

Studies in Natural Products Chemistry

Volume 15

Structure and Chemistry (Part C)

Edited by

Atta-ur-Rahman

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**Atta-ur-
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(Editor)**

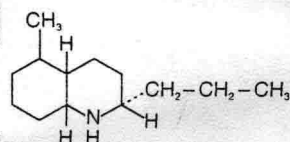
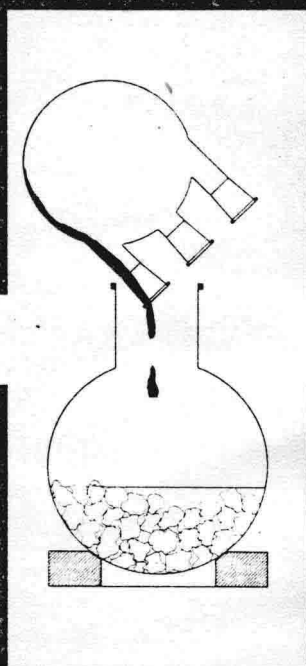
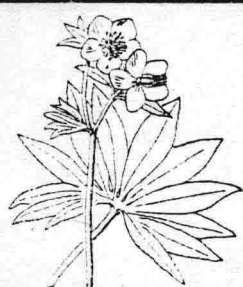
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Atta-ur-Rahman/Editor



Volume 15

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Volume 15

Structure and Chemistry (Part C)

Studies in Natural Products Chemistry
edited by Atta-ur-Rahman

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- Vol. 2 Structure Elucidation (Part A)
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FOREWORD

Natural product chemistry has changed dramatically over the last 50 years. The advent of modern sophisticated instrumentation and new bioassay techniques has shifted the emphasis to the structure elucidation of minor natural products, particularly those which show bioactivity. The complex structures of many of these offer challenges to synthetic organic chemists to develop synthetic approaches to them, which often leads to the development of new synthetic methods in order to achieve specific transformations.

Professor Atta-ur-Rahman has done a truly remarkable job in editing this excellent series of books on natural products chemistry which has become the world's top encyclopaedic series of volumes in the field. He should be congratulated on persuading the world's top experts in natural product chemistry, both structural and synthetic chemists, to write timely and comprehensive reviews on their various areas of expertise.

Another major contribution of Professor Atta-ur-Rahman is the establishment of H.E.J. Research Institute of Chemistry, a centre of excellence in natural product chemistry. He was entrusted with the task of the planning and building this Centre which he has done admirably, first as Co-Director and later as Director, and he has succeeded in putting together one of the finest products. It is therefore in the fitness of things that this institute is now known worldwide, not only because of the many books which Professor Atta-ur-Rahman has written or edited are published internationally, but also because of the excellent research articles published from H.E.J. Research Institute of Chemistry, University of Karachi. This has been possible because of the excellent research facilities (5 superconducting NMR spectrometers, 6 mass spectrometers, X-ray etc.) in the institute, quite unique for a third world country.

The present volume which is the 15th in this series should prove to be of wide interest to scientists in the field and I am confident that it will receive the same excellent reviews as its predecessors.


Prof. Dr. Salimuzzaman Siddiqui
F.R.S.

PREFACE

Natural product chemistry covers a fascinating area of organic chemistry and its study has enriched organic chemistry in a myriad of different ways. In recent years the thrust has been in three major directions: advances in stereoselective synthesis of bioactive natural products, developments in structure elucidation of complex natural products through the applications of multidimensional NMR and mass spectroscopy, and the integration of bioassay procedures with the isolation processes leading to the isolation of active principles from the extracts.

The present volume reflects these developments, and there is a growing emphasis on bioactive natural products. Articles in this volume include those on structure-activity relationships of highly sweet natural products, chemical constituents of echinoderms, diterpenoids from *Rabdosisia* and *Eremophila* sp., structural studies on saponins, marine sesquiterpene quinones and antimicrobial activity of amphibian venoms. The reviews on bioactive metabolites of *Phomopsis*, cardenolide detection by ELISA, xenocoumacins and bioactive dihydroisocoumarins, CD studies of carbohydrate-molybdate complexes, oncogene function inhibitors from microbial secondary metabolites and *Gelsemium* and Lupin alkaloids present frontier developments in several areas of natural product chemistry. It is hoped that the present volume, which contains articles by eminent authorities in each field, will be received with the same enthusiasm as the previous volumes of this series.

I would like to express my thanks to Miss Anis Fatima, Miss Farzana Akhtar and Mr. Ejaz Ahmad Soofi for their assistance in the preparation of the index. I am also grateful to Mr. Waseem Ahmad for typing and to Mr. Mahmood Alam for secretarial assistance.

July 1994

Prof. Atta-ur-Rahman, *Editor*

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ERRATUM

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