included in the book to illustrate biochemical mechanisms. References are provided at the end of each section in a chapter. However, the referenced citations do not include publication titles for journal articles. The book concludes with an extensive index.

In summary, this book represents an extensive treatise on the medicinal chemistry and pharmacology of cancer chemotherapeutic agents. This text is recommended as a reference book for medicinal chemists involved in drug design, discovery, and development in cancer chemotherapy. It is also recommended as a valuable resource for institutional libraries and academicians involved in teaching and research in the areas of cancer research and cancer therapy.

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Percutaneous Penetration Enhancers. Edited by Eric W. Smith and Howard I. Maibach. CRC Press, New York. 1995. 500 pp. 16.5 × 24 cm. ISBN 0-8493-2605-2. $125.00.

One of the most recent developments in drug delivery is the development to the marketplace of transdermal delivery systems capable of avoiding the first-pass effect and effectively delivering drugs for sustained periods of time directly through the skin into the systemic circulation. Many of the newer such formulations under development are for drugs which do not penetrate the skin well. To overcome this limitation, a great deal of research has been targeted toward the development of percutaneous penetration enhancers which can aid the delivery of such drugs.

This book is divided loosely into sections covering introductory topics and background information, skin hydration, and the use of a variety of agents as penetration enhancers including alcohols, glycols, amines and amides, dimethyl sulfoxide, Azone, pyrrolidones, surfactants, polymers, fatty acids, ureas, terpenes, liposomes, and cyclodextrins. In addition, chapters on iontophoresis, electroporation, delipidization, ion pairing, and ultrasonic penetration enhancement discuss some of the newer approaches to transdermal drug delivery. Finally, there are a number of chapters concerned with the analytical methodology used in this field and two concluding chapters on new approaches for the future.

Each of the contributions to the book is written by a leading expert in the field, and the scope of the volume encompasses the entire transdermal drug delivery enhancer field. Each paper is fully documented with a complete bibliography, and the volume contains a detailed subject index.

The book will be especially useful for pharmaceutical scientists, polymer chemists, bioengineers, pharmacologists, and physicians working in the areas of both transdermal drug delivery and sustained release of drugs or who have a difficult molecule to deliver for a therapeutic goal, particularly those drugs with a high first-pass effect.

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CNS Neurotransmitters and Neuromodulators Glutamate. Edited by Trevor W. Stone. CRC Press, Boca Raton, FL. 1995. 380 pp. 18.5 × 26 cm. ISBN 0-8493-7631-9. $159.95.

This volume, consisting of 21 chapters, presents a broad review of the state of the art of understanding excitatory amino acid (EAA) neurotransmission. As noted by the editor, the target audience is any active neuroscientist attempting to "keep abreast of topics not in their immediate sphere of interest". Given the explosive growth of information in the field of EAAs, the utility of this book extends to individuals actively engaged in this area of research and would prove particularly useful as core reference work.

Though not explicitly divided, the book broadly contains five sections. The first of these (chapters 1−3) covers the synthesis, metabolism, uptake, release, and subcellular localization of glutamate and were written by some of the true fathers to EAA research (Storm-Mathisen et al., Fonnum and Hassel, Nicholls). The second section (chapters 4−9) includes contributions on the molecular biology, pharmacology, physiology, and regional distribution of glutamate receptor subtypes. This is followed by three chapters on glutamate-activated second-messenger systems as well as the downstream biochemical transduction systems operated by EAAs. Chapters 12−17 discuss the role of glutamate in epilepsy, neurodegeneration, plasticity, and early gene expression, whereas the contributions by Witkin (chapter 19) and Lalonde (chapter 20) detail the behavioral consequences of NMDA and non-NMDA receptor manipulation. Rounding out the 21 papers are discussions by Reynolds on polyamines and glutamate and by Cowell on the relationship between EAA neurotransmission and the hypothalamo−pituitary−gonadal axis.

The text is well illustrated as needed, and each chapter is extensively referenced (from 95 to 331 citations). Quite surprisingly, references are remarkably current with the most recent being late 1994. Chapter length ranges from 10 to 27 pages; each chapter is clearly subdivided and begins with an individual table of contents. The index of 8 pages is adequate to locate key topics.

In short, this book admirably achieves its goal of providing a convenient one-stop overview of EAA neurotransmission. If there is a criticism, this is that chapters are so concisely written that scientists completely unfamiliar with the territory and nomenclature might at first find the volume somewhat onerous. Nevertheless, *CNS Neurotransmitters and Neuromodulators Glutamate* is highly recommended for the library of any department engaged in neurobiological research.

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