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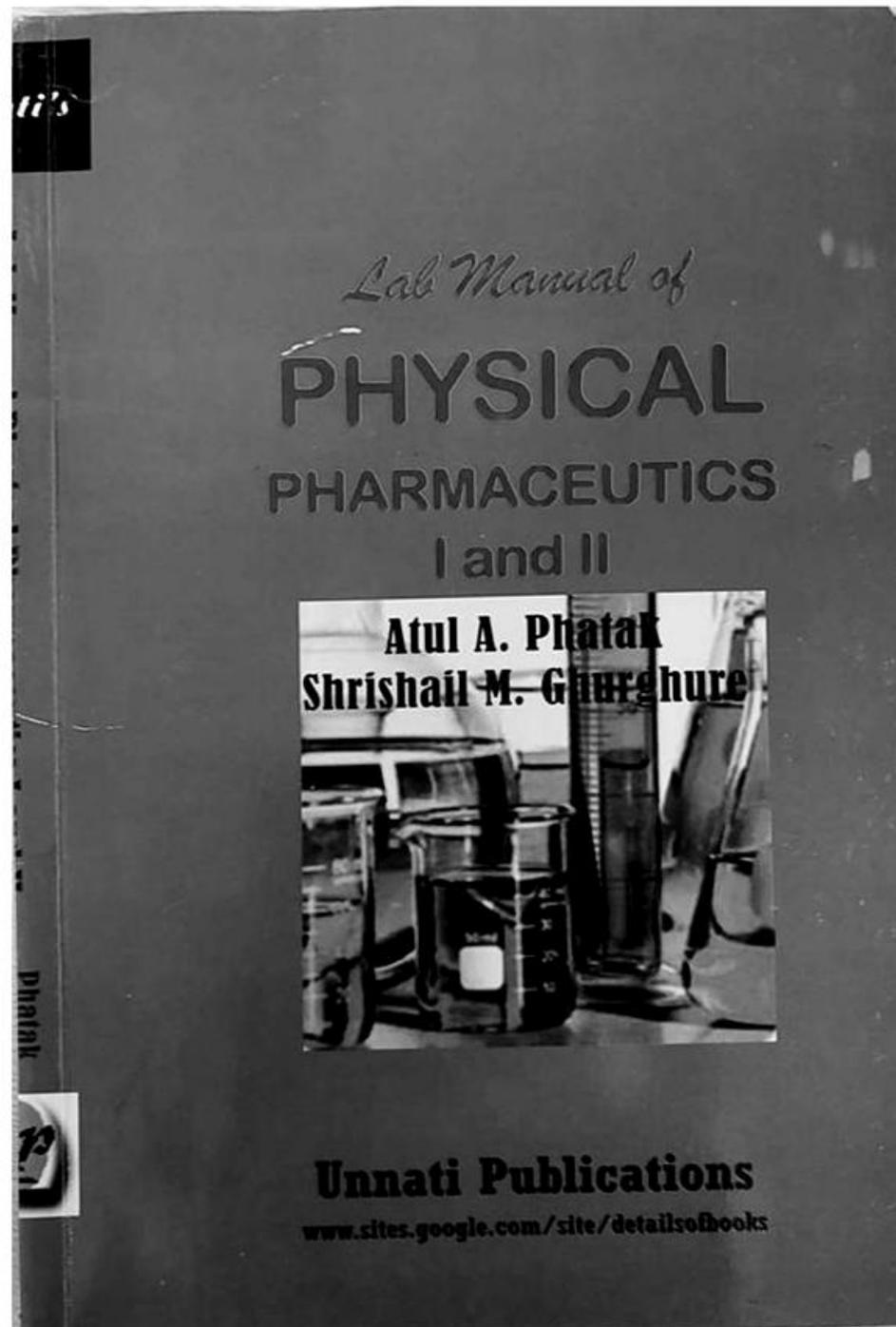
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3.3.2	Number of books and chapters in edited volumes/books published and papers published in national/ international conference proceedings per teacher during last five years

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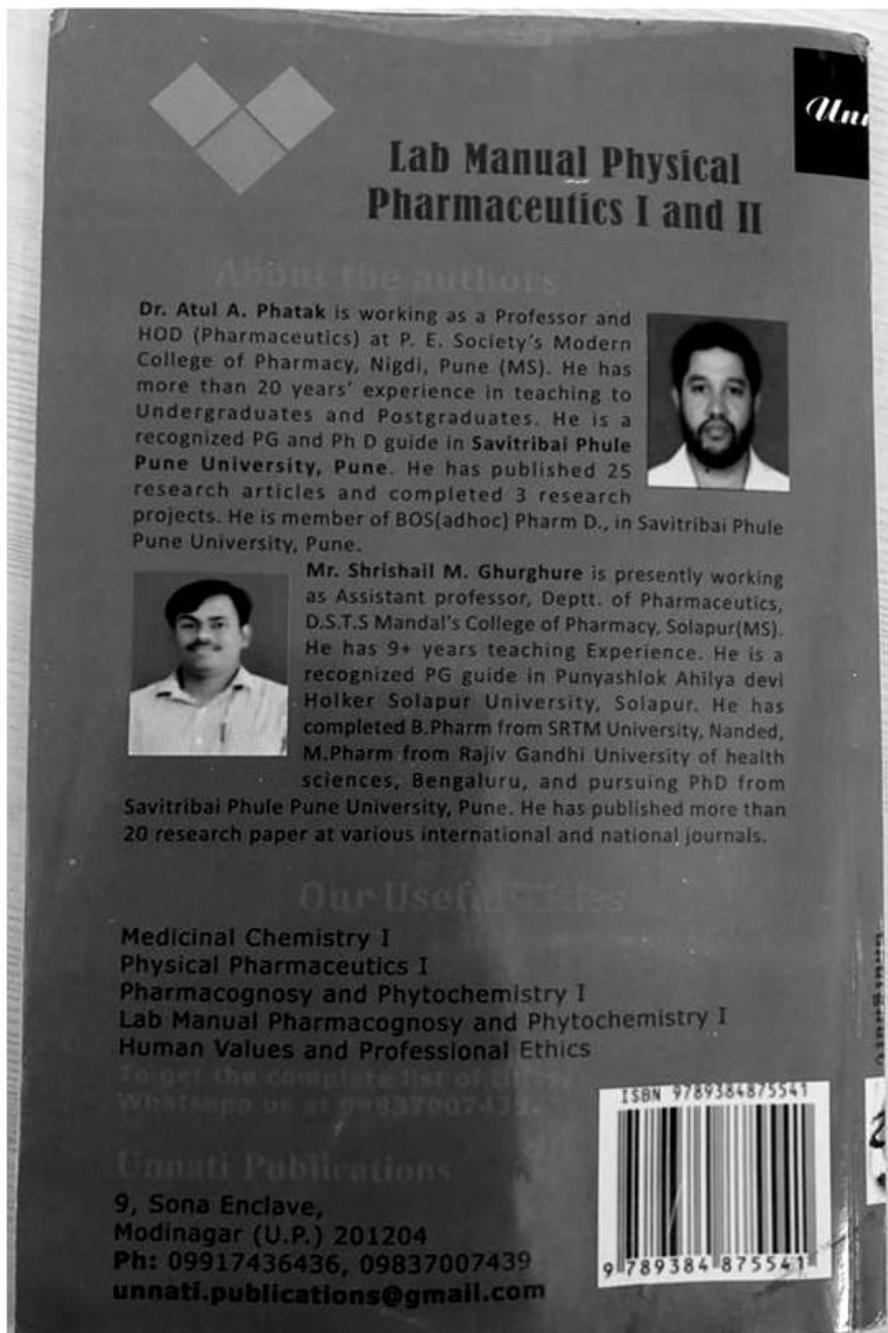
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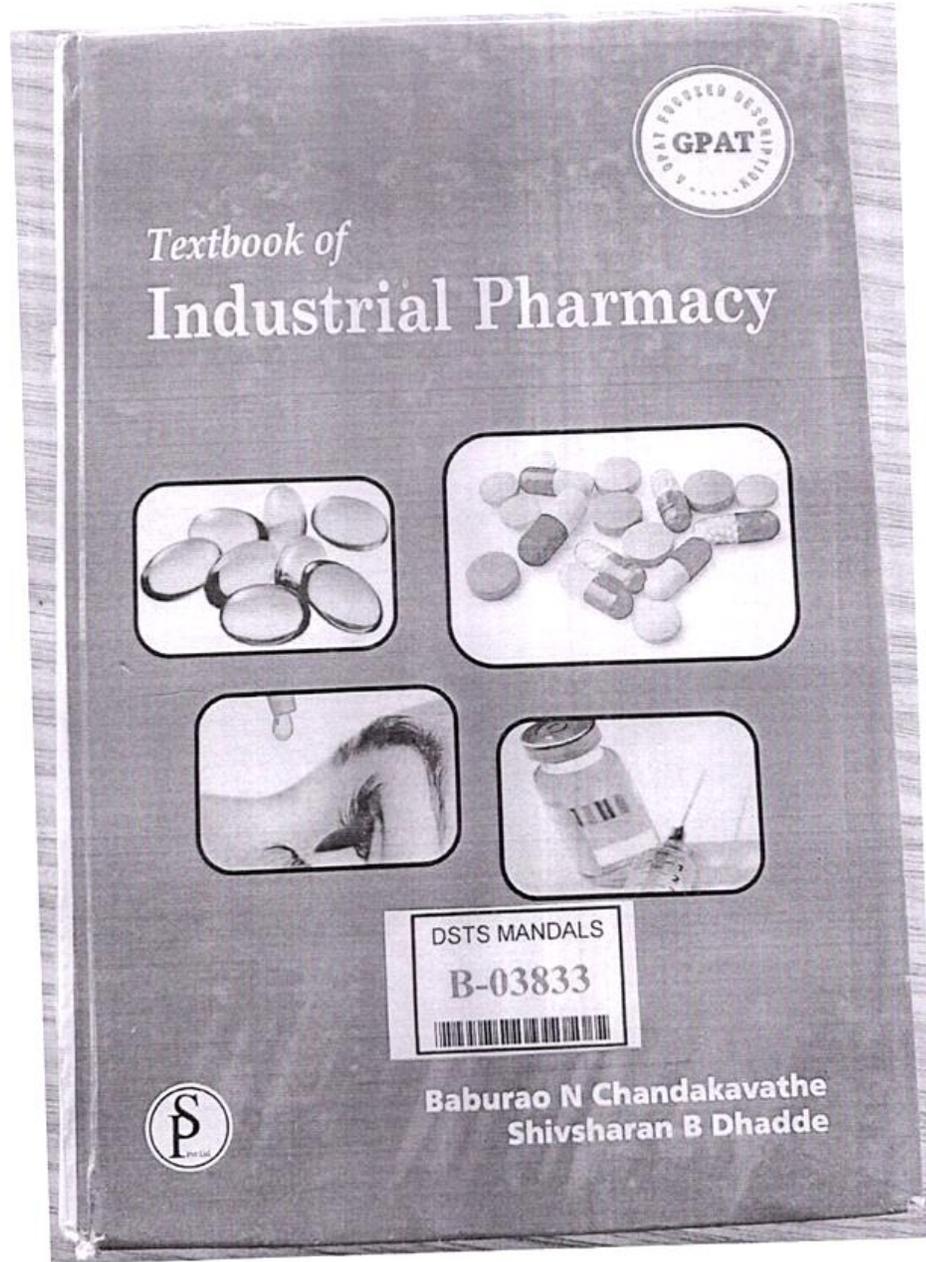



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Books Published in 2019-20




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Textbook of
Industrial Pharmacy

About the Book

This book provides fundamental knowledge of Industrial Pharmacy aspects right from pre-formulation studies to pharmaceutical packaging sciences. The topics covered in this book are based on the Third Year B. Pharmacy (Semester-V) syllabus designed by Pharmacy Council of India, New Delhi as per Bachelor of Pharmacy Course Regulations 2014. Adhering to the prescribed syllabus the content of the book is modulated to help students for GPAT and other equivalent exam preparations. This book is reader-friendly, complex pharmaceutical concepts are elaborated in simple and easy language. At the end of each chapter glossary of words and question bank are provided as per the examination pattern prescribed by Bachelor of Pharmacy Course Regulations 2014. Moreover, Appendix with commonly used pharmaceutical additives, short listed questions from previous GATE/GPAT question papers related to the subject, model question papers as per Bachelor of Pharmacy Course Regulations 2014 question paper pattern are incorporated. The content of the book cover the answers for questions with relevant explanation collected from robust scientific materials. Overall book content is emphasized to provide the basic knowledge of Industrial Pharmacy along with the prospectus related to the subject for competitive examination preparation in the field of pharmaceutical sciences.

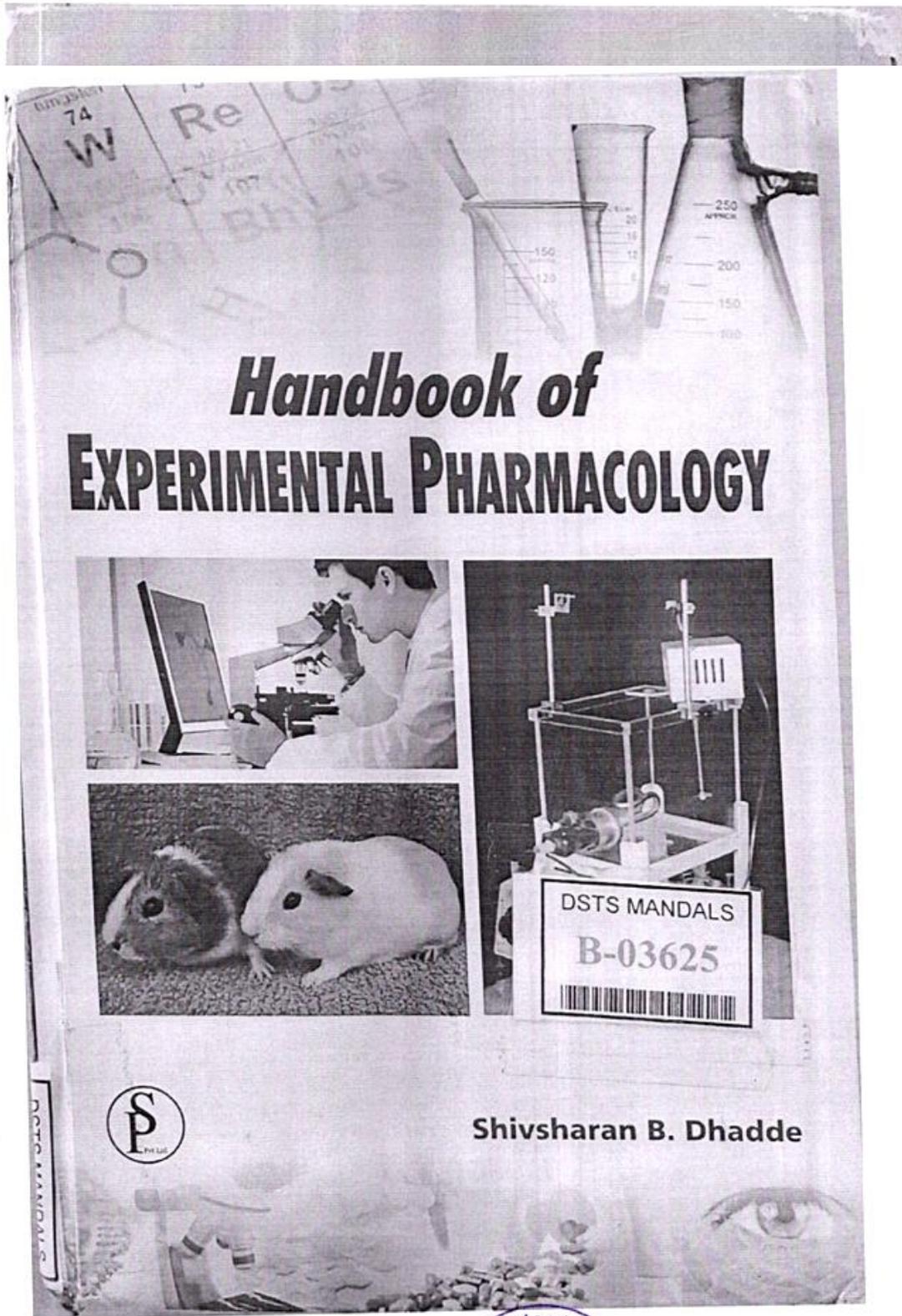


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Shivsharan B. Dhadde

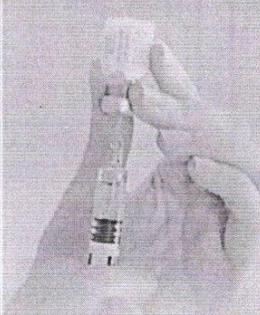



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Handbook of EXPERIMENTAL PHARMACOLOGY

About the Book

This book provides fundamental knowledge of practical aspects of the experimental pharmacology right from laboratory animals handling and tissue mounting to practical implications of various important complex experimental procedures. This book is prepared using simple language and tried to explain the experiment with a model data of observation, calculation, graph and results for better clarity to carry out the experiments in animals or understand the experimental pharmacological techniques by observing the simulated experiments. Exact simulation of real animal experiments on a computer is not easy because the biological responses are very complex. Moreover, imagination of experimental outcome and acquiring the skill of hands-on experiment is not satisfactorily learned by observing the effect of the drug in simulated experiments. This book helps to reduce the gap between hands-on experiments in animal and simulated experiments in pharmacology. The experimental methodology and experimental data explained in this book are designed on the basis of robust scientific materials and personal experience in hands-on experiments under the guidance of eminent personalities. This book will be helpful for graduates and postgraduates related to pharmacology, trainees, research workers during their day-to-day activities including allied health discipline and scientists in industrial drug discovery set-up and CRO. Several simple and newer experimental models have been incorporated which will help the students to engage in drug discovery activities in future. Besides this, several important points have been discussed *e.g.*, ethics of animal experimentation, care and handling of experimental animals, preparation of solutions, tissue mounting for *in vitro* studies etc.

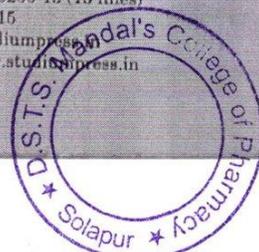


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Book Chapters Published in 2018-19

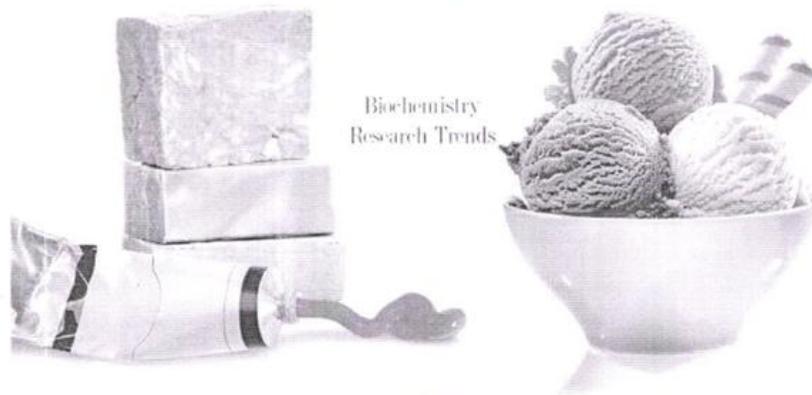
Carboxymethyl Cellulose

Volume II

Pharmaceutical and Industrial Applications

Md. Ibrahim H. Mondal

Editor



Biochemistry
Research Trends




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Chapter 7

**NATURALLY DERIVED CELLULOSE DERIVATIVES:
VERSATILE APPLICATIONS IN NOVEL
DRUG DELIVERY**

Jagadevappa S. Patil^{1,}, Kailash V. Vilegave¹,
Shivsharan B. Dhadde², Siddaruda M. Biradar³
and Sharanabasappa C. Marapur³*

¹VT's Shivajirao S Jondhule College of Pharmacy, Asangaon, Maharashtra, India

²DSTS Mandal's College of Pharmacy, Solapur, Maharashtra, India

³BLDEA's SSM College of Pharmacy and Research Center, Vijayapura, Karnataka, India

ABSTRACT

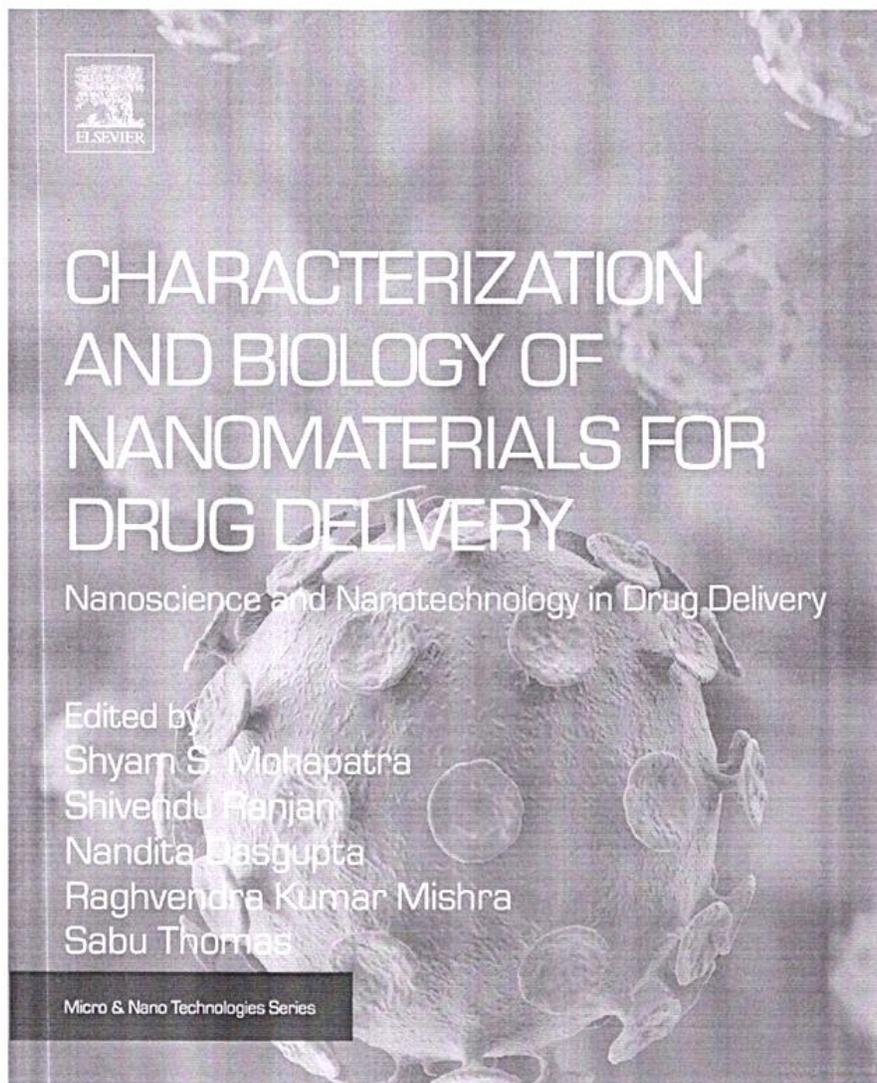
Natural based carbohydrate polymers show distinctive physical and biochemical characteristics beneficial for versatile biomedical applications. Cellulose derivatives such as carboxymethyl cellulose and hydroxypropyl cellulose are biocompatible and have been utilized in various novel drug delivery systems mainly as hydrogel drug carriers, encapsulating polymeric components and rate retarding materials. The gigantic usage of these cellulose derivatives in the fabrication of novel drug delivery systems is mainly because their cost is low, maximum hydrophilicity, degradability, and availability of chemical groups for modification to suit the need of the intended product. For example, carboxymethyl cellulose is a hydrophilic cellulose derivative that is degradable by cellulase. Though this enzyme is not synthesized by mammalian cells, cellulase and the fragments derived from carboxymethyl cellulose degradation are biocompatible. Indeed, because of this advantageous characteristic, fabrications of biocompatible, selectively degradable carboxymethyl cellulose based hydrogels are gaining much attention in the drug delivery research. Here, we emphasized mainly on the fundamental properties of carboxymethyl cellulose and different technologies employed to cross-link the cellulose and cellulose-based hydrogel drug delivery carriers using carboxymethyl cellulose as a matrix former, encapsulating agent or polymeric material. This chapter also contains the synthetic methods of hydrogels, swelling behaviour mechanism, and selective

*Corresponding Author E-mail: pharmajspatil@gmail.com.

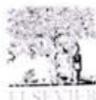
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Characterization and Biology of Nanomaterials
for Drug Delivery

Nanoscience and Nanotechnology in Drug Delivery

Micro and Nano Technologies

2019, Pages 165-197



Chapter 7 - Nanostructure Drug Delivery System Is an Option to Solve Antimicrobial Drug Resistance: Perspective Review

Jagadevaappa S. Patil¹, Shivsharan B. Dhadde², Baburao N. Chandakavathe²

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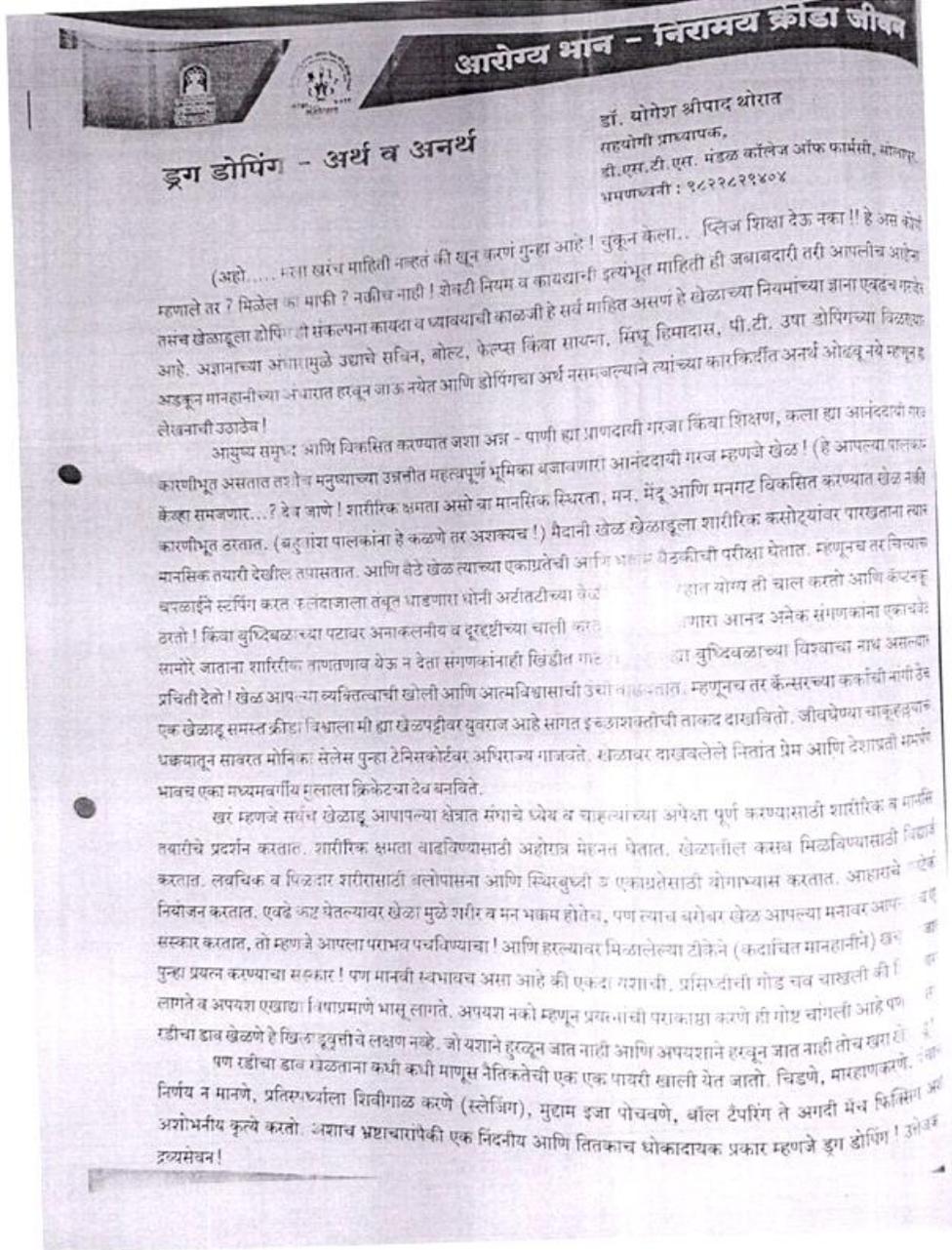
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Abstract

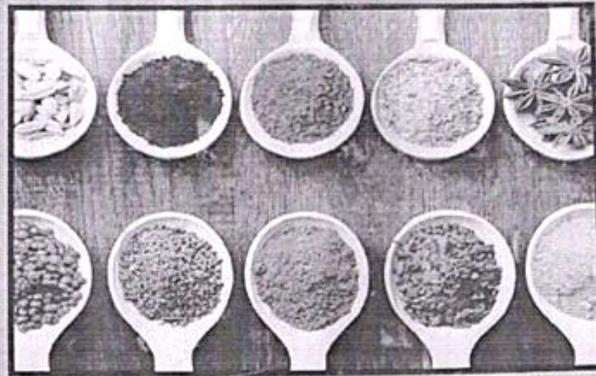
Nanotechnology is the art and technique of manipulating materials on atomic or molecular scales, especially to build nanoscale structures and devices. In the past few years, problems of health care sectors have been tried to be solved through the development of nanostructure devices. Finding a solution to the problem of antibiotic resistance is an urgent global healthcare priority. Solving of antibiotic resistance could potentially prevent thousands of needless deaths and reduce the burden on healthcare systems around the world. The antibacterial nanostructures can show significantly enhanced antibacterial properties compared with conventional antibacterial agents. The present chapter is focused on various aspects of nanostructures used in antibacterial therapy, mainly recent advances in the research and applications of antimicrobial polymeric and other nanostructures.



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Recent Advances in the
**Molecular Mechanism
of Flavonoids**

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B-03623



K Pandima Devi




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Recent Advances in the **Molecular Mechanism of Flavonoids**

About the Book

The book focuses on the molecular mechanisms underlying the pharmacological properties of flavonoids. Flavonoids are the phenolic compounds present in many fruits and vegetables, and they are most commonly consumed by humans through diet. All the different classes of flavonoids like the flavanones, flavones, anthocyanins and catechins have been observed to exhibit a variety of pharmacological actions. Though the flavonoids are known to interact with many of the cellular targets, only recently there has been a great interest among the scientists to delineate the molecular mechanism of action of flavonoids. Since understanding the molecular mechanism is very much important for predicting the clinical feasibility of a drug, this edited volume has been designed to collect and compile the information's available on the molecular mechanisms of flavonoids as review articles. The book comprises of 14 chapters and each chapter summarizes on the progress made in the flavonoid research, for the treatment of various disorders like cancer, diabetes, infectious diseases and so on. The available literatures on the molecular mechanism of the flavonoids are discussed in all the chapters, which will promote the researchers for further investigation on the pharmacological applications of flavonoids.

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Anti-diabetic Potential of Flavonoids and Their Molecular Mechanisms - A Review

SHIVSHARAN B. DHADDE¹ AND BABURAO N. CHANDAKAVATHE¹

ABSTRACT

Diabetes mellitus (DM) is one of the major health disasters of the 21st century. The World Health Organization estimates that after hypertension and tobacco use, hyperglycemia is the third highest risk factor for early death. Dietary and plant derived products have been evaluated in numerous preclinical and clinical trials for their antidiabetic activities. Flavonoids are a large class of phenolic compounds found in many natural products. Flavonoids including flavonol, flavanone, flavone, isoflavone, flavan-3-ols and anthocyanin containing foods play positive roles in sustaining blood glucose levels, glucose uptake, insulin release and adjusting immune functions. In this review, the association between flavonoids and DM is focused on the basis of the latest studies. The anti-diabetic activities of flavonoids found in dietary plants and fruits are summarized to delineate the underlying molecular signalling of flavonoids using *in vitro* and *in vivo* models.

Keywords: Flavonol, Flavanone, Flavone, Isoflavone, Flavan-3-ols, Anthocyanin

1. INTRODUCTION

Diabetes mellitus (DM) is a heterogeneous group of metabolic disorders characterized by the annihilation of pancreatic β -cells or reduced insulin discharge and its action, which results in abnormal metabolism of

¹ D.S.T.S. Mandal's College of Pharmacy, Solapur-413 004, Maharashtra, India
*Corresponding author: E-mail: sharanapharma@hotmail.com




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