noel and Nigel BAY
Barnabas, Beatrice, Bernice
and Bernadine TAN
Min LIU*

*for their constant understanding and
encouragement in all our endeavours*

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FOREWORD

At the 3rd International Conference on Natural Products co-hosted in October 2004 by the International Society for the Development of Natural Products and Nanjing University, participants from 37 countries including natural product scientists of international renown scientists came to a conclusion that the great biochemical potentials of plants and microorganisms generate various arrays of chemically complex and/or biologically active natural products, some of them being a MUST for human survival.

This book is edited to provide international readers with the major progress in natural products research. The topics include biosynthesis, chemical synthesis (or modification) and bio-transformation and the diverse range of bioactivity of natural products, and the role of biotechnology to enhance the quality of natural products and their development around the world. The on-going efforts in natural drug discovery, validation, and commercial utilization are a great plus. The editors of the book - Dr Benny K. H. Tan, Dr. Y. Z. Zhu, Dr. B. H. Bay and Dr. C. H. Liu - are leading scientists in different fields of natural product research. The publicity for this monograph certainly highlights well the importance of natural products, and their applications to human disease.

Ren Xiang TAN

Chair Professor & Associate Vice-President, Nanjing University

President, International Society for the Development of Natural Products

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Note from the Editors

Recently, there has been a renewed interest in the beneficial effects of natural products for the prevention of chronic diseases. It has been estimated that 80% of the world's population rely predominantly on natural plant products which are sold as herbal/food supplements or drugs. Half of the top 50 drugs sold in European pharmacies are based on or derived from natural products. In particular, natural products have become hot spots for life science researchers since many possess unique compounds which remain to be isolated and identified. Despite this, our knowledge and understanding of how and why natural medicines work remain inadequate, thereby limiting their use in patients, especially in Western societies. The chapters in this book will provide readers with the latest overview of natural products research, reporting the chemistry and pharmacology of a range of natural products, from Chinese herbal medicine to tea extracts, microbes to marine sponges and the latest technologies to enhance the synthesis, isolation and purification of bioactive herbal compounds from these products. Additionally, chapters on new tools in information technology that can greatly facilitate the research of natural product scientists, and the technologies available for evaluating medicinal herbal products for purity add value to the book. Overall, the information to be found in this book will add to the existing body of knowledge of natural products, and further support the notion that natural products are an essential resource for human survival.

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