



Biorefinery Design & Optimization

DECISION MAKING INSIGHTS FOR INTEGRATED BIOREFINERY THROUGH MATHEMATICAL MODELING

KEY WORDS

BIOREFINERY DESIGN,
PROCESS OPTIMIZATION,
TECHNO-ECONOMIC ASSESSMENT

DESCRIPTION

PLAPIQUI has the following capabilities:

Design and optimization of integrated biorefineries including:

- Mass and energy balances
- Detailed equipment design
- Cost correlations

Model development using customized software solutions.

Economic and environmental assessment of biorefineries schemes including a wide range of end-products: biodiesel, biogas, astaxanthin, PHB, fertilizer, glycerol.

Parametric sensitivity analysis of key model parameters

APPLICATIONS

Integrated biorefinery design
Biorefinery optimization
Mass and energy balances
Process simulation
Capital cost estimation
Equipment detailed design
Techno-economic analysis
Environmental impact assessment
Multi-product biorefinery schemes
Sensitivity analysis
Scenario evaluation
Sustainable process design
Biomass valorization strategies
Decision-support modeling

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