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| Nota di contenuto | Catalysts for Fine Chemical Synthesis; Contents; Series Preface.; Preface to Volume 4; Abbreviations; 1 An Overview of Zeolite, Zeotype and Mesoporous Solids Chemistry: Design, Synthesis and Catalytic Properties; 1.1 Zeolites, zeotypes and mesoporous solids: synthetic aspects; 1.1.1 Introduction; 1.1.2 Synthetic aspects: template theory for zeolite synthesis; 1.1.3 Synthetic aspects: template theory for mesoporous oxides synthesis.; 1.2 Design of extra-large pore zeolites and other micro- and mesoporous catalysts; 1.2.1 Introduction; 1.2.2 Extra-large pore zeolites<br>1.2.3 Hierarchical pore architectures: combining micro- and mesoporosity.1.3 Potential of post-synthesis functionalized micro- and mesoporous solids as catalysts for fine chemical synthesis; 1.3.1 Introduction; 1.3.2 Covalent functionalization; 1.3.3 Noncovalent immobilization approaches; 1.3.4 Single-site catalysts inspired by |

natural systems; References; 2 Problems and Pitfalls in the Applications of Zeolites and other Microporous and Mesoporous Solids to Catalytic Fine Chemical Synthesis; 2.1 Introduction; 2.2 Zeolite catalysed organic reactions
2.2.1 Fundamental and practical differences with homogeneous reactions2.2.2 Batch mode catalysis; 2.2.3 Continuous flow mode catalysis; 2.2.4 Competition for adsorption: influence on reaction rate, stability and selectivity; 2.2.5 Catalyst deactivation; 2.3 General conclusions; References; 3 Aromatic Acetylation; 3.1 Aromatic acetylation; 3.1.1 Acetylation with Acetic Anhydride; 3.1.2 Acetylation with Acetic Acid; 3.2 Procedures and protocols; 3.2.1 Selective synthesis of acetophenones in batch reactors through acetylation with acetic anhydride
3.2.2 Selective synthesis of acetophenones in fixed bed reactors through acetylation with acetic anhydrideReferences; 4 Aromatic Benzoylation; 4.1 Aromatic benzoylation; 4.1.1 Effect of the zeolite; 4.1.2 Effect of the acylating agent; 4.1.3 Effect of the solvent.; 4.1.4 Benzoylation of phenol and the Fries rearrangement; 4.1.5 Kinetic law; 4.1.6 Substituent effect; 4.1.7 Experimental.; 4.2 Acylation of anisole over mesoporous aluminosilicates.; References; 5 Nitration of Aromatic Compounds; 5.1 Introduction.; 5.2 Reaction mechanism.
5.3 Nitration of aromatic compounds using zeolites as catalysts5.3.1 Nitration in liquid phase.; 5.3.2 Vapour phase nitration; 5.4 Conclusions.; References; 6 Oligomerization of Alkenes.; 6.1 Introduction.; 6.2 Reaction mechanisms; 6.3 Acid zeolites as catalysts for oligomerization of alkenes; 6.3.1 Medium pore zeolites: influence of crystal size and acid site density; 6.3.2 Use of large pore zeolites; 6.3.3 Catalytic membranes for olefin oligomerization.; 6.4 Mesoporous aluminosilicates as oligomerization catalysts; 6.5 Nickel supported aluminosilicates as catalysts; References
7 Microporous and Mesoporous Catalysts for the Transformation of Carbohydrates

Sommario/riassunto

This series offers practical help for advanced undergraduate, graduate and postgraduate students, as well as experienced chemists in industry and academia working with catalysts in organic and organometallic synthesis. It features tested and validated procedures, authoritative reviews on classes of catalysts, and assessments of all types of catalysts. Micro- and Mesoporous Solid Catalysts describes the use of zeolites and mesoporous solids as catalysts for the production of fine and specialty chemicals. Specific tips and hints are provided and some typical procedures are describ