

Book reviews

Novel Cosmetic Delivery Systems

S. Magdassi, E. Touitou (Eds.), Marcel Dekker, New York, 1999, 584 pp., \$ 165.00, ISBN 0-8247-1703-1

This book is Volume 19 in the Cosmetic Science and Technology Series. It covers new techniques developed in recent years for delivering cosmetically active ingredients to the skin and hair.

The book can be divided into two sections and comprises seventeen chapters. The first section of the book (Chapters 1–7) deals with the biological aspects related to the skin and the cosmetic products. The other section covers specific delivery systems.

Chapter 1 is introductory and provides information about classical cosmetic formulations and on the state of the art of present cosmetic delivery systems. The following three chapters give a survey of the skin and its permeability, the enhancement of skin permeation, and skin hydration. Chapters 5, 6, and 7 teach how to assess the bioactivity of cosmetic products and ingredients, how to test the stability of cosmetic products, and how to quantify penetrant molecules within the skin. Thus the first section provides profound basic information about the skin and the evaluation of cosmetic products.

Part 3 of the book describes emulsions and surfactant association structures as a first group of specific delivery systems. Chapter 8 focuses on the properties and use of multiple emulsions. Chapter 9 presents highly concentrated water-in-oil emulsions which are termed “gel emulsions”. Chapter 10 discusses fluorocarbon emulsions and gels which have been known for many years as oxygen carriers in medicine and more recently for the same purpose in cosmetic products. Chapter 11 presents some fundamental aspects of the volatility of fragrances from ternary mixtures with water and surfactant.

Part 4 covers vesicular and molecular systems. Liposomes are described in Chapters 12 and 13. Subjects are the composition, preparation, stability, characterisation, efficacy, penetration, and in particular the follicular penetration of liposomes. Chapter 14 summarises the ability of cyclodextrins to encapsulate ingredients on a molecular level.

The last part of the book deals with particulate delivery systems. More general aspects of microencapsulation are given in Chapter 15, whereas Chapter 16 focuses on microcapsules from polyvinyl alcohol as a more special type of

microparticulate carriers. The last chapter demonstrates the possible use of nylon particles for the delivery of cosmetically active ingredients.

This book gives a comprehensive survey of several opportunities which are or at least can be used in the future as delivery systems for innovative cosmetic formulations. The book is written on a graduate to postgraduate level by authors coming from academia as well as from industry. It can serve as an introduction for industrial and academic scientists who are starting to work in the field of cosmetic drug delivery. Therefore, it seems helpful that many chapters provide numerous bibliographic citations that give easy access to the relevant and up-to-date literature on cosmetic delivery systems. For the practitioners it might be helpful that references to commercial products and patents are also given.

All in all, this book can be recommended to those who are searching for an easily readable guide to the fundamentals of cosmetic delivery systems.

R. Daniels

Institut für Pharmazeutische Technologie Technische,
Universität Braunschweig,
Braunschweig,
Germany

PII: S0939-6411(99)00044-2

Surfaces of Nanoparticles and Porous Materials

J. Schwarz and C. Contescu (Eds.), Marcel Dekker, New York, USA, 1999, 787 pages. ISBN: 0-8247-1933-6

Surface characterization of nanoparticles and other porous surfaces is one of the most important and critical issues of the design of modern drug delivery systems. This book is volume 78 in the surfactant science series and provides an overview of the state-of-the-art research for the construction of porous materials basically focusing on the material science area. Although the editors are claiming that the book is inherently multidisciplinary, the overall percentage of pharmaceutical aspects presented is rather low.

The volume is organized into three sections, each of which addresses fundamental and practical realization of the production of nanostructured materials. The first section deals with the preparation, characterization, and transport properties of these materials. Various spectroscopic meth-

ods are described. Each of these topics is represented as a case study including coating on silica gel, molecular sieves, engineering of nanosize superparamagnetic particles, colloidal oxides, collagen fibers, microemulsions etc. The second section of the book is dealing with the adsorption from a gaseous environment. A broad variety of more theoretical applications are demonstrated such as computer simulations of thermodynamic properties of the adsorbed phases or the characterization of energetically heterogeneous surfaces from experimental adsorption isotherms. The final section presents case studies of the adsorption properties of surfaces under the influence of a solvent. Applications involving both inorganic and organic adsorbates are considered. Examples are given for surface ionization and complexation, ionic adsorbates on hydrophobic surfaces or protein adsorption on latex particles etc.

Personally, I found the chapter about transport processes in microemulsions very interesting, whereas, the chapter of

protein adsorption onto latex particles provides only a very limited background of pharmaceutical aspects. In general, nanoparticle materials used in the drug delivery area such as PLA, albumin, gelatin, dextran, acrylates etc. are not included in this publication. Therefore, if the main interest of the reader is focused to pharmaceutical applications then I would recommend present research articles from the literature, if the reader is searching an introduction with a strong respect to material technology this book provides a good overview of the nanosurface science.

P.D. Dr. Andreas Zimmer
Biocenter, Marie-Curie-Strasse,
960439 Frankfurt,
Germany

PII: S0939-6411(99)00047-8
