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surfaces ; 2.6 Bimetallic Systems Containing Gold ; References Chapter 3 Physical Properties and Characterisation of Small Gold Particles 3.1 Overview ; 3.2 Ways of Preparing Small Particles of Gold ; 3.2.1 Introduction ; 3.2.2 Gaseous clusters ; 3.2.3 Colloidal gold ; 3.2.4 Other methods ; 3.3 Techniques for the Study of Small Particles of Gold 3.3.1 Determination of size and structure 3.3.2 Investigation of optoelectronic parameters ; 3.3.3 Other methods ; 3.4 Variation of Physical Properties with Size ; 3.4.1 Introduction ; 3.4.2 Structure of gaseous and ligand-stabilised clusters 3.4.3 Structure of small supported gold particles

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