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Sommario/riassunto	Renewable fuels and chemicals derived from lignocellulosic biomass offer unprecedented opportunities for replacing fossil fuel derivatives, reducing our overdependence on imported oil, and mitigating current climate change trends. Despite technical developments and considerable efforts, breakthrough technologies are still required to overcome hurdles in developing sustainable biorefineries. In recent years, new biorefinery concepts including a lignin-first approach and a closed-loop biorefinery have been introduced to tackle technoeconomic challenges. Furthermore, researchers have advanced the development of new technologies which enable the utilization of biomass components for sustainable materials. It is now apparent that advanced processes are essential for ensuring the success of future biorefineries. This book presents processes for biomass fractionation, lignin valorization, and sugar conversion or introduces new bioproducts (chemicals and materials) from renewable resources, addressing the current status, technical/technoeconomic challenges, and new strategies.