1. Record Nr. UNINA9910463854203321 Autore Islam Aminul Titolo Advanced technologies in biodiesel: new advances in designed and optimized catalysts / / Aminul Islam [and three others] New York, NY:,: Momentum Press Engineering,, 2015 Pubbl/distr/stampa Descrizione fisica 1 online resource (180 p.) Collana Thermal science and energy engineering collection Disciplina 662.669 Soggetti Biodiesel fuels Catalysis Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references (pages 127-158) and index. 1. Solid catalytic biodiesel production approaches -- 2. Nano to Nota di contenuto macroscopic catalytic progress in biodiesel -- 3. Intensification process in biodiesel production -- 4. Catalytic advances in third generation biodiesel from microalgae -- 5. Recent practice in biodiesel production -- References -- Index. Sommario/riassunto The inadequacy of fossil fuel is the main driving force of the future sustainable energy around the world. Interest in biodiesel is growing rapidly worldwide due to energy security, diversity, and sustainability as well as for greenhouse gas mitigation. Since heterogeneous catalysis is used in chemical industry for biodiesel production, achieving optimal catalytic performance is a significant issue for chemical engineers and chemists. Therefore, enormous attention has been placed in recent years on the selection of heterogeneous catalyst in biodiesel industry, where the catalyst could be facilitated highly selective toward desired products, easily handled, separated from the reaction medium and subsequently reused. This book stresses an overview on the contributions of tailored solid acid and base catalysts to catalytic biodiesel synthesis, and the influences of heterogeneous catalyst

> properties on biodiesel yield in order to develop a better understanding of catalyst design for the green production process as well as practical applications in the biodiesel industry. Coverage also includes the innovative and new techniques of biodiesel production processes

currently used, illustrating the technological options and emphasizing the limitations factors for each technique, and the best choices available in a manner accessible to a general readership, biochemical engineers, academics, professionals, and industrial researchers.