

Book Reviews

Combinatorial Chemistry and Technology. Principles, Methods, and Applications. Edited by Stanislav Miertus and Giorgio Fassina. Marcel Dekker, New York, 1999. xii + 435 pp. 16 x 23.5 cm. ISBN 0-8247-1960-3. \$165.00.

Compiled by Stanislav Miertus and Giorgio Fassina, *Combinatorial Chemistry and Technology. Principles, Methods, and Applications* is an ambitious text in the extent of its coverage of the area of combinatorial technology. This book reviews topics as diverse as solid-phase synthesis, phage display of peptide libraries, high-throughput screening, and the economics and business models of combinatorial companies.

Given the scope of the work, most of the 17 chapters are of necessity concise summaries of the salient aspects of the area under review, and this volume is distinct from recent texts in the field which have focused in more detail on the synthetic and practical aspects of combinatorial chemistry.

Following an initial chapter which introduces the reader to the various areas in which combinatorial methods have been applied and developed, the subsequent four chapters cover sequentially: peptide library synthesis and characterization; solid-phase library synthesis; resin and linker technology; and solution methods for library generation. This section also briefly covers solid-supported reagents and resin capture methodologies. While none of the reviews are particularly detailed, they do provide the reader with a valuable overview and each contains an extensive list of references.

Chapters 6–8 deal with the technologies of mixture deconvolution, library encoding, and the analysis and characterization of synthetic organic libraries. The most important methods for characterizing compounds identified from combinatorial library screening are reviewed,

together with some commentary on their relative merits and limitations. The chapter on library analysis will be particularly useful to researchers new to the field, as this topic has, to date, been very inadequately discussed.

Three later chapters collectively review the area of biological libraries and biological panning, covering both bacterial and viral expression systems. This section of the text constitutes more than a quarter of the entire volume, which seems to be a little disproportionate in terms of current practices, especially when compared to the relatively brief reviews given on solid- and solution-phase synthetic methods.

Remaining chapters cover areas as distinct as laboratory automation, high-throughput screening, oligonucleotide libraries, computational aspects of combinatorial library design, and the economics of combinatorial technologies.

Overall, the volume very successfully achieves its objective of covering an extremely diverse array of technologies in a concise but very useful fashion. This volume should be of most value to individuals new to the area, who are trying to get an overall grasp of the disparate technologies covered under the generic term "combinatorial". However, the book from this perspective would have benefited significantly from inclusion of a chapter describing the interrelationships between these technologies and the synergies and driving forces which have resulted in their mutual development.

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