

Preface

This monograph covers numerous facets of cellulose hydrolysis. Presentation is expository so that the book will be useful not only as a reference monograph but also as a textbook. The monograph is comprehensive in that both enzymatic hydrolysis and acid hydrolysis are treated, and their fundamental and applied aspects are discussed as well. Physical and chemical properties and characteristics of cellulose pertaining to these hydrolysis processes are also elucidated. In addition to qualitative elaboration of each subject, every effort is made to describe it quantitatively or mathematically.

Specifically, this monograph furnishes a compendium of the nature of cellulosic materials including their compositions and structures; it elaborates on the nature of lignocellulosic structural resistance, properties and mode of enzymatic action, different pretreatment methods, and a variety of kinetic models for enzymatic degradation; it focuses on the mechanism and kinetics of acid hydrolysis; and finally it describes commercial hydrolysis processes for a variety of cellulosic materials.

Acknowledgement

The authors' research, supported for several years by the U.S. Department of Energy and Kansas State University, has culminated in the present monograph. Besides the authors, Mr. David Beardmore and Mr. Bob Wisecup participated in the research; naturally, they have made significant contributions. While the manuscript was typed by several secretaries, the authors wish to single out Mrs. Janet Vinduska. The first author (LTF) also wishes to acknowledge the aid of his wife, Eva, in preparing the manuscript.

August 1987

L. T. FAN
M. M. GHARPURAY
Y.-H. LEE