Record Nr. UNINA9910828031003321 Autore Bond G. C (Geoffrey Colin) **Titolo** Catalysis by gold / / Geoffrey C. Bond, Catherine Louis, David T. Thompson Pubbl/distr/stampa London, : Imperial College Press Singapore, : distributed by World Scientific, c2006 **ISBN** 1-281-86740-3 9786611867409 1-86094-895-2 Edizione [1st ed.] Descrizione fisica 1 online resource (383 p.) Collana Catalytic science series; v. 6 Altri autori (Persone) LouisCatherine ThompsonDavid T Disciplina 541.395 Soggetti Gold Catalysis Metal catalysts Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Contents ; Acknowledgements ; Preface ; Chapter 1 Introduction to Catalysis ; 1.1 The Phenomenon of Catalysis ; 1.2 The **Activation Energy of Catalysed Reactions** ; 1.3 Ways of Using Heterogeneous Catalysts ; 1.4 Understanding Catalysed Reactions 1.5 The Catalytic Activities of Metals 1.6 Catalysis in Bimetallic Systems : References ; Chapter 2 The Physical and Chemical Properties of Gold ; 2.2 The Origin of Relativistic Effects : 2.1 Introduction 4-14 2.3 Comparisons of the Chemistry of Gold with that of the Adjacent Elements 2.4 The Aurophilic Bond ; 2.5 Physical Properties of Gold and Adjacent Elements ; 2.5.1 Bulk properties ; 2.5.2 The structure of single-crystal ; 2.6 Bimetallic Systems surfaces

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## Sommario/riassunto

Gold has traditionally been regarded as inactive as a catalytic metal. However, the advent of nanoparticulate gold on high surface area oxide supports has demonstrated its high catalytic activity in many chemical reactions. Gold is active as a heterogeneous catalyst in both gas and liquid phases, and complexes catalyse reactions homogeneously in solution. Many of the reactions being studied will lead to new application areas for catalysis by gold in pollution control, chemical processing, sensors and fuel cell technology. This book describes the properties of gold, the methods for preparing g