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| Titolo | Porous Materials for Carbon Dioxide Capture / / edited by An-Hui Lu, Sheng Dai |
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| Soggetti | Renewable energy resources<br>Nanotechnology<br>Catalysis<br>Polymers<br>Climate<br>Renewable and Green Energy<br>Polymer Sciences<br>Climate, general |
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| Note generali | Description based upon print version of record. |
| Nota di bibliografia | Includes bibliographical references at the end of each chapters. |
| Nota di contenuto | Ionic Liquid-Derived Carbonaceous Adsorbents for CO2 Capture -- Porous Carbons for Carbon Dioxide Capture -- Metal-Organic Frameworks (MOFs) for CO2 Capture -- Carbon Dioxide Capture in Porous Aromatic Frameworks -- Microporous Organic Polymers for Carbon Dioxide Capture -- CO2 capture via cyclic calcination and carbonation reactions -- Functionalized inorganic membranes for high temperature CO2/N2 separation. |
| Sommario/riassunto | This multi-authored book provides a comprehensive overview of the latest developments in porous CO2 capture materials, including ionic liquid–derived carbonaceous adsorbents, porous carbons, metal-organic frameworks, porous aromatic frameworks, microporous organic polymers. It also reviews the sorption techniques such as cyclic uptake and desorption reactions and membrane separations. In each category, the design and fabrication, the comprehensive characterization, the evaluation of CO2 sorption/separation, and the sorption/degradation |

mechanism are highlighted. In addition, the advantages and remaining challenges as well as future perspectives for each porous material are covered. This book is aimed at scientists and graduate students in such fields as separation, carbon, polymer, chemistry, material science and technology, who will use and appreciate this information source in their research. Other specialists may consult specific chapters to find the latest, authoritative reviews. Dr. An-Hui Lu is a Professor at the State Key Laboratory of Fine Chemicals, School of Chemical Engineering, Faculty of Chemical, Environmental and Biological Science and Technology, Dalian University of Technology, China. Dr. Sheng Dai is a Corporate Fellow and Group Leader in the Chemical Sciences Division at Oak Ridge National Laboratory (ORNL) and a Professor of Chemistry at the University of Tennessee, USA.