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Nota di contenuto	Title Page; Copyright Page; Contents; Preface; Chapter 1 Introduction; 1.1 THE SIGNIFICANCE AND PHENOMENOLOGY OF IONS IN SOLUTION; 1.2 LIST OF SYMBOLS AND ABBREVIATIONS; PRINCIPAL LATIN CHARACTERS; PRINCIPAL GREEK CHARACTERS; PRINCIPAL SUBSCRIPTS; PRINCIPAL SUPERSCRIPTS; Chapter 2 Ions and Their Properties; 2.1 IONS AS ISOLATED PARTICLES; 2.1.1 Bare Ions; 2.1.2 Ions in Clusters; 2.2 SIZES OF IONS; 2.3 IONS IN SOLUTION; 2.3.1 Thermodynamics of Ions in Aqueous Solutions; 2.3.1.1 Heat Capacities of Aqueous Ions; 2.3.1.2 Entropies of Aqueous Ions; 2.3.1.3 Enthalpies of Formation of Aqueous Ions 2.3.1.4 Gibbs Energies of Formation of Aqueous Ions 2.3.1.5 Ionic Molar Volumes in Aqueous Solutions; 2.3.2 Other Properties of Aqueous Ions; 2.3.2.1 Ionic Conductivities in Aqueous Solutions; 2.3.2.2 Ionic Self-Diffusion in Aqueous Solutions; 2.3.2.3 Ionic Effects on the Viscosity; 2.3.2.4 Ionic Effects on the Relaxation of NMR Signals; 2.3.2.5 Ionic Dielectric Decrements; 2.3.2.6 Ionic Effects on the Surface Tension; REFERENCES; Chapter 3 Solvents for Ions; 3.1 SOLVENT

PROPERTIES THAT SUIT ION DISSOLUTION; 3.2 PHYSICAL PROPERTIES OF SOLVENTS; 3.2.1 Volumetric Properties
3.2.2 Thermodynamic Properties 3.2.3 Electrical, Optical, and Magnetic Properties; 3.2.4 Transport Properties; 3.3 CHEMICAL PROPERTIES OF SOLVENTS; 3.3.1 Structuredness; 3.3.2 Solvent Properties Related to Their Ion Solvating Ability; 3.3.2.1 Polarity; 3.3.2.2 Electron Pair Donicity and Ability to Accept a Hydrogen Bond; 3.3.2.3 Hydrogen Bond Donicity and Electron Pair Acceptance; 3.3.2.4 Softness; 3.3.3 Solvents as Acids and Bases; 3.3.4 Miscibility with and Solubility in Water; 3.3.5 Spectroscopic and Electrochemical Windows; 3.4 PROPERTIES OF BINARY AQUEOUS COSOLVENT MIXTURES
3.4.1 Physical Properties of Binary Aqueous Mixtures with Cosolvents
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4.4.3 Hydration Numbers from Bulk Properties

Sommario/riassunto

The book starts with an exposition of the relevant properties of ions and continues with a description of their solvation in the gas phase. The book contains a large amount of factual information in the form of extensive tables of critically examined data and illustrations of the points made throughout. It covers: the relevant properties of prospective liquid solvents for the ions the process of the transfer of ions from the gas phase into a liquid where they are solvated various aspects of the solutions of the ions, such as structural and transport ones and the effects of the ions
