1. Record Nr. UNINA9910349506603321

Titolo	Advanced Catalytic Materials: Current Status and Future Progress / / edited by José Manuel Domínguez-Esquivel, Manuel Ramos
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2019
ISBN	3-030-25993-5
Edizione	[1st ed. 2019.]
Descrizione fisica	1 online resource (VIII, 223 p. 112 illus., 64 illus. in color.)
Disciplina	620.11
Soggetti	Materials - Analysis Catalysis Energy harvesting Characterization and Analytical Technique Energy Harvesting
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes index.
Nota di contenuto	Chapter 1. One brief introduction to Catalytic Materials -- Chapter 2. Synthesis of Novel Catalytic Materials: Titania nanotubes and Transition Metal Carbides, Nitrides and Sulfides -- Chapter 3. Theoretical Insights into the Electronic Structure and Catalytic Activity on MoS2-based Catalyst -- Chapter 4. Catalytic materials for hydrodesulfurization processes Experimental strategies to improve their performance -- Chapter 5. Electron Microscopy Techniques to Study Structure/Function relationships in Catalytic Materials -- Chapter 6. In Situ Upgrading via Hot Fluid and Nano-Catalyst Injection -- Chapter 7. Porosity and Fractality of MoS2 and MoS2/Co Catalytic Spheres -- Chapter 8. Catalytic Ni/CeO2 nanorods and Ag/CeO2 nanotubes for hydrogen production by methanol reforming -- Chapter 9. Effective visible light photodegradation of paraoxon with pure and doped TiO2 -- Chapter 10. Ternary phase NiMoWS2 catalytic material for hydrodesulfurization.
Sommario/riassunto	This book presents advances in computational methods, experimental synthesis, and advanced characterizations for novel catalytic materials. The authors show how catalytical materials can be used for various engineering oil & gas applications – mainly in low contaminants fuel

production. All contributors, describe in detail novel experimental and theoretical techniques techniques and concepts for synthesis, evaluation and scaling catalytic materials and research advances in evaluation, extensive characterization and theoretical modeling using computer assisted methods and algorithms. Describes computational methods, experimental synthesis and advanced characterization for novel catalytic materials; Examines catalytic materials and corresponding engineering applications with a focus on low contaminant fuel production and derivatives; Covers the application of computer assisted quantum mechanical for fundamental understanding of electronicstructure of molecular dimension catalytic materials.