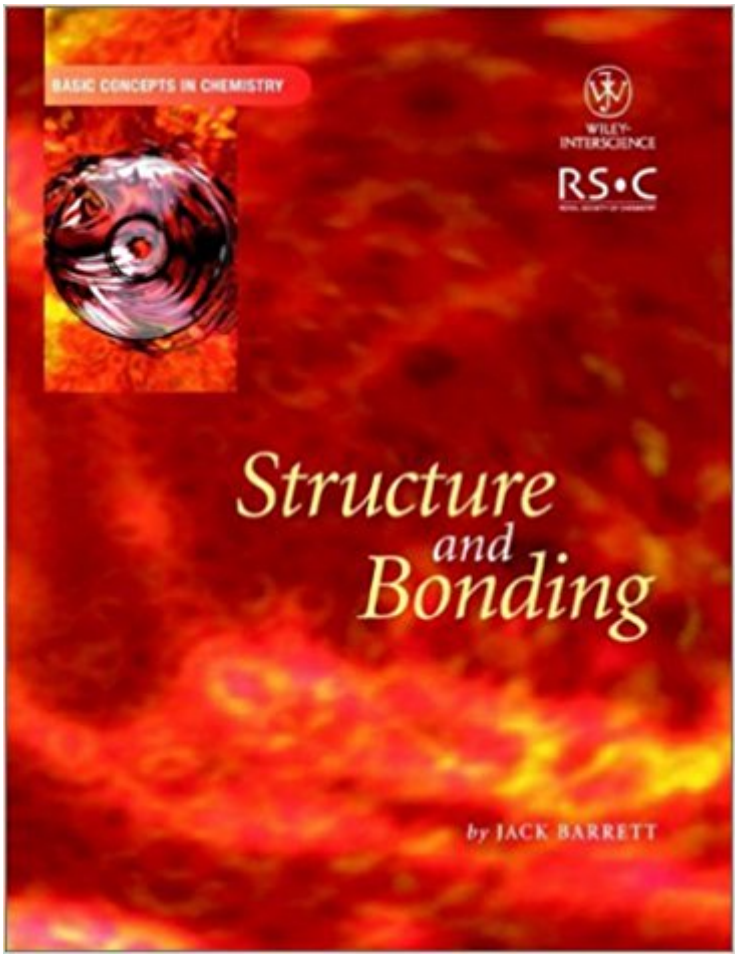
Structure And Bonding (Basic Concepts In Chemistry)



Synopsis

Structure and Bonding covers introductory atomic and molecular theory as given in first and second year undergraduate courses at university level. This book explains in non-mathematical terms where possible, the factors that govern covalent bond formation, the lengths and strengths of bonds and molecular shapes.Â Throughout the book, theoretical concepts and experimental evidence are integrated. An introductory chapter summarizes the principles on which the Periodic Table is established, and describes the periodicity of various atomic properties which are relevant to chemical bonding. Symmetry and group theory are introduced to serve as the basis of all molecular orbital treatments of molecules. This basis is then applied to a variety of covalent molecules with discussions of bond lengths and angles and hence molecular shapes. Extensive comparisons of valence bond theory and VSEPR theory with molecular orbital theory are included. Metallic bonding is related to electrical conduction and semi-conduction. The energetics of ionic bond formation and the transition from ionic to covalent bonding is also covered.Â Â

Book Information

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