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Chapter 15 ACIDITY MEASUREMENT OF NANOPOROUS ALUMINOSILICATES - ZEOLITES AND MCM-41Chapter 16 NANOCATALYSTS PREPARED BY THE MOLECULARLY DESIGNED DISPERSION PROCESS; Chapter 17 ACIDITY-ENHANCED NANOPOROUS CATALYTIC MATERIALS; Chapter 18 MODIFIED MESOPOROUS MATERIALS AS ACID AND BASE CATALYSTS; Chapter 19 LEWIS ACID/BASE CATALYSTS SUPPORTED ON NANOPOROUS SILICA AS ENVIRONMENTAL CATALYSTS; Chapter 20 NANOPOROUS CATALYSTS FOR SHAPE-SELECTIVE SYNTHESIS OF SPECIALTY CHEMICALS: A REVIEW OF SYNTHESIS OF 4,4'-...; Chapter 21 CATALYSIS INVOLVING MESOPOROUS MOLECULAR SIEVES
Chapter 22 ADSORPTION AND TRANSPORT IN NANOPOROUS MATERIALSChapter 23 ADSORPTION OF ORGANIC MOLECULES IN NANOPOROUS ADSORBENTS FROM AQUEOUS SOLUTION; Chapter 24 FUNCTIONALIZED NANOPOROUS ADSORBENTS FOR ENVIRONMENTAL REMEDIATION; Chapter 25 NANOPOROUS ADSORBENTS FOR AIR POLLUTANT REMOVAL; Chapter 26 BIOADSORPTION AND SEPARATION WITH NANOPOROUS MATERIALS; Chapter 27 NANOPOROUS MATERIALS AS SUPPORTS FOR ENZYME IMMOBILIZATION; Chapter 28 A NOVEL NONSURFACTANT ROUTE TO NANOPOROUS MATERIALS AND ITS BIOLOGICAL APPLICATIONS; Author Index; Subject Index

Sommario/riassunto

Porous materials are of scientific and technological importance because of the presence of voids of controllable dimensions at the atomic, molecular, and nanometer scales, enabling them to discriminate and interact with molecules and clusters. Interestingly the big deal about this class of materials is about the "nothingness" within the pore space. International Union of Pure and Applied Chemistry (IUPAC) classifies porous materials into three categories micropores of less than 2 nm in diameter, mesopores between 2 and 50 nm, and macropores of greater than 50 nm. In this book, nanoporous m