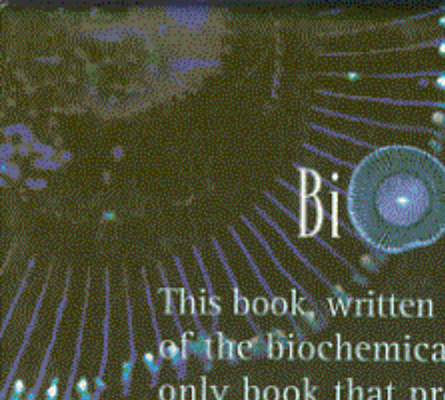




Bioluminescence: Chemical Principles and Methods

This book, written by a distinguished scientist in the field, provides a comprehensive overview of the biochemical aspects of all luminous organisms currently known. It is the first and only book that provides chemical information on all known bioluminescence systems, in a single volume. Some 35 different types of bioluminescence organisms are discussed in 10 chapters. The descriptions include: a history of the discovery of luminescence substances such as luciferins, luciferases and photoproteins; the process of research, explaining how luminescent substances have been isolated and purified; the properties of luminescent substances; and the reaction modes and mechanisms involved, as interpreted currently. Important experimental data and graphs are included in the book, making time-consuming reference searches almost unnecessary. Helpful advice for experimentalists is given in an appendix.

"Shimomura's 'BIOLUMINESCENCE: Chemical Principles and Methods' is an authoritative monograph on the recent progresses in the field of bioluminescence. Dr. Shimomura is best known for his discovery of the jellyfish photoprotein aequorin and green fluorescent protein. Dr. Shimomura, the leading practitioner in the field over the past four decades, gives extraordinary insights and prospects on the subject of bioluminescence. This is the bible of bioluminescence, and a must read."

Yoshito Kishi
Morris Loeb Professor of Chemistry, Emeritus
Harvard University

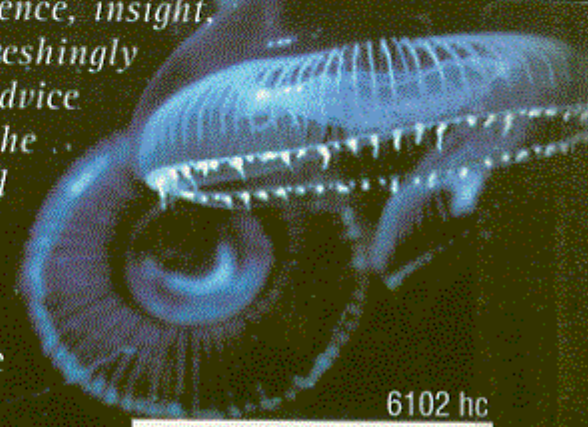
"In this wide-ranging monograph, Osamu Shimomura describes the present state of knowledge in the wonderful world of bioluminescence and his own many fundamental contributions to the chemistry and mechanism of the reactions. His research is the more remarkable for the diversity of organisms studied, involving widely different substrates and enzymes, all of which lead to light emission. This book is a gold mine of information and ideas, and points the way for future researchers to the many still unexplored systems. When Shimomura started research in bioluminescence some 50 years ago, the subject was esoteric and of no real practical interest. Today luciferase and green fluorescent protein genes serve as molecular markers for gene expression everywhere in biomedical research. This book will be invaluable to all workers in the field."

J. Woodland Hastings
Harvard University

"A book on bioluminescence chemistry by Osamu Shimomura is as significant as if Sir Humphry Davy had written a guide to the discovery of new elements. This volume comprehensively reviews the chemistry of all known bioluminescent systems. At its core are knowledge and methodologies gained over years of experience, insight, careful observation, and hard work. These facts are refreshingly seasoned with practical advice, personal perspectives, and advice to the curious chemist. The author's body of work forms the foundation of our knowledge of luminescent chemistry, and this book lights the way toward solving the many remaining mysteries."

Steven Haddock
Monterey Bay Aquarium Research Institute


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