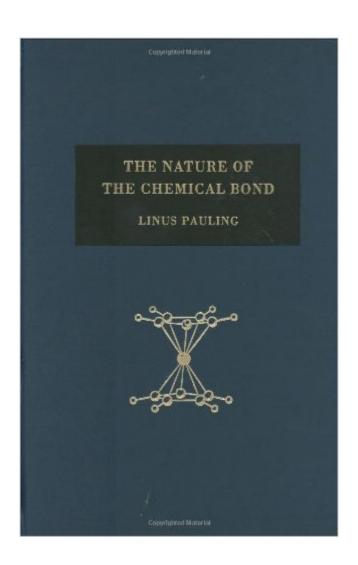
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The Nature Of The Chemical Bond And The Structure Of Molecules And Crystals: An Introduction To Modern Structural Chemistry





Synopsis

Thorough discussion of the various types of bonds, their relative natures, and the structure of molecules and crystals.

Book Information

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Customer Reviews

"It is better to foresee, even without certainty, than not to foresee at all", writes Linus Pauling in the preface of this book which become a bible of sorts for any chemists wanting to learn about the rational underpinnings of his or her discipline. When I first came across this book I thought that it was too detailed and dense. But then as I patiently studied every chapters, I realized that Pauling has truly "foreseen with certainty" in his career and discoveries, a fact which is slowly but surely revealed in this book. I would recommend this book to anyone who is interested in how a few simple scientific ideas lead to the explanation of literally hundreds of phenomena. In this book, the two times Nobel Prize winner has beautifully demonstrated how his classic 'Valence Bond Theory' can be applied to explain the bewildering array of atoms, molecules and crystals around us. In each chapter, the author introduces classic principles like resonance, electronegativity, partial ionic character of bonds, partial double bond character, and hybridization. Today these concepts are the cornerstone of the description of thousands of simple molecules and are part of every chemistry textbook. It's worth noting that the valence bond approach has its drawbacks which Pauling does not really discuss. It is also true that the Molecular Orbital Theory developed by Robert Mulliken, Friedrich Hund and others has largely replaced his theory in making quantitative calculations.

However, Pauling's masterly style of writing and the insights which almost each and every page of this book give the reader are unmatched.

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