

1. Record Nr.	UNINA9910416104503321
Titolo	Advanced Nanotechnology and Application of Supercritical Fluids // edited by Inamuddin, Abdullah M. Asiri
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-44984-X
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (XIV, 245 p. 39 illus., 25 illus. in color.)
Collana	Nanotechnology in the Life Sciences, , 2523-8035
Disciplina	660.042
Soggetti	Plant biotechnology Nanotechnology Biotechnology Green chemistry Chemistry, Organic Agriculture Plant Biotechnology Green Chemistry Organic Chemistry
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Preface -- Supercritical Fluid Technologies: A Green Solvent Approach for Pharmaceutical Product Development -- Supercritical Green Solvent for Amazonian Natural Resources -- Non-catalytic and catalytic supercritical water oxidation of phenol in the wastewaters of petroleum and other industries -- Production of Platform Chemicals using Supercritical Fluid Technology -- Supercritical carbon dioxide — a glimpse from the modern era of green chemistry -- Extraction of phenolic compounds by Supercritical fluid extraction -- The Application of Supercritical Carbon Dioxide in the Extraction of Biomolecules -- Chemistry of ionic liquid, switchable solvents, supercritical carbon dioxide and sub/supercritical water -- Applications of supercritical carbon dioxide in the rubber industry -- Compressed fluids for food by-products biorefinery -- Index.
Sommario/riassunto	Globalization and industrialization involve a number of reactions,

products, extractions, and separations that require the use of organic solvents. These solvents are responsible for a number of ecological concerns, including atmospheric and land toxicity. Conventional organic solvents are regarded as volatile organic compounds; some are even limited due to their potential for ozone layer depletion. While supercritical liquids exhibit physical properties that could make them ideal substitutes for these volatile compounds, there is particular interest in the use of carbon dioxide as a solvent of crude material. In particular, carbon dioxide has apparent 'green' properties, like its noncombustible nature, the fact that it is generally nonpoisonous, and its relative inertness. Thus, the use of supercritical carbon dioxide can provide practical improvements to the sustainability of industrial products and processes. This book provides in-depth literature in the area of industrialgreen processes, focusing on the separation, purification, and extraction of compounds utilizing supercritical carbon dioxide as a green solvent.
