Process Synthesis for Fuel Ethanol Production (Biotechnology and Bioprocessing)

C.A. Cardona, O.J. Sanchez, L.F. Gutierrez
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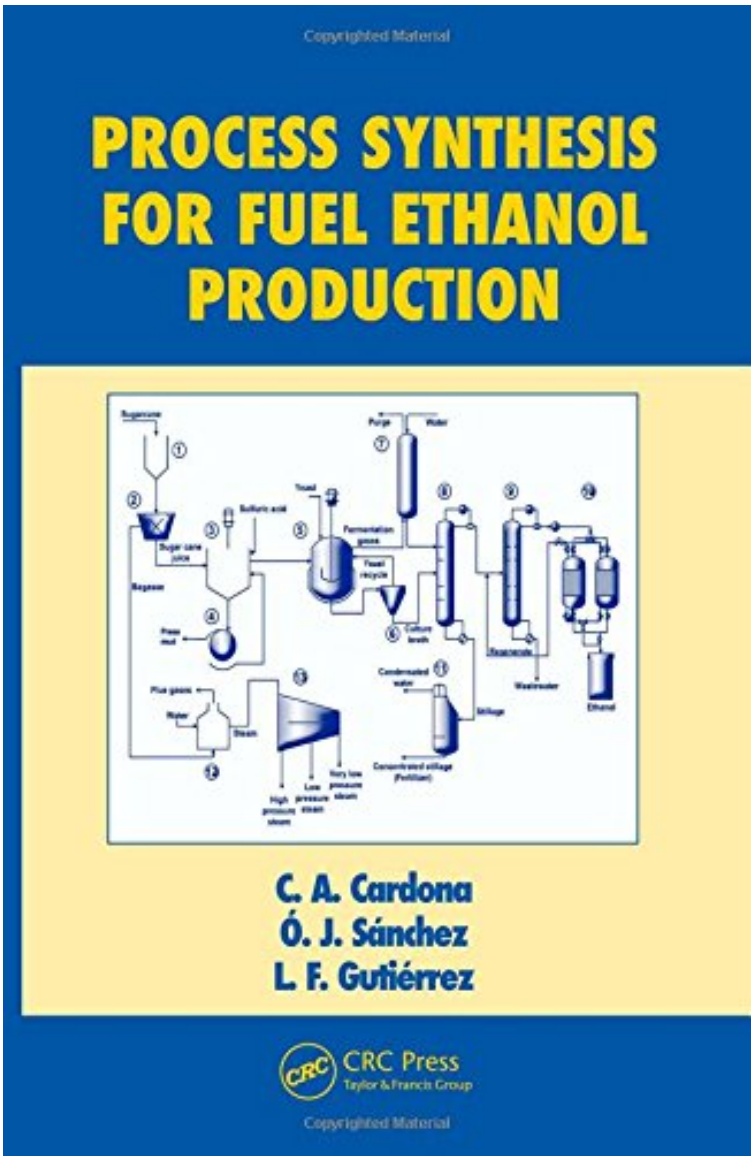

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C.A. Cardona, O.J. Sanchez, L.F. Gutierrez : Process Synthesis for Fuel Ethanol Production (Biotechnology and Bioprocessing) before purchasing it in order to gage whether or not it would be worth my time, and all praised Process Synthesis for Fuel Ethanol Production (Biotechnology and Bioprocessing):

Process engineering can potentially provide the means to develop economically viable and environmentally friendly technologies for the production of fuel ethanol. Focusing on a key tool of process engineering, Process Synthesis for Fuel Ethanol Production is a comprehensive guide to the design and analysis of the most advanced technologies for fuel ethanol production from feedstocks. It describes how process systems engineering can be applied to fuel ethanol production to achieve new levels of efficiency according to technical, economic, and environmental criteria. Drawing on the authors more than 15 years of process engineering and ethanol research, the book first focuses on liquid biofuels, before examining the role of process synthesis in the rapid and high-tech analysis and design of complex biotechnological processes. It then describes various types of feedstocks, including sugars, starchy crops, lignocellulosic biomass, and microorganisms, as well as hydrolysis technologies, such as saccharification. The authors cover the fuel ethanol production technologies for different feedstocks, the new technological innovations based on process integration to reduce energy consumption, and the environmental issues of bioethanol production. They also discuss the technological configurations for fuel ethanol production in the industry and the possible factors affecting food security with fuel ethanol production and consumption. Supported by case studies that include calculations and discussions of results, this book uses a process engineering approach to explore the analysis and development of fuel ethanol production from different feedstocks. It shows how accurate analysis and precise design, along with responsible government policies, can lead to fair and sustainable development of energy crops worldwide.

About the AuthorC.A. Cardona is an associate professor of chemical engineering in the Pilot Plants of Biotechnology and Agroindustry at the National University of Colombia in Manizales. He is also a consultant in bioenergy and development for the Food and Agriculture Organization of the United Nations in Rome, Italy. O.J. Sanchez is an associate professor of food engineering in the Institute of Agricultural Biotechnology at the University of Caldas in Manizales, Colombia. L.F. Gutierrez is an assistant professor in the Department of Engineering at the University of Caldas in Manizales, Colombia.