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Nota di contenuto	1 SrSnO3:Ni perovskites: Synthesis, Structural behavior and Catalytic properties for NO reduction with CO in the presence of O2 -- 2 Overview: Phototovaltaic Solar Cells, Science, Materials, Simulations, Technology, State of the Art and Future Perspectives -- 3 Theoretical and experimental insight for the design and characterization of perovskite-based solar cell -- 4 In silico investigation of the electronic properties of TiS2 and TiSe2 superconductor lamellar materials: a quantum-mechanics approach based on DFT -- 5 Physicochemical techniques to characterize the photoactivity of materials performing oxidation reactions -- 6 Computational modeling of the wettability of

rock formations in rock-oil-water systems -- 7 Revisiting the underlying chemistry enhancing the activity of photoelectro and photocatalysis concerning H2 production.

Sommario/riassunto

This book offers a roadmap to the future, addressing pressing challenges such as energy sustainability, environmental preservation, and advancements in biotechnology and pharmaceuticals. From the exploration of novel perovskite materials for environmental NO reduction to the development of game-changing biotechnological strategies for simultaneous CO2 capture and H2S conversion, this book spans a diverse range of topics. The content dives into the realms of artificial intelligence, nanotechnology, and state-of-the-art photovoltaic solar cells. The chapters explore the potential of psychedelic substances for treating mental disorders and the use of computational tools in pesticide development. Moreover, the reader can uncover the secrets of copaiba tree oil-resin active ingredients with multifaceted medicinal properties and the application of electrical current in alcoholic fermentation. With contributions from esteemed researchers, this book offers insights into the forefront of scientific progress.