[EPUB] Determination Of Surface Pka Values Of Surface Confined

Right here, we have countless book determination of surface pka values of surface confined and collections to check out. We additionally present variant types and plus type of the books to browse. The normal book, fiction, history, novel, scientific research, as with ease as various supplementary sorts of books are readily straightforward here.

As this determination of surface pka values of surface confined, it ends occurring inborn one of the favored ebook determination of surface pka values of surface confined collections that we have. This is why you remain in the best website to see the unbelievable books to have.

Determination of Surface Pka Values of Surface-confined Molecules Derivatized with PH-sensitive Pendant Groups-M. A. Bryant 1992

Determination of Surface Pka Values of Surface-Confined Molecules Derivatized with PH-Sensitive Pendant Groups- 1992 Two methods for in-situ electrochemical measurements of surface pKa values air, reported. The methods are applied to surface-confined monolayers consisting of organomercaptan molecules derivatized with pH-sensitive pendant groups. The first technique relies upon pH-dependent electrostatic binding of redox probe molecules to the charged monolayer surface: the surface concentration of the probe molecules reflects the degree of surface protonation. The second method relates the differential capacitance of the monolayer-modified electrode surface to the surface pka. The two methods yield essentially identical results and are consistent with a recently developed theoretical model. The surface pKa values of 4-mercaptopypyridine and 4-aminothiophenol are 3.7 and 5.7, respectively.

Immobilized Biocatalysts-Peter Grunwald 2018-11-14 This book is a printed edition of the Special Issue “Immobilized Biocatalysts” that was published in Catalysts

Molecular Modeling of Geochemical Reactions-James D. Kubicki 2016-07-22 Molecular processes in nature affect human health, the availability of resources and the Earth's climate. Molecular modelling is a powerful and versatile toolbox that complements experimental data and provides insights where direct observation is not currently possible. Molecular Modeling of Geochemical Reactions: An Introduction applies computational chemistry to geochemical problems. Chapters focus on geochemical applications in aqueous, petroleum, organic, environmental, bio- and isotope geochemistry, covering the fundamental theory, practical guidance on applying techniques, and extensive literature reviews in numerous geochemical sub-disciplines. Topics covered include: Theory and Methods of Computational Chemistry • Force Field Application and Development • Computational Spectroscopy • Thermodynamics • Structure Determination • Geochemical Kinetics This book will be of interest to graduate students and researchers looking to understand geochemical processes on a molecular level. Novice practitioners of molecular modelling, experienced computational chemists, and experimentalists seeking to understand this field will all find information and knowledge of use in their research.

Silver Nano/microparticles: Modification and Applications-Bong-Hyun Jun 2019-07-26 Nano/micro-size particles are widely applied in various fields. Among the various particles, silver particles are considered among the most prominent nanomaterials in the biomedical and industrial sectors because of their favorable physical, chemical, and biological characteristics. Thus, numerous studies have been conducted to evaluate their properties and utilize them in various applications, such as diagnostics, anti-bacterial and anti-cancer therapeutics, and optoelectronics. The properties of silver particles are strongly influenced by their size, morphological shape, and surface characteristics, which can be modified by diverse synthetic methods, reducing agents, and stabilizers. This Special Issue provides a range of original contributions detailing the synthesis, modification, properties, and applications of silver materials. Nine outstanding papers describing examples of the most recent advances in silver nano/microparticles are included. Silver nano/micro-size particles have many potential advantages as next-generation materials in various areas, including nanomedicine. This Special Issue might be helpful to understand the value of silver particles in the biomedical and industrial fields.

Encyclopedia of Surface and Colloid Science-P. Somasundaran 2006

Physics and Chemistry of Interfaces-Hans-Jürgen Butt 2013-04-15 Physics and Chemistry of Interfaces This general yet comprehensive introduction to the field focuses on the essential concepts rather than specific details, on intuitive understanding rather than learning facts. The text reflects the many facets of this discipline by linking fundamentals with applications. The theory behind important concepts is backed by scientific-engineering aspects, as well as by a wide range of high-end applications. Examples of applications from biotechnology to microelectronics are used to illustrate the basic concepts. New to this third edition are topics as second harmonic generation spectroscopy, surface diffusion, atomic layer deposition, superlubricity, and bioadsorption. At the same time, the discussions of liquid surfaces, the Marangoni effect, electric double layers, measurement of surface forces, wetting, and adsorption have been updated. The number and variety of exercises are increased and the references are updated. From the Contents: Introduction Liquid Surfaces Thermodynamics of Interfaces Charged Interfaces and the Electric Double Layer Surface Forces Contact Angle Phenomena and Wetting Solid Surfaces Adsorption Surface Modification Friction, Lubrication, and Wear Surfactants, Micelles, Emulsions, and Foams Thin Films Surfaces of Liquids Solutions to Exercises Analysis of Diffraction Patterns

Chemistry of Powder Production-Yasu Arai 2012-12-06 Chemistry of Powder Production focuses on the solid-state chemistry of powder materials and relates this to the structure, properties and preparation, and characterization techniques for these important industrial products. Additionally, the properties of the particles are discussed in relation to their surface structure and characteristics. This book describes the fundamentals of statistical methods for measuring the characteristics of particles. New advanced materials being developed in powder technology manufacturing techniques are also emphasised, including powdered materials for advanced ceramics as well as magnetic and pigment materials.

Determination of Organic Structures by Physical Methods-E. A. Braude 2013-10-22 Determination of Organic Structures by Physical Methods, Volume 1 focuses on the processes, methodologies, principles, and approaches involved in the determination of organic structures by physical methods, including infrared light absorption, thermodynamic properties, Raman spectra, and kinetics. The selection first elaborates on the phase properties of small molecules, equilibrium and dynamic properties of large molecules, and optical rotation. Discussions focus on simple acyclic compounds, carbohydrates, steroids, diffusion, viscosity, osmotic pressure, sedimentation velocity, melting and boiling points, and molar volume. The book then examines ultraviolet and visible light absorption, infrared light absorption, Raman spectra, and the theory of magnetic susceptibility. Concerns cover applications to the study of organic compounds, applications to the determination of structure, determination of thermodynamic properties, and experimental methods and evaluation of data. The text ponders on wave-mechanical theory, reaction kinetics, and dissociation constants, including dissociation of molecular addition compounds, principles of reaction kinetics, and valence-bond treatment of aromatic systems. The selection is a valuable source of data for researchers interested in the determination of organic structures by...
Scanning Probe Microscopies Beyond Imaging - Paolo Samori 2006-08-21 This first book to focus on the use of SPMs to actively manipulate molecules and nanostructures on surfaces goes way beyond conventional treatments of scanning microscopy merely for imaging purposes. It reviews recent progress in the use of SPMs on such soft materials as polymers, with a particular emphasis on chemical discrimination, mechanical properties, tip-induced reactions and manipulations, as well as their nanoscale electrical properties. Detailing the practical application potential of this hot topic, this book is of great interest to specialists of wide-ranging disciplines, including physicists, chemists, materials scientists, spectroscopy experts, surface scientists, and engineers.

Microbial Biotechnology - Jayanta Kumar Patra 2018-02-07 This edited book, is a collection of 20 articles describing the recent advancements in the application of microbial technology for sustainable development of agriculture and environment. This book covers many aspects like agricultural nanotechnology, promising applications of biofuels production by alage, advancements and application of microbial keratinase, biocatalysts, plant growth promoting rhizobacteria, bacterial siderophore, use of microbes in detoxifying organophosphates pesticides, bio-surfactants, biofilms, bioremediation degradation of phenol and phenolic compounds and bioprospecting of endophytes. This book intend to bring the latest research advancements and technologies in the area of microbial technology in one platform, providing the readers an up-to-date view on the area. This book would serve as an excellent reference book for researchers and students in the agricultural, environmental and microbiology fields.

Nanoscale Materials - Luis M. Liz-Marzán 2007-05-08 Organized nanoassemblies of inorganic nanoparticles and organic molecules are building blocks of nanodevices, whether they are designed to perform molecular level computing, sense the environment or improve the catalytic properties of a material. The key to creation of these hybrid nanostructures lies in understanding the chemistry at a fundamental level. This book serves as a reference book for researchers by providing fundamental understanding of many nanoscopic materials.

COSMO-RS - Andreas Klamt 2005-07-26 The COSMO-RS technique is a novel method for predicting the thermodynamic properties of pure and mixed fluids which are important in many areas, ranging from chemical engineering to drug design. COSMO-RS, From Quantum Chemistry to Fluid Phase Thermodynamics and Drug Design is about this novel technology, which has recently proven to be the most reliable and efficient tool for the prediction of vapour-liquid equilibria. In contrast to group contribution methods, which depend on an extremely large number of experimental data, COSMO-RS calculates the thermodynamic data from molecular surface polarity distributions, resulting from quantum chemical calculations of the individual compounds in the mixture. In this book, the author cleverly combines a vivid overview of the partly demanding theoretical steps with a deeper analysis of their scientific background and justification. Aimed at theoretical chemists, computational chemists, physical chemists, chemical engineers as well as students, academic and industrial experts, COSMO-RS, From Quantum Chemistry to Fluid Phase Thermodynamics and Drug Design provides a novel viewpoint to anyone looking to gain more insight into the theory and potential of the unique method, COSMO-RS.

Surface Complexation Modeling - Athanasios K. Karamalidis 2011-02-14 This book provides a description of the generalized two layer surface complexation model, data treatment procedures, and thermodynamic constants for sorption of metal cations and anions on gibbsite, the most common form of aluminum oxide found in nature and one of the most abundant minerals in soils, sediments, and natural waters. The book provides a synopsis of aluminum oxide forms and a clearly defined nomenclature. Computations of available data for sorption of metal cations and anions on gibbsite are presented, and the results of surface complexation model fitting of these data are given. The consistency of the thermodynamic surface complexation constants extracted from the data is examined through development of linear free energy relationships which are also used to predict thermodynamic constants for ions for which insufficient data are available to extract constants. The book concludes with a comprehensive treatment of all those minerals that are considered to be important geologic phases in the hydrothermal environment, including hydrous ferric oxide (HFO), hydrous manganese oxide (HMO), and goethite. The overall objective of this book is the development and presentation of an internally consistent thermodynamic database for sorption of inorganic cations and anions on gibbsite, an abundant and reactive mineral in soils, sediments, and aquatic systems. Its surface has a high affinity for sorption of metal cations and anions, including radionuclides. The gibbsite database will enable simulation and prediction of the influence of sorption on the fate of these chemical species in natural systems and treatment processes in which aluminum oxides are abundant. It thus will help to advance the practical application of surface complexation modeling.

Green Adsorbents for Pollutant Removal - Grégoire Crini 2018-06-27 This is the first volume on adsorption using green adsorbents and is written by international contributors who are the leading experts in the adsorption field. The first volume provides an overview of fundamentals and design of adsorption processes. For people who are new to the field, the book starts by two overview chapters presenting the principles and properties of wastewater treatment and adsorption processes. The book also provides a comprehensive source of knowledge on acid-base properties of biosorbents. It discusses fractal-like kinetic models for fluid-solid adsorption, reports on the chemical characterization of oxidized activated carbons for metal removal, and the use of magnetic biosorbents in water treatment. Furthermore, the thermodynamic properties of metals adsorption by green adsorbents, and biosorption of polycyclic aromatic hydrocarbons and organic pollutants are reviewed, and finally the recent trends and impact of nanomaterials as green adsorbent and potential catalysts for environmental applications are summarized. The audience for this book includes students, environmentalists, engineers, water scientists, civil and industrial personnel who wish to specialize in adsorption technology. Academically, this book will be of use to students in chemical and environmental engineering who wish to learn about adsorption and its fundamentals. It has also been compiled for practicing engineers who wish to know about recent developments on adsorbant materials in order to promote further research toward improving and developing newer adsorbents and processes for the efficient removal of pollutants from industrial effluents. It is hoped that the book will serve as a readable and useful presentation not only for undergraduate and postgraduate students but also for the students and engineers and as a convenient reference handbook in the form of numerous recent examples and appended information.

Handbook of Nonmedical Applications of Liposomes - Danilo D. Lasic 2019-07-18 First published in 1996, liposomes have become an important model in fundamental biomembrane research, including biophysical, biochemical, and cell biological studies of membranes and cell function. They are thoroughly studied in several applications, such as drug delivery systems in medical applications and as controlled release systems, microencapsulating media, signal carriers, support matrices, and solubilizers in other applications. While medical applications have been extensively reviewed in recent literature, there is a need for easily accessible information...
on applications for liposomes beyond pharmacology and medicine. The Handbook of Nonmedical Applications of Liposomes fills this void. This unique new handbook series presents recent developments in the use of liposomes in many scientific disciplines, from studies on the origin of life, protein function, and vesicle shapes, to applications in cosmetics, diagnostics, ecology, bioreclamation, and the food industry. In these volumes many of the top experts contribute extensive reviews of their work.

Handbook of Surface and Colloid Chemistry - K. S. Birdi 2002-08-27 The science of surface and colloid chemistry has been expanding at a rapid pace, resulting in new areas of development, additional applications, and more theoretical and experimental information on related systems. Completely revised and expanded to reflect the very active worldwide research on this subject, this is the definitive handbook for the chemistry of surface and colloidal systems. With contributions from a team of international experts, the Handbook of Surface and Colloid Chemistry, Second Edition brings you up-to-date on the most recent developments in this area, with extensive coverage of a range of research subjects. The scope of the second edition includes such topics as interfacial film structures for thin-film formation and emulsion formation; contact angle and adorption studies to characterize solid surfaces; the impact of the scanning tunneling microscope and the atomic force microscope; and more. The theoretical basis of colloids and their stability is thoroughly described, which will be sure to lead to more fascinating developments. This new edition of the Handbook of Surface and Colloid Chemistry retains the outstanding organization of its bestselling predecessor, while augmenting the text with new research and developments in the field. It continues to provide authoritative information in a format that provides a valuable resource for planning your future research.

Intermolecular and Surface Forces - Jacob N. Israelachvili 2015-05-29 This reference describes the role of various intermolecular and interparticle forces in determining the properties of simple systems such as gases, liquids and solids, with a special focus on more complex colloidal, polymeric and biological systems. The book provides a thorough foundation in theories and concepts of intermolecular forces, allowing researchers and students to recognize which forces are important in any particular system, as well as how to control these forces. This third edition is expanded into three sections and contains five new chapters over the previous edition. - Starts from the basics and builds up to more complex systems - covers all aspects of intermolecular and interparticle forces both at the fundamental and applied levels - multidisciplinary approach: bringing together and unifying phenomena from different fields - This new edition has an expanded Part III and new chapters on non-equilibrium (dynamic) interactions, and tribology (friction forces)

Scientific and Technical Aerospace Reports - 1992

Chemistry & Physics of Carbon - Peter A. Thrower 1993-11-16 This 24th volume continues in the tradition of its predecessors, presenting authoritative, interdisciplinary coverage of contemporary topics in the field of carbon chemistry and physics. With contributions by leading international experts, this volume: describes pitch polymerization kinetics during mesophase formation and the constitution of coexisting phases in mesophase pitch during heat treatment; elucidates the mechanism of mesophase formation and pitch polymerization kinetics after mesophase formation; examines the importance of physical, solid-state, electro- and analytical chemistry in the study of carbon surfaces; discusses the theoretical background for the thermal conductivity of diamonds, single crystal diamonds and chemically-vapour-deposited diamond films; and explains the chemistry involved in the commercial fabrication and use of needle coke.

Nano-Surface Chemistry - Morton Rosoff 2001-09-27 Containing more than 2600 references and over 550 equations, drawings, tables, photographs, and micrographs, This book describes hierarchical assemblies in biology and biological processes that occur at the nanoscale across membranes and at interfaces. It covers recurrent themes in nanoscale order, including self-assemble, construction of superstructures, and processing in the different areas of modern manufacturing.

Chemoresponsive Materials - Hans-Jorg Schneider 2015-06-26 Smart materials stimulated by chemical or biological signals are of interest for their many applications including drug delivery, as well as in new sensors and actuators for environmental monitoring, process and food control, and medicine. In contrast to other books on responsive materials, this volume concentrates on materials which are stimulated by chemical or biological signals. Chemoresponsive Materials introduces the area with chapters covering different responsive material systems including hydrogels, organogels, membranes, thin layers, polymer brushes, chemomechanical and imprinted polymers, nanomaterials, silica particles, as well as carbohydrate- and bio-based systems. Many promising applications are highlighted, with an emphasis on drug delivery, sensors and actuators. With contributions from internationally known experts, the book will appeal to graduate students and researchers in academia, healthcare and industry interested in functional materials and their applications.

Environmental Chemistry - Jorge G. Ibanez 2011-05-06 This book presents chemical analyses of the most pressing waste, pollution, and resource problems for the undergraduate or graduate student. Its distinctive holistic approach provides a solid introduction to theory as well as a practical laboratory manual detailing beginning and advanced experimental applications. It presents laboratory procedures at microscale conditions, for minimum waste and maximum economy.

Handbook of Modern Pharmaceutical Analysis - Satinder Ahuja 2001 This book describes the role modern pharmaceutical analysis plays in the development of new drugs. Detailed information is provided as to how the quality of drug products is assured from the point of discovery until the patient uses the drug. Coverage includes state-of-the-art topics such as analytics for combinatorial chemistry and high-throughput screening, formulation development, stability studies, international regulatory aspects and documentation, and future technologies that are likely to impact the field. Emphasis is placed on current, easy-to-follow methods that readers can apply in their laboratories. No book has effectively replaced the very popular text, Pharmaceutical Analysis, that was edited in the 1960s by Tak Higuchi. This book will fill that gap with an up-to-date treatment that is both handy and authoritative.

Capillary Electrophoresis Methods for Pharmaceutical Analysis - Satinder Ahuja 2011-08-09 Capillary electrophoresis (CE) is a powerful analytical technique that is widely used in research and development and in quality control of pharmaceuticals. Many reports of highly efficient separations and methods have been published over the past 15 years. CE offers several advantages over high-pressure or high-performance liquid chromatography (HPLC). These include simplicity, rapid analysis, automation, ruggedness, different mechanisms for selectivity, and low cost. Moreover, CE requires smaller sample size and yet offers higher efficiency and thus greater resolution power over HPLC. These characteristics are very attractive in research and development, even more so in pharmaceutical quality control (QC) and stability monitoring (SM) studies. This book will provide busy pharmaceutical scientists a complete yet concise reference guide for utilizing the versatility of CE in new drug development and quality control. - Provides current status and future developments in CE analysis of pharmaceuticals. - Explains how to develop and validate methods. - Includes major pharmaceutical applications including assays and impurity testing.

Zeolite Catalysts - Subhash Bhatia 2020-07-24 Presented in an easy-to-read form, this book on zeolite catalysis cover all aspects of the subject. It focuses on synthesis, structure, diffusion, deactivation, and industrial applications. This book is an ideal text for courses on catalysis or as a supplementary text for those studying applied or industrial chemistry. It is also a useful resource for anyone who works with zeolites as catalysts in the laboratory, pilot plants, or commercial installations.

FarEastConf - Materials and Construction II - Denis B. Solovev 2020-05-18 The International Scientific Conference [FarEastConf] took place on October 1-4, 2019 in Vladivostok, Russian Federation. This collection presents papers reflecting recent advances in the field of materials engineering and technologies for production and processing in the different areas of modern manufacturing.
active chemical agent. In many cases it is desirable to predict pKa values prior to synthesizing a compound, and different circumstances. This is crucial to the action and detection of the compound as a drug, pollutant, or other...

Computational Approaches for the Prediction of pKa Values

Interface Science in Drinking Water Treatment—Gayle Newcombe 2006-09-06 It is difficult to imagine anything more important to the human population than safe drinking water. Lack of clean drinking water is still the major cause of illness and death in young children in developing countries. In more fortunate communities, where water treatment is practiced, the primary aim of water authorities is to provide water that is free from pathogens and toxins. Most countries now have water quality regulations, or guidelines, which are driving water authorities to produce purer water, with the minimum of contamination from natural or man-made origin. At the same time, consumers are demanding that chemicals added during the treatment of drinking water be kept to a minimum. As a consequence, conventional clarification methods are being challenged to comply with the new regulations and restrictions and our understanding of the mechanisms involved is being tested as never before. Interface Science in Drinking Water Treatment contains a rigorous review of water treatment practices from a fundamental viewpoint. The book includes material from leading experts in the field of water treatment, reviewing their specific fields of expertise against a background of colloid and surface science, and examines each step of the journey from source to consumer tap. It therefore permits the reader to develop a deep understanding of the complex processes at the center of necessary treatments which provide safe and palatable drinking water. The book is aimed at researchers, educators and practitioners in science and engineering, particularly those involved in water treatment and colloidal chemistry. · Covers all existing water treatment processes, approached from a fundamental surface and colloid science viewpoint · Unique collection of R&D authors, all experts in water treatment processes · Comprehensive review of water treatment with a complete list of references

Kinetics and Dynamics—Piotr Paneth 2010-08-03 "Kinetics and Dynamics" on molecular modeling of dynamic processes opens an introductory overview before discussing approaches to reactivity of small systems in the gas phase. The text examines clusters of systems of increasing complexity up to the dynamics of DNA. This title has an interdisciplinary character presenting wherever possible an interplay between the theory and the experiment. It provides basic information as well as the details of theory and examples of its application to experimentalists and theoreticians interested in modeling of dynamic processes in chemical and biochemical systems. All contributing authors are renowned experts in their fields and topics covered in this volume represent the forefront of today’s science.

Computational Approaches for the Prediction of pKa Values—George C. Shields 2013-12-07 The pKa of a compound describes its acidity or basicity and, therefore, is one of its most important properties. Its value determines what form of the compound—positive ion, negative ion, or neutral species—will be present under different circumstances. This is crucial to the action and detection of the compound as a drug, pollutant, or other active chemical agent. In many cases it is desirable to predict pKa values prior to synthesizing a compound, and enough is now known about the salient features that influence a molecule’s acidity to make these predictions. Computational Approaches for the Prediction of pKa Values describes the insights that have been gained on the intrinsic and extrinsic features that influence a molecule’s acidity and discusses the computational methods...
the student in mind, which explains all the most important techniques used in the analysis of pharmaceuticals - a key procedure in ensuring the quality of drugs. The text is enhanced throughout with keypoints and self-assessment boxes, to aid student learning. Features includes worked calculations to demonstrate mathematics in use for pharmaceutical analysis. Focuses on key points rather than a large number of facts to help readers really understand the field as well as pass exams. Includes self-assessment, focussing on simple arithmetical calculation results from analytical data. Additional section on basic calculations in pharmaceutical analysis More detail on the capillary electrophoresis of proteins A discussion of some of the new types of HPLC column and on solvent selectivity in HPLC Additional material inserted on the control of the quality of analytical methods, mass spectrometry and high pressure liquid chromatography Additional self-assessment exercises

Human Biochemistry and Disease- Gerald Litwack 2008-01-08 This textbook is specifically designed for upper-division undergraduate or graduate students in life science or pre-medical majors including dentistry or pharmacology, who are required to take a biochemistry or medical biochemistry course, but who are not necessarily biochemistry majors. The book adopts a unique approach to the topic compared with other biochemistry textbooks currently available, in that each biochemical subject is introduced by a human disease relating the biochemical principles to be developed in that chapter. The goal is to make biochemistry more meaningful to the student who is not normally shown the connection between biochemistry and medicine. * Includes an abundance of figures * Emphasizes human biochemistry * Introduces each chapter with a relevant disease or clinical relationship

Environmental Microbiology- Ralph Mitchell 2010-01-08 The bestselling reference on environmental microbiology—now in a new edition This is the long-awaited and much-anticipated revision of the bestselling text and reference. Based on the latest information and investigative techniques from molecular biology and genetics, this Second Edition offers an in-depth examination of the role of microbiological processes related to environmental deterioration with an emphasis on the detection and control of environmental contaminants. Its goal is to further our understanding of the complex microbial processes underlying environmental degradation, its detection and control, and ultimately, its prevention. Features new to this edition include: A completely new organization with topics such as pathogens in developing countries, effects of genetically modified crops on microbial communities, and transformations of toxic metals Comprehensive coverage of key topics such as bacteria in the greenhouse and low-energy waste treatment New coverage relating core book content to local, regional, and global environmental problems Environmental Microbiology, Second Edition is essential reading for environmental microbiologists and engineers, general environmental scientists, chemists, and chemical engineers who are interested in key current subjects in environmental microbiology. It is also appropriate as a textbook for courses in environmental science, chemistry, engineering, and microbial ecology at the advanced undergraduate and graduate levels.

Nanophysics, Nanophotonics, Surface Studies, and Applications- Olena Fesenko 2016-08-10 This book presents some of the latest achievements in nanotechnology and nanomaterials from leading researchers in Ukraine, Europe, and beyond. It features contributions from participants in the 3rd International Science and Practice Conference Nanotechnology and Nanomaterials (NANO2015) held in Lviv, Ukraine on August 26-30, 2015. The International Conference was organized jointly by the Institute of Physics of the National Academy of Sciences of Ukraine, University of Tartu (Estonia), Ivan Franko National University of Lviv (Ukraine), University of Turin (Italy), Pierre and Marie Curie University (France), and European Profiles A.E. (Greece). Internationally recognized experts from a wide range of universities and research institutions share their knowledge and key results on topics ranging from nanooptics, nanoplasmonics, and interface studies to energy storage and biomedical applications.