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Sommario/riassunto

"Concise overview of synthesis and characterization of single molecule magnets. Molecular magnetism is explored as an alternative to conventional solid-state magnetism as the basis for ultrahigh-density memory materials with extremely fast processing speeds. In particular single-molecule magnets (SMM) are in the focus of current research, both because of their intrinsic magnetization properties, as well as because of their potential use in molecular spintronic devices. Single-Molecule Magnets: Molecular Architectures and Building Blocks for Spintronics starts with a general introduction to single-molecule magnets, which helps readers to understand the evolution of the field and its future. The following chapters deal with the current synthetic methods leading to SMMs, their magnetic properties and their characterization by methods such as high-field electron paramagnetic resonance, paramagnetic nuclear magnetic resonance, and magnetic circular dichroism. The book closes with an overview of radical-bridged SMMs, which have shown application potential as building blocks for high-density memories. Covers a hot topic - single-molecule magnetism is one of the fastest growing research fields in inorganic chemistry and materials science ; Provides researchers and newcomers to the field with a solid foundation for their further work. Single-Molecule Magnets: Molecular Architectures and Building Blocks for Spintronics will appeal to inorganic chemists, materials scientists, molecular physicists, and electronics engineers interested in the rapidly growing field of study."--Page 4 of cover