1. Record Nr. UNINA9910647391803321 Autore Esposito Serena **Titolo** Sol-Gel Synthesis Strategies for Tailored Catalytic Materials / / by Serena Esposito Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2023 **ISBN** 9783031207235 9783031207228 Edizione [1st ed. 2023.] Descrizione fisica 1 online resource (xii, 71 pages): illustrations (some colour) Collana SpringerBriefs in Materials, , 2192-1105 Disciplina 541.395 Soggetti Colloids Chemistry, Physical and theoretical Catalysis Materials Nanoscience Materials - Analysis Gels and Hydrogels **Physical Chemistry** Catalytic Materials **Nanophysics** Materials Characterization Technique Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Introduction -- Tradition Sol-gel: The Chemistry of Alkoxides -- From Nota di contenuto (Sub)Colloidal Growth to the Gel Structure -- From Wet Gel to the Final Product: Draw Your Way -- Evolution of the Sol-gel Chemistry --Synthetic Strategies for Metal and Metal Oxide (Supported) Catalysts: Case Studies. This book discusses the synthesis of catalytic materials with improved Sommario/riassunto and tailored functionalities via the sol-gel method. Beginning with a general outline of traditional sol-gel chemistry, the book gradually

explores surrounding topics, such as the formation of porous

structures, while guiding the overall discussion toward the synthesis of

heterogeneous catalysts and focusing throughout on the structureactivity relationship in catalytic materials. Featuring several case studies covering major current industrial applications, the book is an ideal guide for researchers looking to tailor catalytic materials for a specific catalytic process and thus exploiting the versatility of the "traditional" sol-gel method.