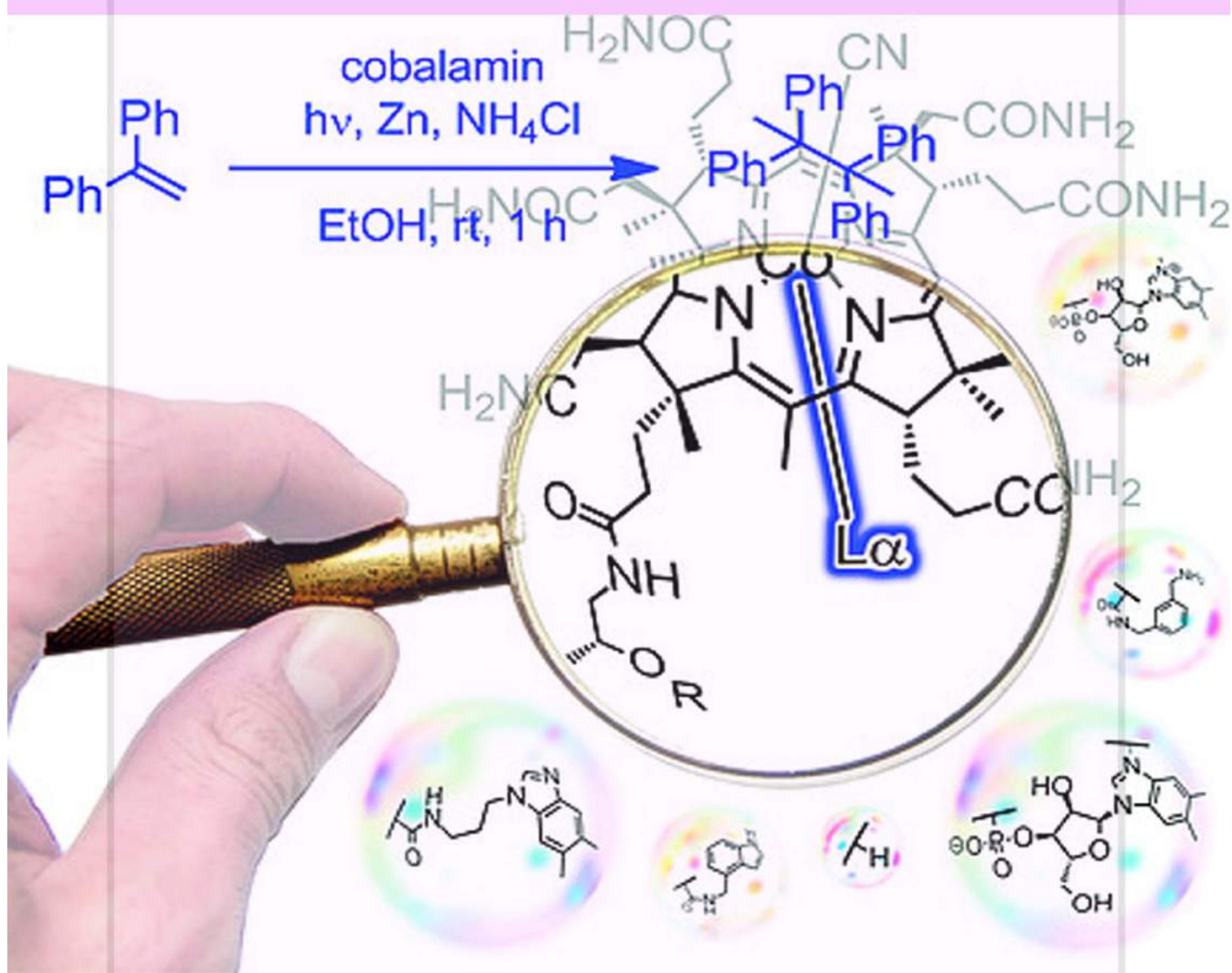


# FUNDAMENTALS OF ORGANIC REACTIONS MECHANISM



Dr. Sudhir Kumar Mishra



# Fundamentals of Organic Reactions Mechanism

First Edition

## Author

Dr. Sudhir Kumar Mishra  
M.Sc. (Gold Medalist) Ph.D., D.Sc.  
Principal  
S. S. College Jehanabad



**Iterative International Publishers**

**Title of the Book:** Fundamentals of Organic Reactions Mechanism

**Edition:** First- 2022

**Copyright 2022 © Author**

**Dr. Sudhir Kumar Mishra**, Principal, S. S. College Jehanabad, (Bihar)  
under Magadh University, Bodh Gaya.

No part of this book may be reproduced or transmitted in any form by any means, electronic or mechanical, including photocopy, recording or any information storage and retrieval system, without permission in writing from the copyright owners.

**Disclaimer**

The author is solely responsible for the contents published in this book. The publisher or editors don't take any responsibility for the same in any manner. Errors, if any, are purely unintentional and readers are requested to communicate such errors to the editors or publishers to avoid discrepancies in future.

**E-ISBN: 978-93-92591-87-7**

**MRP: 630/-**

**Publisher, Printed at & Distribution by:**

Selfypage Developers Pvt Ltd.,  
Pushpagiri Complex,  
Beside SBI Housing Board,  
K.M. Road Chikkamagaluru, Karnataka.  
Tel.: +91-8861518868  
E-mail: info@iiponline.org

**IMPRINT: I I P Iterative International Publishers**

# Preface

Reaction mechanisms are a fundamental part of the study of organic chemistry, and the aim of this book is to help you to understand them. Sometimes Organic reaction mechanisms are perceived to be an incoherent but in fact there are principles underlying them that make them much easier. Reading this book should of these principles give to you a grasp, reading this book should give you mastery of these principles.

I am feeling great pleasure to presenting the first edition of book entitled “ORGANIC REACTION MECHANISM”. In the present book all the associated steps of Reaction Mechanism are given to very simple and lucid manners.

Throughout the book, the content matter of concept in each chapter had been presented in a systematic way and also in a systematic way and also in a language easy enough to be followed by the students.

My special thanks go to publishers and the printer for their Co-operation and efficiency with which they have brought out this book in the present nice form.

I shall be highly obliged, if the readers send to us their constructive Criticism and suggestions which we shall be used in the publication of the next edition.

*Dr. S. K. Mishra*  
*Principal*  
*S. S. College Jehanabad*

# Acknowledgement

I am profoundly grateful to my respected teachers Rtd. Prof (Dr.) L . Thakur and Prof. (Dr.) Amarnath Mishra for their brilliant teaching skill, exemplary disciplinarian nature, ideal punctuality and above all abundant love and affection for his students and colleagues as well as the poor and needy. They inspired and motivated us to make earnest efforts to ensure qualitative improvement in our thinking process and to expend our horizon of knowledge.

I am profoundly grateful to my respected Senior colleagues as Prof. (Dr.) U. S. Yadav, Prof. (Dr.) RPS Chauhan, Prof. (Dr.) Udai Arvind, Prof. (Dr.) Rabindra Singh, Prof. K. P. Srivastava, Prof. Pramendra Ranjan and Prof. Dhiraj Kumar for providing their valuable suggestions, guidance and whole-hearted Co-operation in the preparation of the manuscript of this book.

My sincere thanks are due to IIP Publishing House, Bengaluru for the whole-hearted Co-operation in the preparation and publication of this book. Finally, I thank to my father Late R. K. Mishra, My mother, my beloved wife Dr. Rashmi Mishra and my lovely children (Shanya, Shashank and Shreya) for the help they have extended to place it in such a nice piece.

Hope and trust, that readers of this book will be inspired and motivated to enhance their depth of knowledge and competence about diverse aspects of the organic reaction mechanism.



(Dr. S. K. Mishra)  
M.Sc. (Gold Medalist) Ph.D., D.Sc.  
Principal  
S. S. College Jehanabad

# Contents

Chapter 1	Bonding in Organic Compounds	1 – 97
Chapter 2	Aliphatic Nucleophilic Substitution	98 - 133
Chapter 3	Nucleophilic Acyl Substitution Reaction	134 - 147
Chapter 4	Aromatic Nucleophilic Substitution	148 - 158
Chapter 5	Aromatic Electrophilic Substitution	159 - 204
Chapter 6	Free Radical Substitution Reaction	205 - 214
Chapter 7	Elimination Reactions	215 - 244
Chapter 8	Addition Reactions of Carbon-Carbon Multiple Bonds	245 - 306
Chapter 9	Addition Reaction of Carbonyl Compounds	307 - 343
Chapter 10	Addition and Condensation of Enols and Enolate Ions	344 - 356
Chapter 11	Oxidation and Reduction Reactions	357 - 411



## About the Author



**Dr. S. K. Mishra is working as a Principal, S. S. College Jehanabad, (Bihar) under Magadh University, Bodh Gaya. He possesses an excellent consistent, brilliant academic record from +2 level to Doctorate level too. He is M. Sc. (Gold Medalist) in Chemistry and received Best Master Award accordingly. Dr. Mishra is awarded Ph. D. and D. Sc. degree too. He has a long teaching, administrative and research experience in varied field. He has published over 65 research Papers in National and International Journals with significant impact factors. Dr. Mishra possesses the experience of research guidance too. He has received 31 awards in all having national and international repute. He has participated and delivered lectures at various National and International symposia. He is also the member of several professional societies / bodies.**



E-ISBN: 978-93-92591-87-7



MRP: 630/-