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Altri autori (Persone)	YasuiKyuichi HamdaouiOualid DehaneAissa
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Nota di contenuto	The sonochemical process: An overview -- The Single-Bubble Sonochemistry: State of the art -- Bubble Dynamics and Influencing Factors -- Transfer phenomena and bubble dynamics -- Bubble sonochemistry and reaction pathways -- Transfer phenomena and reactions heat impacts on bubble sonochemistry -- Bubble energy and energy forms -- Bubble sonochemistry and dissolved gases -- Ambient pressure and bubble sonochemistry -- Solution temperature and bubble sonochemistry -- Bubble interactions with volatile solute species -- Bubble sonochemistry for probing the bubble size distribution -- Impact of dissolved volatile substrates on the range of ambient size for active bubbles -- Semi-Empirical Techniques for Determining the Bubble Number Density.
Sommario/riassunto	This authored monograph serves as an essential introduction and

fundamental guide to numerical simulations of acoustic cavitation and sonochemistry. It covers a wide range of cutting-edge computational sonochemistry research, providing insights into the mechanisms of the sonochemical process in homogenous aqueous solutions. The computational aspects discussed include pyrolysis, radical generation within collapsing bubbles, number density determination, and pollutant oxidation. Additionally, the book explores the impacts of various phenomena occurring during acoustic bubble oscillation, such as heat and mass transfer, reaction heat, radical generation, and diffusion. It offers detailed insights into the different phenomena affecting acoustic cavitation and its chemical effects, while it also advances the understanding of the use of single-bubble sonochemistry computation for characterizing multi-bubble systems in an aqueous medium. The book is a valuable resource for students, researchers, academics, and professionals interested in sonochemistry, particularly the chemical and physical impacts of sonication in aqueous homogeneous systems.