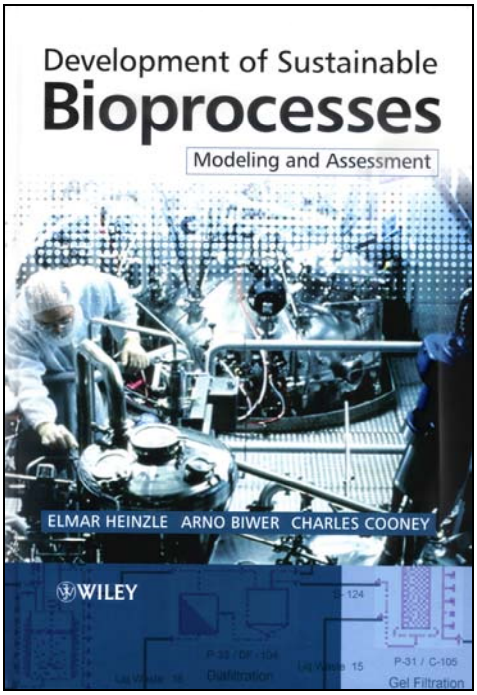
ELMAR HEINZLE, ARNO BIWER, CHARLES COONEY

DEVELOPMENT OF SUSTAINABLE BIOPROCESSES
MODELING AND ASSESSMENT



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Presented book **Development of Sustainable Bioprocesses** provides a framework for the development of sustainable bioprocesses. It includes methods for modelling and assessing both the economic and environmental aspects of biotechnological processes and illustrates their application in a series of case studies covering a broad range of products.

The book **Development of Sustainable Bioprocesses**:

- provides an introduction to bioproducts and bioprocesses and the unit operations involved in manufacturing, as well as bioprocess modelling in combination with economic and environmental assessment methods;
- cuts across multiple process industries, including pharmaceutical, biochemicals, chemicals and food production;
- addresses risk and uncertainty analysis which are particularly important in early process and product development;
- presents a unique set of case examples from various parts of biotechnology that improve the understanding of this technology and provide a starting point for developing a specific model.

The book includes CD-ROM that contains the process models described in the text. All process model examples are implemented into SuperPro Designer™. The models are selected as characteristic examples of major bioprocess applications including bulk bio-chemicals, fine chemicals, enzymes, low and high molecular weight pharmaceuticals. These examples provide a hands-on approach, which will be useful to both students and professionals already working in bioprocess industries.

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