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Handbook of Thermodynamic Diagrams

Thermodynamic property data are important in many engineering applications in the chemical processing and petroleum refining industries. The "Handbook of Thermodynamic Diagrams" series presents volume and enthalpy diagrams (graphs) for the major organic chemicals and hydrocarbons, as well as the major inorganic compounds and elements. The graphs, arranged by carbon number and chemical formula, cover a wide range of pressures and temperatures to enable engineers to determine quickly values at various points. This volume covers inorganic compounds and elements.

Handbook of Thermodynamic Diagrams

Full text engineering e-book.

Handbook of Thermodynamic Diagrams: Organic compounds C8 to C28

Excerpt from Handbook of Thermodynamic Tables and Diagrams: A Selection of Tables and Diagrams From Engineering Thermodynamics Time is an important item in all engineering work and none the less so in computations, so that convenient tables and diagrams are most essential to the solution of such problems. In some cases graphic methods are the only means of solution; in others the problems may be solved directly without the use of formulas, and in still others certain steps may be Shortened. In many engineering calculations no one is justified in using a complicated mathematical formula; if too much time be required to make the calculation in commercial work it will not be made, therefore indirect and often approximate methods are substituted. In such cases the nearest tabular or chart value must be used, and generally the result will be as accurate as the work requires. In the following tables and charts the accompanying title usually, indicates the character of each table or diagram

and little explanation is necessary. The tables for dry saturated steam, and properties of superheated steam are those of Marks and Davis. From the investigation made by Marks and Davis it is believed that the properties of saturated steam given in the tables are correct to within one-tenth of 1 per cent. For pressures within the range of ordinary engineering practice. About the Publisher Forgotten Books publishes hundreds of thousands of rare and classic books. Find more at www.forgottenbooks.com This book is a reproduction of an important historical work. Forgotten Books uses state-of-the-art technology to digitally reconstruct the work, preserving the original format whilst repairing imperfections present in the aged copy. In rare cases, an imperfection in the original, such as a blemish or missing page, may be replicated in our edition. We do, however, repair the vast majority of imperfections successfully; any imperfections that remain are intentionally left to preserve the state of such historical works.

Handbook of Thermodynamic Diagrams: Organic compounds C5 to C

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Handbook of Thermodynamic Tables and Diagrams

An excerpt from the beginning of PART I - INTRODUCTION: THE province of Engineering Thermodynamics is to guide numerical thermal computations dealing with actual substances and apparatus in accordance with the laws of thermodynamic philosophy. In order to do this, numerical values for heat effects must be available for the various substances and materials used in engineering under the varying conditions of practice, and in such units as may readily be applied; these include especially that class of units known as physical constants which embrace, for example, such quantities as the coefficients of expansion, the specific heats, latent heats of fusion and vaporization, the ratio of the pressure-volume product to absolute temperature, the exponent "s" in adiabatic expansion of gases and vapors, and various other quantities. In addition to the physical constants which are necessary in the work of thermodynamic computation, the solution of numerical problems is greatly facilitated by the use of other correlated tables and diagrams many of which are given in the present book of tables, but to correctly use such aids there should be no ambiguity in regard to the units employed. It should be noted that true pressures are always absolute, that is, measured above a perfect vacuum or counted from zero, while most pressure gages and other devices for measuring pressure, such as indicators, give results measured above or below atmospheric pressure. In all problems involving work of gases and vapors, the absolute values of the pressures must be used; hence, if a gage or indicator measurement is being considered, the pressure of the atmosphere found by means of the barometer must be added to the pressure above atmosphere in order to obtain the absolute or true pressures. When the pressures are below atmosphere the combination with the barometric reading will depend on the record; if the record be taken by an indicator it will be in pounds per square inch below atmosphere and must be subtracted from the barometric equivalent in the same units to give the absolute pressure in pounds per square inch. When, however, a vacuum gage reads in inches of mercury below atmosphere, as such gages do, the difference between its reading and the barometric gives the absolute pressure in inches of mercury directly, which can be converted to the desired units by the proper factors. In general, steam pressures are most commonly stated in pounds per square inch and are designated as either gage or absolute. Pressures of compressed air are commonly expressed in the same units as steam, either gage or absolute, though sometimes in atmospheres. Steam pressures below atmosphere are conveniently stated as a vacuum of so many inches of mercury, or they may be given as a pressure of so many inches of mercury absolute or so many pounds per square inch absolute. The pressures of gases stored in tanks under high pressure are frequently recorded in atmospheres due to the convenience of computation of quantities on this basis. Pressures of air obtained by blowers or fans are sometimes given in ounces per square inch above atmosphere, but such pressures, and also differences of pressure of air due to chimney draught, or forced draught, and the pressure of illuminating

gas in city mains are commonly stated in inches of water. In many cases the data are given in other units which must be converted by the use of tables, diagrams or otherwise, before the results can be properly interpreted or intelligently compared. Time is an important item in all engineering work and none the less so in computations, so that convenient tables and diagrams are most essential to the solution of such problems....

Handbook of Thermodynamic Tables and Diagrams

Thermodynamic property data are important in many engineering applications in the chemical processing and petroleum refining industries. The "Handbook of Thermodynamic Diagrams" series presents volume and enthalpy diagrams (graphs) for the major organic chemicals and hydrocarbons, as well as the major inorganic compounds and elements. The graphs, arranged by carbon number and chemical formula, cover a wide range of pressures and temperatures to enable engineers to determine quickly values at various points. This volume covers organic compounds C1 to C4.

HANDBK OF THERMODYNAMIC TABLES

This reference provides engineers with values for thermal conductivity as a function of temperature for the major organic compounds.

Handbook of Thermodynamic Tables and Diagrams

This handbook presents original computer-generated reference data describing the thermodynamic properties of high-temperature processes. Included are the reduction of chlorides and oxides, pyrolysis and conversion of hydrocarbons, production of nitrides, carbides, oxides and other compounds. Process parameters and thermodynamic properties of dissociation products for various gases are determined over a wide range of variables. Overall, the handbook treats nearly 200 chemical process systems - spanning various temperatures and pressures.

Handbook of Thermodynamic Diagrams, Volume 1 Organic Compounds C1 to C4

An important compilation of the thermal properties of selected solids, liquids, vapors, and gases. Covers foods, metals, alloys, building materials, industrial gases, refrigerants, and much more. Includes hard-to-find data on thermal conductivities, specific heat capacities, dynamic viscosity, and properties of compounds.

Handbook of Thermal Conductivity, Volume 1

Written by experts who have been part of this field since its beginnings in both research and academia, this textbook introduces readers to this evolving topic and the broad range of applications that are being explored. The book begins by examining what it is that defines ionic liquids and what sets them apart from other materials. Chapters describe the various types of ionic liquids and the different techniques used to synthesize them, as well as their properties and some of the methods used in their measurement. Further chapters delve into synthetic and electrochemical applications and their broad use as "Green" solvents. Final chapters examine important applications in a wide variety of contexts, including such devices as solar cells and batteries, electrochemistry, and biotechnology. The result is a must-have resource for any researcher beginning to work in this growing field, including senior undergraduates and postgraduates.

Thermodynamic Diagrams for Sodium

Ionic Liquids (ILs) are one of the most interesting and rapidly developing areas of modern physical chemistry, technologies and engineering. This book, consisting of 29 chapters gathered in 4 sections, reviews in detail and compiles information about some important physical-chemical properties of ILs and new practical approaches. This is the first book of a series of forthcoming publications on this field by this publisher. The first volume covers some aspects of synthesis, isolation, production, modification, the analysis methods and modeling to reveal the structures and properties of some room temperature ILs, as well as their new possible applications. The book will be of help to chemists, physicists, biologists, technologists and other experts in a variety of disciplines, both academic and industrial, as well as to students and PhD students. It may help to promote the progress in ILs development also.

THERMODYNAMIC Diagrams for High Temperature Plasmas of Air, Air-carbon, Carbon-hydrogen Mixtures, and Argon

Edited and written by renowned experts in the field, this is the first book to reflect the state of the art of nanocatalysis in ionic liquids. Divided into two core areas, the first part of the book describes the different classes of metal nanoparticles as well as their synthesis in ionic liquids, while the second focuses on such emerging issues as the application of such systems to energy and biomass conversion.

Handbook of Thermodynamic High Temperature Process Data

This book addresses the use of ionic liquids in biotransformation and organocatalysis. Its major parts include: an overview of the fundamentals of ionic liquids and their interactions with proteins and enzymes; the use of ILs in biotransformations; non-solvent applications such as additives, membranes, substrate anchoring, and the use of ILs in organocatalysis (from solvents to co-catalysts and new reactivities, as well as non-solvent applications such as anchoring and immobilization).

Handbook of Thermodynamic Tables and Charts

One of the main problems concerning therapeutic tools for the treatment of parasitic diseases, including leishmaniasis, is that some field parasites are naturally resistant to the classical drugs; additionally, current therapies may select parasites prone to be resistant to the applied drugs. These features are (at least partially) responsible for the disappointing persistence of the disease and resultant deaths worldwide. This book provides a comprehensive view of the pathology of the disease itself, and of parasitic drug resistance, its molecular basis, consequences and possible treatments. Scientists both from academic fields and from the industry involved in biomedical research and drug design, will find in this book a valuable and fundamental guide that conveys the knowledge needed to understand and to improve the success in combating this disease worldwide.

Handbook of Thermodynamic Tables

Written by recognized experts in the study of proteins, *Proteomics for Biological Discovery* begins by discussing the emergence of proteomics from genome sequencing projects and a summary of potential answers to be gained from proteome-level research. The tools of proteomics, from conventional to novel techniques, are then dealt with in terms of underlying concepts, limitations and future directions. An invaluable source of information, this title also provides a thorough overview of the current developments in post-translational modification studies, structural proteomics, biochemical proteomics, microfabrication, applied proteomics, and bioinformatics relevant to proteomics. Presents a comprehensive and coherent review of the major issues faced in terms of technology development, bioinformatics, strategic approaches, and applications. Chapters offer a rigorous overview with summary of limitations, emerging approaches, questions, and realistic future industry and basic science applications. Discusses higher level integrative aspects, including technical challenges and applications for drug discovery. Accessible to the novice while providing experienced investigators essential information. *Proteomics for Biological Discovery* is an essential resource for students, postdoctoral fellows, and researchers across all fields of biomedical research, including biochemistry, protein chemistry, molecular genetics, cell/developmental biology, and bioinformatics.

Fundamentals of Ionic Liquids

The second edition is based on the original book, which has been revised, updated and expanded in order to cover the latest information on this rapidly growing field. The book begins with a description of general and electrochemical properties of ionic liquids and continues with a discussion of applications in biochemistry, ionic devices, functional design and polymeric ionic liquids. The new edition includes new chapters on Li ion Batteries and Actuators, as well as a revision of existing chapters to include a discussion on purification and the effects of impurities, adsorption of ionic liquids on interfaces and on the electrochemical double layer, among other topics.

Ionic Liquids

An improved understanding of the interactions between nanoparticles and plant retorts, including their uptake, localization, and activity, could revolutionize crop production through increased disease resistance, nutrient utilization, and crop yield. This may further impact other agricultural and industrial

processes that are based on plant crops. This two-volume book analyses the key processes involved in the nanoparticle delivery to plants and details the interactions between plants and nanomaterials. Potential plant nanotechnology applications for enhanced nutrient uptake, increased crop productivity and plant disease management are evaluated with careful consideration regarding safe use, social acceptance and ecological impact of these technologies. *Plant Nanobionics: Volume 1, Advances in the Understanding of Nanomaterials Research and Applications* begins the discussion of nanotechnology applications in plants with the characterization and nanosynthesis of various microbes and covers the mechanisms and etiology of nanostructure function in microbial cells. It focuses on the potential alteration of plant production systems through the controlled release of agrochemicals and targeted delivery of biomolecules. Industrial and medical applications are included. Volume 2 continues this discussion with a focus on biosynthesis and toxicity.

Nanocatalysis in Ionic Liquids

The series *Topics in Current Chemistry Collections* presents critical reviews from the journal *Topics in Current Chemistry* organized in topical volumes. The scope of coverage is all areas of chemical science including the interfaces with related disciplines such as biology, medicine and materials science. The goal of each thematic volume is to give the non-specialist reader, whether in academia or industry, a comprehensive insight into an area where new research is emerging which is of interest to a larger scientific audience. Each review within the volume critically surveys one aspect of that topic and places it within the context of the volume as a whole. The most significant developments of the last 5 to 10 years are presented using selected examples to illustrate the principles discussed. The coverage is not intended to be an exhaustive summary of the field or include large quantities of data, but should rather be conceptual, concentrating on the methodological thinking that will allow the non-specialist reader to understand the information presented. Contributions also offer an outlook on potential future developments in the field. The chapters "Ionic Liquid–Liquid Chromatography: A New General Purpose Separation Methodology", "Proteins in Ionic Liquids: Current Status of Experiments and Simulations", "Lewis Acidic Ionic Liquids" and "Quantum Chemical Modeling of Hydrogen Bonding in Ionic Liquids" are available open access under a Creative Commons Attribution 4.0 International License via link.springer.com.

Ionic Liquids in Biotransformations and Organocatalysis

This book describes the significance of metrology for inclusive growth in India and explains its application in the areas of physical–mechanical engineering, electrical and electronics, Indian standard time measurements, electromagnetic radiation, environment, biomedical, materials and Bhartiya Nirdeshak Dravyas (BND®). Using the framework of "Aswal Model", it connects the metrology, in association with accreditation and standards, to the areas of science and technology, government and regulatory agencies, civil society and media, and various other industries. It presents critical analyses of the contributions made by CSIR-National Physical Laboratory (CSIR-NPL), India, through its world-class science and apex measurement facilities of international equivalence in the areas of industrial growth, strategic sector growth, environmental protection, cybersecurity, sustainable energy, affordable health, international trade, policy-making, etc. The book will be useful for science and engineering students, researchers, policymakers and entrepreneurs.

Drug Resistance in Leishmania Parasites

This comprehensive database on physical properties of pure ionic liquids (ILs) contains data collected from 269 peer-reviewed papers in the period from 1982 to June 2008. There are more than 9,400 data points on the 29 kinds of physicochemical properties for 1886 available ionic liquids, from which 807 kinds of cations and 185 kinds of anions were extracted. This book includes nearly all known pure ILs and their known physicochemical properties through June 2008. In addition, the authors incorporate the main applications of individual ILs and a large number of references. Nearly 50 tables include typical data, experimental and modelling or simulation comparison, and model parameters, enhancing the application of ILs 100 figures--from QSPR, EOS and gE models to quantum and molecular simulations--help readers understand ILs at molecular level Applications illustrate the role of IL properties in industry, in particular the development of novel clean processes and products

Proteomics for Biological Discovery

This volume takes a multidisciplinary approach to study and evaluate the global human vulnerability to the exposure of contaminants of emerging concern (CECs) in the natural environment. It provides a comprehensive resource on structurally diverse groups of chemical compounds that have adverse effects on the aquatic environment. It explores the global strength, environmental status, chemical risk assessment and management strategies of CECs with relevant modern techniques. The principle focus is on concurrent emerging water quality issues. It defines the impacts of the environmental exposure of trace concentrations of CECs and/or their metabolites and discusses possible technological advances to combat the emerging pollutants. It will be useful to researchers, multi-stakeholder expert groups, policymakers, and graduate students.

Electrochemical Aspects of Ionic Liquids

The ability of plants to exchange RNA molecules and transcription factors between cells and tissues is a relatively recent discovery. However, all areas of research such as plant development, metabolism, and plant pathogen interactions now realize the importance of this phenomenon. In this book, experts from the field of intercellular transport deal with various aspects on intercellular transport of viruses and plant endogenous macromolecules such as transcription factors, small silencing-induced and micro RNAs, and other RNAs and their function as signals. The aim of the book is to provide the basic information on the cell-to-cell transport mechanism and to give an overview of the current knowledge of this relatively new field of research. To quote the words of W.J. Lucas "...pioneering discoveries in this field of cell-to-cell and long-distance signaling should certainly entice talented young scholars to join this frontier area of plant biology". He is certainly right as we got only a first glimpse on the cellular factors regulating intercellular transport and the functional diversity of the ever-increasing number of proteins and RNA molecules found to move between cells.

Plant Nanobionics

Although ionic liquids have only been studied in depth during the last decades, the field is now maturing to such a degree that the focus is on larger scale applications for use in real processes such as catalysis. Current information is scattered across the literature and *Catalysis in Ionic Liquids* provides a critical analysis of the research published to date on ionic solvents in all areas of the catalytic science. The book covers both catalyst synthesis using ionic liquids as solvents and green syntheses using both ionic liquids as well as mixtures of ionic liquids and carbon dioxide (as a subcritical and supercritical liquid), including enzymatic, homogeneous, and heterogeneous catalysis, electrocatalysis and organocatalysis. As well as the catalysis community, the book will also be of interest to postgraduates, postdoctoral workers and researchers in academia and industry working in organic synthesis, new materials synthesis, renewable sources of energy and electrochemistry. Written by leading experts in the field, this is the reference source to find about catalysis in ionic liquids.

Ionic Liquids II

An application of the techniques of dynamical systems and bifurcation theories to the study of nonlinear oscillations. Taking their cue from Poincare, the authors stress the geometrical and topological properties of solutions of differential equations and iterated maps. Numerous exercises, some of which require nontrivial algebraic manipulations and computer work, convey the important analytical underpinnings of problems in dynamical systems and help readers develop an intuitive feel for the properties involved.

Metrology for Inclusive Growth of India

Physical and biological systems driven out of equilibrium may spontaneously evolve to form spatial structures. In some systems molecular constituents may self-assemble to produce complex ordered structures. This book describes how such pattern formation processes occur and how they can be modeled. Experimental observations are used to introduce the diverse systems and phenomena leading to pattern formation. The physical origins of various spatial structures are discussed, and models for their formation are constructed. In contrast to many treatments, pattern-forming processes in nonequilibrium systems are treated in a coherent fashion. The book shows how near-equilibrium and far-from-equilibrium modeling concepts are often combined to describe physical systems. This inter-disciplinary book can form the basis of graduate courses in pattern formation and self-assembly. It is a useful reference for graduate students and researchers in a number of disciplines, including condensed matter science, nonequilibrium statistical mechanics, nonlinear dynamics, chemical biophysics, materials science, and engineering.

Ionic Liquids

This book offers up-to-date information on different microbiomes, their community composition and interactive functions with the host, bringing together information from diverse research reports to provide an overview of the rapid developments in meta-omics technologies. It is a valuable resource for scientists, researchers, postgraduate and graduate students interested in understanding the impact and importance of next generation sequencing technologies on different hosts and their microbiomes.

Contaminants in Drinking and Wastewater Sources

This book explores the role of *in silico* deployment in connection with modulation techniques for improving sustainability and competitiveness in the agri-food sector; pharmacokinetics and molecular docking studies of plant-derived natural compounds; and their potential anti-neurodegenerative activity. It also investigates biochemical pathways for bacterial metabolite synthesis, fungal diversity and plant-fungi interaction in plant diseases, methods for predicting disease-resistant candidate genes in plants, and genes-to-metabolites and metabolites-to-genes approaches for predicting biosynthetic pathways in microbes for natural product discovery. The respective chapters elaborate on the use of *in situ* methods to study biochemical pathways for bacterial metabolite synthesis; tools for plant metabolites in defence; plant secondary metabolites in defence; plant growth metabolites; characterisation of plant metabolites; and identification of plant derived metabolites in the context of plant defence. The book offers an unprecedented resource, highlighting state-of-the-art research work that will greatly benefit researchers and students alike, not only in the field of agriculture but also in many disciplines in the life sciences and plant sciences.

Short and Long Distance Signaling

Phase transition dynamics is centrally important to condensed matter physics. This 2002 book treats a wide variety of topics systematically by constructing time-dependent Ginzburg-Landau models for various systems in physics, metallurgy and polymer science. Beginning with a summary of advanced statistical-mechanical theories including the renormalization group theory, the book reviews dynamical theories, and covers the kinetics of phase ordering, spinodal decomposition and nucleation in depth. The phase transition dynamics of real systems are discussed, treating interdisciplinary problems in a unified manner. Topics include supercritical fluid dynamics, stress-diffusion coupling in polymers and mesoscopic dynamics at structural phase transitions in solids. Theoretical and experimental approaches to shear flow problems in fluids are reviewed. Phase Transition Dynamics provides a comprehensive account, building on the statistical mechanics of phase transitions covered in many introductory textbooks. It will be essential reading for researchers and advanced graduate students in physics, chemistry, metallurgy and polymer science.

Catalysis in Ionic Liquids

This volume deals with substances in the liquid state that range from high melting salts, such as calcium fluoride, through slags, such as silicates, down to lower melting salts, such as lithium nitrate, molten hydrated salts, such as magnesium chloride hexahydrate, to room temperature ionic liquids, such as 1,3-dimethylimidazolium tetraphenylborate. It provides the reader with annotated, critically examined, and compiled data for such materials. The data includes a variety of thermochemical, structural, and

transport properties. The book includes correlations of measured properties; these correlations should enable the reader to estimate, on a sound basis, properties for ionic liquids that have not yet been measured.

Nonlinear Oscillations, Dynamical Systems, and Bifurcations of Vector Fields

This book provides a detailed overview and comprehensive analysis of the main theoretical and experimental advances on free surface thin film and jet flows of soft matter. The book outlines the basic equations and boundary conditions and the derivation of low-dimensional models for the evolution of the free surface. At the experimental front, a variety of recent experimental developments is outlined and the link between theory and experiments is illustrated.

Dynamics of Self-Organized and Self-Assembled Structures

This book provides a comprehensive overview of the multitude of different forms of thermotherapy in connection with aspects of thermal physiology and cell biology. The aim is to elucidate the scientific background of therapeutic actions and to promote effective new applications at the beginning of the 21st century. Significant to these purposes is cooperation between experts in the fields of thermal biology, hyper thermic oncology, rheumatology, and balneology, as represented by the editors. Emphasis has been placed on a balanced choice of contributions, in the hope that this will enable the reader to draw helpful connections between the principles and practice of thermotherapy. It is apparent that a wealth of published data exists concerning thermotherapy on the one hand and thermal physiology on the other. However, in the former field empirical aspects of therapeutic usefulness prevail, while in the latter, aspects of basic science are in the foreground. Accordingly, the sources where published data may be found are quite different and as a consequence many findings of potential mutual interest published in medical journals have gone unnoticed by readers of physiological journals, and vice versa. It is hoped that this book will bridge the gap and encourage researchers' efforts to integrate the available knowledge to attain optimal coordination of clinical and theoretical aspects.

Understanding Host-Microbiome Interactions - An Omics Approach

Research into the field of stem cell biology has developed exponentially over recent years, and is beginning to offer significant promise for unravelling the molecular basis of a multitude of disease states. Importantly, in addition to offering the opportunity to delve deeply into the mechanisms that drive disease aetiology the research is realistically opening the doors for development of targeted and personalized therapeutic applications that many considered, until recently, to be nothing more than a far fetched dream. This volume provides a timely glimpse into the methods that have been developed to instigate, and the mechanisms that have been identified to drive, the process of nuclear reprogramming, chronicling how the field has developed over the last 50-60 years. Since the early 1950s a small number of notable experiments have provided significant impetus to the field, primarily the demonstration of reprogramming ability, first by the complex cytoplasmic milieu that constitutes the amphibian egg, then that of the mammalian egg, and finally that of the mammalian embryonic stem cell. Most recently, the demonstration that a limited pool of defined molecules is capable of reprogramming a multitude of cell types has provided massive impetus and facilitated transition towards realistic therapeutic application. We have therefore reproduced some of the key articles that elegantly document these dramatic stages of development of the field in an inclusive appendix to the book, for the benefit of readers keen to investigate the history of how the field of stem cell biology has evolved. Owing to the ever broadening nature of this field, and the incredible rate at which it is evolving, the main content of this volume focuses on areas that have shown significant movement in recent years, are most likely to translate into personalized therapeutic application, and thus provide greatest potential for significant impact on human health in the not too distant future. We recognize that research into many other disease states and cell types are all equally worthy of discussion. We would therefore like to acknowledge those researchers involved whose work we have not been able to include in this volume. Nuclear Reprogramming and Stem Cells will serve as a valuable resource for all researchers in the field of stem cell biology, including those just setting out on their career path as well as those already established in the field.

In Silico Approach for Sustainable Agriculture

The Properties of Solvents Yizhak Marcus Hebrew University of Jerusalem, Israel The Properties of Solvents contains extensively annotated tables of physical, chemical and related properties for over 250

solvents. Factual knowledge of solvent effects on solvation, solubility, chemical equilibria and reaction rate is important for theoretical and practical applications. This volume will enable chemists to choose solvents rationally, taking into account solvent properties and the expected results. The Properties of Solvents is a valuable source of information for all who are interested in the behaviour of solutions. These include solution, organic, analytical and physical chemists. Contents * Introduction * Solvent effects * Physical properties * Chemical properties * Applications The Wiley Series in Solution Chemistry fills the increasing need to present authoritative, comprehensive and fully up-to-date accounts of the many aspects of solution chemistry. Internationally recognized experts from research or teaching institutions in various countries are invited to contribute to the series.

Phase Transition Dynamics

Covering interface science from a novel surface science perspective, this seven-volume handbook offers a comprehensive overview of both these and numerous other topics. The initial chapters treat basic fundamentals on such topics as vacuum technology, while general chapters -- where appropriate -- describe theoretical methods and provide models to help explain the respective phenomena, such as band structure calculations, chemisorption and segregation. Additionally, short references to more specialized methodology accompany the descriptions of the most important techniques. Ideal as a reference for scientists in the field, as well as an introduction to current methods for newcomers.

Ionic Liquid Properties

Thin Films of Soft Matter