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Nota di contenuto	Part 1: Nanochemistry and Biotechnology -- Chapter 1 - Mechanisms of anti-tumor effect of nanomaterials based on rare earth orthovanadates -- Chapter 2 - Synthesis and Consolidation of PowdersBased on Si <sub>3</sub> N <sub>4</sub> -Zr -- Chapter 3 - Nickel-copper-hydroxide multilayer coating as anode material for methanol electrooxidation -- Chapter 4 - Investigation of Swelling Behavior of PAA and D-PAA Hydrogels -- Chapter 5 - The sorption properties of ukrainian saponite clay in situ modified of poly[4-methacroyloxy-(4'-carboxy-2'-nitro)-azobenzene] to toxic metals ions -- Chapter 6 - Configurational Model of Quasi-2D Organic Conductor Electron Subsystem -- Chapter 7 - Sorption properties of Cu(II), Pb(II) and Fe(III) silica gel ions with adsorbed copolymers of 4-vinylpyridine and styrene -- Chapter 8 - Modelling Self-organization of Adsorbate at Chemical Vapour Deposition in Accumulative Ion-Plasma Devices -- Chapter 9 - Directional synthesis of CdX (X= S, Se and Te) thin films for solar cell application -- Chapter 10 - Smart Nanocarriers for Delivery of Anticancer Drugs: Recent Advances and Disadvantages -- Chapter 11 - Natural nanobentonites as supports in palladium(II)-copper(II) catalysts

for carbon monoxide oxidation with air oxygen -- Chapter 12 - Effect of temperature on formation of nanoporous structure of granule shell in technology of obtaining organo-mineral fertilizers -- Chapter 13 - Final Drying of Ammonium Nitrate with Nanoporous Structure in Gravitational Shelf Dryers: Hydrodynamic and Thermodynamic Conditions -- Chapter 14 - Study of the Producing Ferrite-Chromite by Coprecipitation.-Chapter 15 - Adsorption Mechanisms of Gemcitabine Molecules on the Surface of Fe<sub>3</sub>O<sub>4</sub> Nanoparticles With Biocompatible -- Chapter 16 - The study of ultrasonic treatment influence on the physical-chemical properties of TiO<sub>2</sub>/SnO<sub>2</sub>=1:1 composition -- Chapter 17 - Heat Resistance of Nanocrystalline Powders, Single Crystals, and Coatings of CrSi<sub>2</sub> Obtained from Molten Salts -- Chapter 18 - Dezinvasion efficiency of colloidal solutions of metal nanoparticles against helminth's eggs -- Chapter 19 - Mechanisms of Tryptophan Transformations Involving the Photochemical Formation of Silver Nanoparticles -- Chapter 20 - Mechanisms of Stack Interaction in Polymer Composites of Polyvinylchloride With Methylene Blue -- Chapter 21 - Clay, Hydroxyapatite and Their Composites – Brief Review -- Chapter 22 - Synthesis of Molybdenum and Tungsten Silicides Nanopowders from Ionic Melts -- Chapter 23 - Regulation of Biological Processes with Complexions of Metals Produced by Underwater Spark Discharge -- Part 2: Nanooptics and Photonics -- Chapter 24 - Surface plasmon polariton resonance grating-based sensors elements -- Chapter 25 - Metamorphic InAs/InGaAs Quantum Dot Structures: Photoelectric Properties and Deep Levels -- Chapter 26 - Spectral Manifestations of Nonlinear Resonant Wave Interactions in the Vibrational Spectra of Transition Metal Dichalcogenides -- Chapter 27 - Structure, morphology and optical-luminescence properties of Eu<sup>3+</sup>- and Mn<sup>2+</sup>-activated ZnGa<sub>2</sub>O<sub>4</sub> and MgGa<sub>2</sub>O<sub>4</sub> ceramics -- Chapter 28 - Composite Titanium Dioxide Photocatalytically Active Materials: Review -- Chapter 29 - Core-Shell Nanostructures Under Localized Plasmon Resonance Conditions -- Chapter 30 - Fluorescence Properties of Doxorubicin-Loaded Iron Oxide Nanoparticles.

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### Sommario/riassunto

This 2nd volume of the book, highlighting some of the latest advances in nanotechnology and nanomaterials from leading researchers in Ukraine, Europe, and beyond. It features contributions from participants in the 7th International Science and Practice Conference Nanotechnology and Nanomaterials (NANO2019) in 27 - 30 August 2019 in Lviv Polytechnic National University, organized by the Institute of Physics of the National Academy of Sciences of Ukraine, University of Tartu (Estonia), University of Turin (Italy), and Pierre and Marie Curie University (France). Internationally recognized experts from a wide range of universities and research institutions share their knowledge and key results on material properties, behavior, and synthesis. This book's companion volume also addresses topics such as nanooptics, energy storage, and biomedical applications.

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