Contents

1 Biorefinery Concept 1
Ana F. Ferreira

2 Biomass Availability, Potential and Characteristics 21
M. Fantini

3 Biomass Conversion Technologies: Fast Pyrolysis Liquids from Biomass: Quality and Upgrading 55
A.V. Bridgwater

4 Biomass Conversion Technologies: Biological/Biochemical Conversion of Biomass 99
Luisa Gouveia and Paula C. Passarinho

5 Biomass Conversion Technologies: Catalytic Conversion Technologies 113
Juan Carlos Serrano-Ruiz

6 Biorefinery Modeling and Optimization 123
Abel Sanz, Ana Susmozas, Jens Peters and Javier Dufour

7 Biorefinery Sustainability Analysis 161
Carla A.M. Silva, Remus M. Prunescu, Krist V. Gernaey, Gürkan Sin and Rocio A. Diaz-Chavez

8 Designing Integrated Biorefineries Using Process Systems Engineering Tools 201
Behrang Mansoornejad, Shabnam Sanaei, Banafsheh Gilani, Dieudonné R. Batsy, Marzouk Benali and Paul R. Stuart

9 Biorefineries in the World 227
Francisco Gírio, Susana Marques, Filomena Pinto, Ana Cristina Oliveira, Paula Costa, Alberto Reis and Patrícia Moura

Index 283

http://www.springer.com/978-3-319-48286-6

Biorefineries
Targeting Energy, High Value Products and Waste Valorisation
Rabaçal, M.; Ferreira, A.F.; Silva, C.A.M.; Costa, M. (Eds.)
2017, XVIII, 294 p. 110 illus., 77 illus. in color.,
Hardcover
ISBN: 978-3-319-48286-6