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| Nota di bibliografia    | Includes bibliographical references at the end of each chapters and index.   |
| Nota di contenuto       | Cover; Title Page; Copyright; Contents; Foreword; Preface; List of<br>Contributors; Chapter 1 Strategies to Improve the Accessibility to the<br>Intracrystalline Void of Zeolite Materials: Some Chemical Reflections;<br>1.1 Introduction; 1.2 Strategies to Obtain New Large-Pore Materials;<br>1.3 Methodologies to Control the Crystallization Process of Zeolite<br>Materials in the Absence of Pore-Forming Agents; 1.3.1 Confined<br>Nucleation and Growth; 1.3.2 Use of Blocking Agents for Crystal<br>Growth; 1.3.2.1 Silanization Methods; 1.3.2.2 Use of Surfactants in the<br>Synthesis of Silicoaluminophosphates<br>1.3.3 Synthesis in the Presence of Pore-Forming Agents1.4<br>Postsynthesis Methodologies; 1.4.1 Materials with High Structural<br>Anisotropy: Layered Zeolites; 1.4.2 Removal/Reorganization of T Atoms<br>in the Crystal Bulk; 1.5 Conclusions; Acknowledgments; References;<br>Chapter 2 Zeolite Structures of Nanometer Morphology: Small<br>Dimensions, New Possibilities; 2.1 The Structures of Zeolites; 2.1.1 FAU<br>and EMT Structures: Zeolites X and Y; 2.1.2 LTA Structure; 2.1.3 BEA |

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Structure; 2.1.4 Pentasil Zeolites, MFI, and MEL Structures: ZSM-5, ZSM-11, and S-1

2.2 The Structures of Zeotypes: Aluminophosphates and Silicoaluminophosphates2.3 Lamellar Zeolites; 2.4 Conclusions and Perspectives; References; Chapter 3 Nanozeolites and Nanoporous Zeolitic Composites: Synthesis and Applications; 3.1 Introduction; 3.2 Synthesis of Nanozeolites; 3.2.1 Principles; 3.2.2 Synthesis from Clear Solutions; 3.2.2.1 Parameters Affecting the Crystal Size; 3.2.3 Synthesis Using Growth Inhibitor; 3.2.4 Confined Space Synthesis; 3.2.5 Synthesis of Nanozeolites Using Organic Media; 3.3 Nanozeolite Composites; 3.4 Recent Advances in Application of Nanozeolites

3.5 Conclusions and PerspectivesReferences; Chapter 4 Mesostructured and Mesoporous Aluminosilicates with Improved Stability and Catalytic Activities; 4.1 Introduction; 4.2 Zeolite/Mesoporous Composite Aluminosilicates; 4.2.1 Synthesis of Zeolite/Mesoporous Composite Material: 4.2.2 Catalytic Evaluation of Zeolite/Mesoporous Composite Material; 4.3 Posttreatment of Mesostructured Materials; 4.3.1 Posttreatment of Mesoporous Materials by Zeolite Structure-Directing Agents or Zeolite Nanocrystals; 4.3.2 Postsynthesis Grafting of Aluminum Salts on the Walls of Mesostructured Materials 4.4 Mesostructured and Mesoporous Aluminosilicates Assembled from Digested Zeolite Crystals4.5 Mesostructured and Mesoporous Aluminosilicates Assembled from Zeolite Seeds/Nanoclusters; 4.5.1 Assembly of Mesostructured Aluminosilicates from Zeolite Y Seeds: 4.5.2 Assembly of Mesostructured Aluminosilicates from Pentasil Zeolite Seeds; 4.6 Conclusions; References; Chapter 5 Development of Hierarchical Porosity in Zeolites by Using Organosilane-Based Strategies; 5.1 Introduction; 5.2 Types of Silanization-Based Methods; 5.2.1 Functionalization of Protozeolitic Units with Organosilanes 5.2.1.1 Fundamentals of the Method