

Book review

Hydrolysis of Cellulose: Mechanisms of Enzymatic and Acid Catalysis, edited by ROSS D. BROWN, JR., AND LUBO JURASEK, *Advances in Chemistry Series*, No. 181, American Chemical Society, Washington, DC, 1979, x + 399 pages, US \$60.00.

Since the discovery of cellulose as a major component of plant cell-walls and as being a polymer of D-glucose, several generations of chemists and engineers have been attracted to the idea, and engaged with the problem, of hydrolyzing these abundant natural products to obtain the sugar as a source of food and chemicals. Progress in this area has, however, been manifested mainly by concerted efforts during periods of war and emergency, including the present oil crisis.

This book reflects the current interest in development of new methods that could avoid the problems of conventional, acid saccharification of cellulosic materials. It is composed of eighteen papers that deal mainly with the composition, characterization, and interaction of the complex enzyme systems that could break down the highly resistant and inaccessible structure of the cellulosic macromolecules. These articles range from broad, general discussions to specific, research data complete with experimental description. They present current, but not necessarily comprehensive, information, and provide, for a rapidly developing field, considerable documentation which is of both academic and practical significance.

The multiplicity and sophistication of the topics discussed will be eye-openers for those who expect a quick solution of the problems involved, and for those who disregard the subject as constituting a narrow, applied field. Along with all the advantages of providing a forum for discussion of current ideas and data produced by different groups, the symposium style and editorial latitude of the volume allow for considerable overlapping, and even contradictory presentations, rather than the balanced consensus of pertinent information that would be expected in a monograph on a mature subject. However, the book not only contains a variety of ideas, but also various, different nomenclatures, such as "polyoses" for hemicelluloses, new analytical methods (one of which apparently gives higher values for hemicelluloses and lower values for cellulose than hitherto accepted), English sentences with German grammar, and the apparently almost unavoidable, typographical errors that could produce such words as "mannanse" instead of mannanase.

Despite such minor problems, the book eminently succeeds in unravelling some of the intricate features of the cellulase system and, by implication, shows how much there is to be learned about the complexity of the natural products and processes. It is strongly recommended to those who are concerned with these subjects, or are interested in the conversion of one of the most abundant and renewable natural products into a more usable form.

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