



Book reviews

Biotechnology Current Progress: Volume 1. Edited by P.N. Cheremisinoff and L.M. Ferrante, Technomic Publishing, AG, Basel, 1991. ix + 357 pp., price SFr. 150, £54.00. ISBN 0-87762-776-2.

As our readership will no doubt be aware, the field of biotechnology is currently experiencing the type of growth that was experienced by, for example, microchip technology in the early 1980s. Vast advances are being made each year and thousands of papers are being produced. For anyone wanting to keep abreast of current progress in this field it would be useful to have a volume consisting of the most important and interesting subjects researched over the last twelve months. Such a book should be produced annually, consist of papers from American, European, Japanese and Asian research, and should ideally consist of approximately twenty important papers (any more would negate the advantages of an overview volume, any less would not give a representative overview). It will come as no surprise from this introduction that 'Biotechnology Current Progress' is exactly the volume we have just described. It contains 18 reports, specially prepared for this volume, covering aspects of biotechnology as far ranging as biosensors, genetics, monoclonal antibodies, plant cell development, etc. Each report is followed by a huge list of references to point you in the direction of further reading for a subject that interests you. These 1,900 references are effectively a bibliography of biotechnology as it stands today.

It is clear that any library concerned with biotechnology will soon have this and subsequent volumes within its collection, and that any library which has biotechnology as a periphery interest should possess this volume at the expense of others. We envisage a long line of these volumes being found in most science based libraries in future years. Anyone wishing to find out the state of biotechnological knowledge as it stands today would be well advised to start with this volume. If the book does not satisfy your quest for information it will certainly act as a major signpost, pointing you in the direction of the facts that you seek.

John F. Kennedy
David W. Taylor

Steam Explosion Techniques: Fundamentals and Industrial Applications. Edited by B. Focher, A. Marzetti and V. Crescenzi, Gordon and Breach Publishers, New York, 1991. x + 413 pp., price £60.00. ISBN 2-88124-457-2.

Much has been written in recent years concerning lignocellulosics, that increasingly important group of materials which act as a source of polymeric molecules. As these become more important, techniques and transformation technologies for their better exploitation will increase. One such technique is the colourfully titled book 'Steam Explosion Techniques'. Far from being the violent technique that its name suggests, steam explosion is just a form of autohydrolysis carried out at high temperatures and pressures (e.g. 230°C, 500 p.s.i.).

'Steam Explosion Techniques' brings together the proceedings of an international workshop on the fundamentals and industrial applications of the technique which was held in Milan, Italy. It, as one would expect, consists of a number of papers concerning the various aspects of steam explosion, ranging from an introduction, through process fundamentals and structural modifications, before reaching the largest section dealing with the many and varied applications of the technique. The volume then closes with a novel conclusions section which features a ten page summary, along with both subject and author indexes. One very interesting section deals with the use of steam explosion in connection with the use of new cellulose solvents, posing the question: will we one day be capable of producing man-made fibres from wood in a matter of minutes?

As usually happens, when a book consists of a collection of papers from multiple authors, the continuity between chapters is often non-existent, but good sectioning, editing and indexing have reduced this problem to a minimum. Overall, we therefore have an excellent volume which is suitable for chemists, engineers and biologists, working within this area. Anyone reading an introduction to the techniques would be well advised to check out the summary section at the end of the book. One question that does spring to mind is why did it take so long to publish this information? One cannot help but feel that in this fast

progressing subject area a lot has changed since October 1988.

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Sourcebook of Methods of Analysis for Biomass and Biomass Conversion Processes. Edited by T.A. Milne, A.H. Brennan and B.H. Glenn, Elsevier Applied Science Publishers Ltd, London, 1990. viii + 341 pp., price \$104.00, £52.00. ISBN 1-85166-527-7.

The idea of bringing together titles and abstracts of methods directly relevant to all aspects of biomass conversion, stemmed from the oil embargo of the 1970s. This resulted in the improvement and development of old and new methods for studying the conversion of biomass — trees, plants and organic wastes — to useful fuels and chemicals. It then became apparent that there was a real need for the standardisation of methods. The 'Sourcebook of Methods of Analysis for Biomass and Biomass Conversion' lists the references (original and modified) where one can find, in detail, the analytical procedure of interest. A central core of 30 scientists and at least a further 250 scientists world-wide have combined their knowledge and resources to bring this book to fruition.

The main section of the book is entitled 'Standards and Analytical Methods' which lists, under various sub-headings, the citations of relevant and related methods of biomass conversion. These sub-headings are well defined, which enables the reader to quickly find references to the particular subject area of interest.

Methods for the determination of the density of, for example, wood, petroleum and semi-solid bituminous materials are among those procedures described.

It is worth noting that although this book is a reference book, it also contains useful comments concerning the content of the citations quoted. That is, the authors have assessed the procedures in terms of convenience, reproducibility, sensitivity, and principal uses as well as providing a brief summary of other applications of the methods.

The sourcebook ends with seven appendices which could be considered as separate chapters in their own right. These appendices include, for example, a list of standard organisations, a detailed report/review of the methods available for testing combustion equipment, energy efficiency and one appendix entitled 'other sources of information'. The final appendix is a glossary which is not only useful, but interesting to read, because it cuts across the whole spectrum of biomass and biomass conversion technology.

When approaching the analysis of biomass conversion for the first time, this book provides a foundation on which to begin the search for appropriate experimental matter. By consulting it, one would also gain an appreciation of what type of analysis would be standard and most suitable for a particular requirement. For those already familiar, this is an ideal way to keep abreast of current developments and improvements of the methods in use. Therefore in conclusion, this book would be an invaluable addition to any reference library.

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