1. Record Nr. UNINA9910144290603321 Autore Sheldon Roger A Titolo Green chemistry and catalysis [[electronic resource] /] / Roger Arthur Sheldon, Isabel Arends, and Ulf Hanefeld Weinheim,: Wiley-VCH, 2007 Pubbl/distr/stampa **ISBN** 1-280-92171-4 9786610921713 3-527-61100-2 3-527-61101-0 Descrizione fisica 1 online resource (451 p.) Altri autori (Persone) ArendsIsabel HanefeldUlf Disciplina 660.2995 Soggetti Catalysis Industrial applications Sustainable development Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Green Chemistry and Catalysis; Contents; Preface; Foreword; 1 Nota di contenuto Introduction: Green Chemistry and Catalysis: 1.1 Introduction: 1.2. E Factors and Atom Efficiency; 1.3 The Role of Catalysis; 1.4 The Development of Organic Synthesis; 1.5 Catalysis by Solid Acids and Bases; 1.6 Catalytic Reduction; 1.7 Catalytic Oxidation; 1.8 Catalytic C-C Bond Formation; 1.9 The Question of Solvents: Alternative Reaction Media; 1.10 Biocatalysis; 1.11 Renewable Raw Materials and White Biotechnology: 1.12 Enantioselective Catalysis: 1.13 Risky Reagents: 1.14 Process Integration and Catalytic Cascades; References 2 Solid Acids and Bases as Catalysts2.1 Introduction; 2.2 Solid Acid Catalysis; 2.2.1 Acidic Clays; 2.2.2 Zeolites and Zeotypes: Synthesis and Structure; 2.2.3 Zeolite-catalyzed Reactions in Organic Synthesis; 2.2.3.1 Electrophilic Aromatic Substitutions; 2.2.3.2 Additions and Eliminations; 2.2.3.3 Rearrangements and Isomerizations; 2.2.3.4

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Sommario/riassunto

This first book to focus on catalytic processes from the viewpoint of green chemistry presents every important aspect:? Numerous catalytic reductions and oxidations methods? Solid-acid and solid-base catalysis? C-C bond formation reactions? Biocatalysis? Asymmetric catalysis? Novel reaction media like e.g. ionic liquids, supercritical CO2? Renewable raw materialsWritten by Roger A. Sheldon -- without doubt one of the leaders in the field with much experience in academia and industry -- and his co-workers, the result is a unified whole, an indispensable s