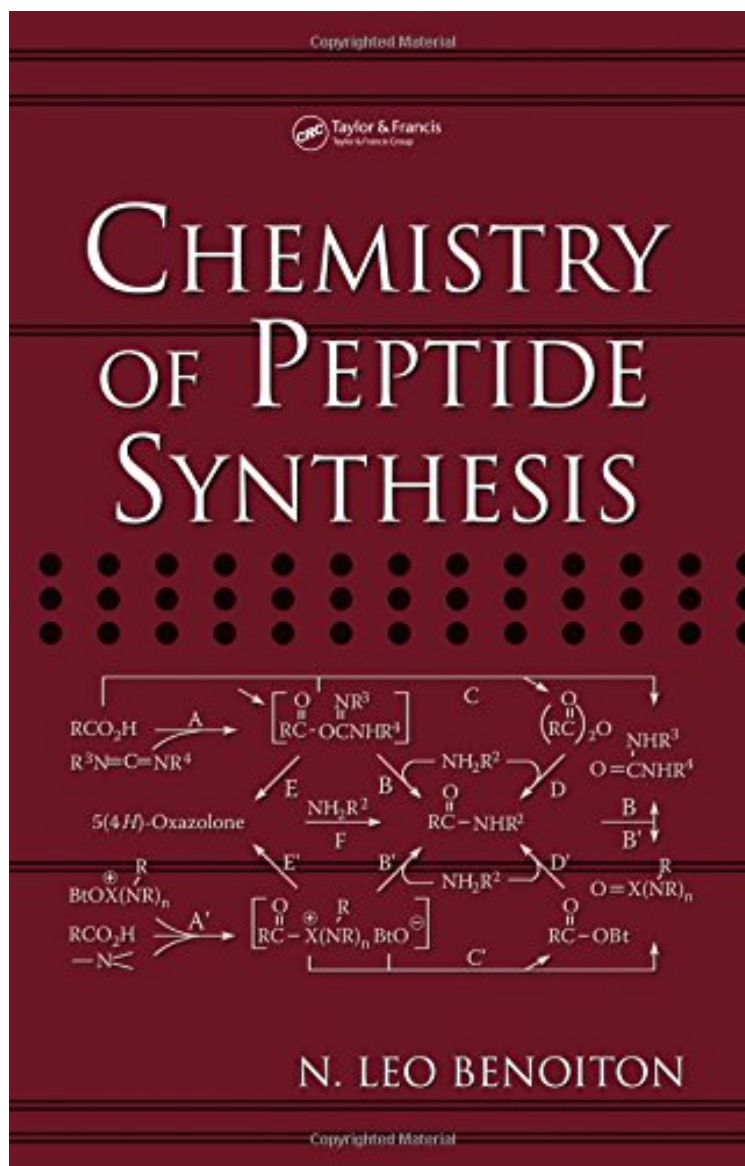


(Download ebook) Chemistry of Peptide Synthesis

Chemistry of Peptide Synthesis

N. Leo Benoiton

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#3493577 in Books CRC Press 2005-08-12 Original language: English PDF # 1 9.21 x .75 x 6.14l, 1.22 #File Name: 1574444549304 pages | File size: 31.Mb

N. Leo Benoiton : Chemistry of Peptide Synthesis before purchasing it in order to gauge whether or not it would be worth my time, and all praised Chemistry of Peptide Synthesis:

0 of 0 people found the following review helpful. An essential read for the industrial peptide chemist By RickyDooDr. Benoiton tackles a difficult topic in detail. This book is indispensable if you're in the business of making peptides. It's a dry read, but if you can make it through this and understand it, you'll be a peptide wizard. My biggest criticism is that

he chooses to avoid abbreviations. As anyone in the field would know, this makes it rather difficult to follow along, especially if you're not as familiar with the names as you are with the structures of the myriad of reagents and intermediates. His references are rather dated, but still applicable. His figures are simplistic and from an earlier time (those of us that started on typewriters know what I mean), but he still gets the message across. His approach is more mechanistic, which I find is lacking in the peptide chemistry world, where mechanisms are proposed to explain results, but results are rarely produced to prove mechanisms. If you want to learn how to do Fmoc-peptide synthesis, try Chan and White. If you're generating a 0.1% impurity that is giving you fits in purification, this may be your ticket to success.

Chemistry of Peptide Synthesis is a complete overview of how peptides are synthesized and what techniques are likely to generate the most desirable reactions. Incorporating elements from the author's role of Career Investigator of the Medical Research Council of Canada and his extensive teaching career, the book emphasizes learning rather than memorization. The text uses clear language and schematics to present concepts progressively, carefully excluding unnecessary details and providing a historical context in which to appreciate the development of the field. The author first outlines the fundamentals of peptide synthesis, focusing on the intermediates in aminolysis reactions. Gradually the text builds into discussions of the applicability of coupling reactions, stereomutation, methods of deprotection, solid-phase synthesis, side-chain protection and side reactions, and amplification on coupling methods. The book clarifies the differences between oxazolones from amino-acid derivatives and segments and the implications of their formation on the chiral integrity of products. The author offers a critical analysis of the mechanisms of coupling reactions and the desirability of preactivation. The text explains hindrance and the nucleophilicity of tertiary amines and rationalizes their use. The book also explores mechanisms of acidolysis and the dual role of nucleophiles as reactants and scavengers. Chemistry of Peptide Synthesis supplies a broad, yet straightforward approach that appeals to those with limited knowledge of organic chemistry or chemists from other fields as well as in-depth coverage that can be appreciated by experienced peptidologists.

This book provides the mechanistic basis for developing rational strategies in peptide synthesis. ...The author's unpretentious writing style belies the authoritative and sophisticated textual content. Over the course of well cross-referenced chapters, this treatise quickly transitions from offering a novice the principles of peptide science to engaging expert biochemists. The narrative flows unerringly as it guides the reader through 207 mechanism-based figures. Many such figures brilliantly superimpose the complex realities of deviant side reaction pathways onto the intended reaction course. In so doing, the study allows for the development of predictive skills in identifying a priori dead-end pathways. Benoiton, in the fashion of a true scholar, relishes communicating the science of peptide synthesis, a field that he has pioneered. He understands the peptide bond as only an enzyme might and, in the course of this text, has ascribed explicit personalities to amino acids, their quirks notwithstanding. This extraordinary book belongs in all academic and research environments involved in peptide chemistry.-- Kennerly S. Patrick, South Carolina College of Pharmacy, Medical University of South Carolina, in the Journal of Medicinal Chemistry, Vol. 49, No. 8 (2006) Leo Benoiton is an experienced peptide chemist who has made fundamental contributions to the chemistry of peptide synthesis. ...The publication of such a book is timely, and could make an important contribution to the field.... ...[U]seful chemistry related to peptide synthesis is well discussed in this book, particularly in highly specialized or advanced topics such as partial epimerization (racemization), coupling methods/activation, and the molecular origins of the aggregation/insolubility of protected peptides. ...-- Stephen Kent, Institute for Biophysical Dynamics, University of Chicago, in Angewandte Chemie, Int'l Edition, Vol. 45, No. 26 (2006)