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Titolo	Supercritical Antisolvent Precipitation Process : Fundamentals, Applications and Perspectives / / by Diego T. Santos, Ádina L. Santana, M. Angela A. Meireles, Ademir José Petenate, Eric Keven Silva, Juliana Q. Albarelli, Júlio C. F. Johnner, M. Thereza M. S. Gomes, Ricardo Abel Del Castillo Torres, Tahmasb Hatami
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Nota di contenuto	A detailed design and construction of a Supercritical Antisolvent Precipitation equipment -- Effect of process conditions on the morphological characteristics of particles obtained by supercritical antisolvent precipitation -- Precipitation of Particles Using Combined High Turbulence Extraction Assisted by Ultrasound and Supercritical Antisolvent Fractionation -- Recent developments in particle formation with supercritical fluid extraction of emulsions process for encapsulation -- Supercritical fluid extraction of emulsion obtained by ultrasound emulsification assisted by nitrogen hydrostatic pressure using novel biosurfactant -- Economical effects of supercritical antisolvent precipitation process conditions.
Sommario/riassunto	This book provides deep insights on the fundamentals, applications and perspectives of the Supercritical AntiSolvent (SAS) Precipitation Process. Chapter 1 provides recent (2013-2018) reports on the use of supercritical CO <sub>2</sub> (SC-CO <sub>2</sub> ) antisolvent for micronization,

coprecipitation and fractionation of high-value products for the food, cosmetic and pharmaceutical industries. Chapter 2 discusses another variant of the SAS precipitation process called Supercritical fluid extraction of emulsions (SFEE). This chapter provides recent data from 2016-2018 reports investigation of supercritical extraction of emulsions (SFEE) to encapsulate compounds of great interest to the food and non-food industry. Chapter 3 details the design and construction of a SAS Precipitation equipment. Chapter 4 presents experimental results regarding the validation of the supercritical particle formation equipment. Chapter 5 shows the effects of process parameters during particle precipitation using Combined High Turbulence Extraction Assisted by Ultrasound and Supercritical Antisolvent Fractionation (SAF) processes applied to semi-defatted annatto seeds, as a model raw material plant, were investigated. Chapter 6 shows experimental results regarding the process Ultrasound Emulsification Assisted by Nitrogen Hydrostatic Pressure (UEANHP), during the emulsification preparation step of the Supercritical Fluid Extraction of Emulsions (SFEE) process, one of the options of the SAS Precipitation-based process. Finally, Chapters 7 and 8 present some perspectives about the economics and process integration with other processes aiming the development of novel conceptual biorefining approaches for plant materials valorization.

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