

1. Record Nr.	UNINA9910780058003321
Autore	Krementsov N. L
Titolo	Stalinist science [[electronic resource] /] / Nikolai Kremmentsov
Pubbl/distr/stampa	Princeton, NJ, : Princeton University Press, c1997
ISBN	1-282-75315-0 9786612753152 1-4008-2214-9 1-4008-1243-7
Edizione	[Course Book]
Descrizione fisica	1 online resource (390 p.)
Disciplina	306.4/5/090470904
Soggetti	Science - Soviet Union - History - 20th century Communism - Soviet Union - History - 20th century Soviet Union Politics and government 1936-1953
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. [307]-358) and indexes.
Nota di contenuto	Front matter -- CONTENTS -- LIST OF FIGURES AND TABLES -- PREFACE -- LIST OF ABBREVIATIONS -- INTRODUCTION -- PART I: THE MAKING OF STALINIST SCIENCE -- Introduction -- CHAPTER 1. Russian Science in Transition, 1890-1929 -- CHAPTER 2. The Stalinization of Russian Science, 1929-1939 -- CHAPTER 3. Stalinist Science in Action: The Case of Genetics -- KEY EVENTS, 1917-1939 -- PART II: STALINIST SCIENCE IN THE 1940's -- Introduction -- CHAPTER 4. World War II and the Sweet Fruits of Victory -- CHAPTER 5. On the Threshold of the Cold War, 1946-1947 -- CHAPTER 6. The Fateful Year: 1948 -- KEY EVENTS, 1941-1953 -- PART III: THE CONSOLIDATION OF STALINIST SCIENCE -- Introduction -- CHAPTER 7. Talking the Talk: Ritual and Rhetoric -- CHAPTER 8. Walking the Walk: Education versus Research -- CHAPTER 9. The Realities of Stalinist Science: Careerism and Institutional Rivalry -- CONCLUSION -- APPENDIX A: Stalinist Scientific "Newspeak": A Glossary -- APPENDIX B: Key Figures -- NOTES -- NAME INDEX -- SUBJECT INDEX
Sommario/riassunto	Some scholars have viewed the Soviet state and science as two monolithic entities--with bureaucrats as oppressors, and scientists as defenders of intellectual autonomy. Based on previously unknown

documents from the archives of state and Communist Party agencies and of numerous scientific institutions, Stalinist Science shows that this picture is oversimplified. Even the reinstated Science Department within the Central Committee was staffed by a leading geneticist and others sympathetic to conventional science. In fact, a symbiosis of state bureaucrats and scientists established a much more terrifying system of control over the scientific community than any critic of Soviet totalitarianism had feared. Some scientists, on the other hand, developed more elaborate devices to avoid and exploit this control system than any advocate of academic freedom could have reasonably hoped. Nikolai Krementsov argues that the model of Stalinist science, already taking hold during the thirties, was reversed by the need for inter-Allied cooperation during World War II. Science, as a tool for winning the war and as a diplomatic and propaganda instrument, began to enjoy higher status, better funding, and relative autonomy. Even the reinstated Science Department within the Central Committee was staffed by a leading geneticist and others sympathetic to conventional science. However, the onset of the Cold War led to a campaign for eliminating such servility to the West. Then the Western links that had benefited genetics and other sciences during the war and through 1946 became a liability, and were used by Lysenko and others to turn back to the repressive past and to delegitimize whole research directions.

2. Record Nr.	UNINA9910959260303321
Titolo	Molybdenum : characteristics, production and applications // Matias Ortiz and Thiago Herrera, editors
Pubbl/distr/stampa	New York, : Nova Science Publishers, c2012
ISBN	1-61470-514-3
Edizione	[1st ed.]
Descrizione fisica	1 online resource (280 p.)
Collana	Chemistry research and applications
Altri autori (Persone)	OrtizMatias HerreraThiago
Disciplina	620.1/8934
Soggetti	Molybdenum
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- MOLYBDENUM -- MOLYBDENUM -- CONTENTS -- PREFACE -- ELECTROCATALYSIS OF MOLYBDENUM-CONTAINING SUBSTRATES FOR FUEL CELL APPLICATIONS -- ABSTRACT -- 1. INTRODUCTION -- 2. THE ELECTROCHEMICAL DEPOSITION OF MOLYBDENUM ON PLATINUM SURFACES AND ITS EFFECT TOWARDS METHANOL AND CARBON MONOXIDE ELECTROOXIDATIONS -- 3. MOLYBDENUM FREE SPONTANEOUS DEPOSITION AND POTENTIOSTATIC OR POTENTIODYNAMIC ELECTRODEPOSITION -- 4. ELECTROCATALYTIC PERFORMANCE OF MOLYBDENUM SPECIES ON PLATINUM TOWARDS METHANOL ELECTROOXIDATION -- 5. MOLYBDENUM INTERACTION WITH MODIFIED COLUMNAR STRUCTURED PLATINUM AND METHANOL ELECTROOXIDATION -- 6. MOLYBDENUM INTERACTION WITH CARBON-SUPPORTED CATALYSTS AND METHANOL ELECTROOXIDATION -- 6.1. The Electrochemical Responses of Molybdenum/platinum Carbon-supported Catalysts -- 6.2. The Electrochemical Oxidation of Methanol on Molybdenum/platinum Carbon-Supported Catalysts -- 7. ABOUT THE DIFFERENT METHODOLOGIES AND SURFACE COMPOSITIONS OF PLATINUM/MOLYBDENUM ELECTRODES AND THEIR EFFECTS TOWARDS SMALL ORGANIC MOLECULES ELECTROOXIDATION -- 7.2. On the Different Methodologies and Compositions of Molybdenum/ Platinum Surfaces -- 7.2. On the Electronic and Electrochemical Effects of Molybdenum Electrocatalytic Activity on Platinum Surfaces -- ACKNOWLEDGMENTS -- REFERENCES -- MOLYBDENUM DISILICIDES:

PRODUCTION, PROPERTIES AND APPLICATIONS -- ABSTRACT -- 1. INTRODUCTION -- 2. PREPARATION OF MOSI₂ -- 2.1. Self-propagating High Temperature Synthesis -- 2.1.1. Experimental Methods -- 2.1.2. Observation of Combustion Images -- 2.1.3. Combustion Temperature -- 2.1.4. Products of Combustion Synthesis -- 2.1.5. Summary -- 2.2. Mechanically Activated Reactive Synthesis -- 2.2.1. Experimental Procedures -- 2.2.2. Preparation of MoSi₂ -- 2.2.3. Preparation of MoSi₂-SiC -- 2.2.4. Summary -- 3. THE PROPERTIES OF MOSI₂ -- 3.1. Fracture Toughness. 3.2. High Temperature Strength -- 3.3. Thermal Shock Resistances -- 3.4. Low Temperature Oxidation Resistance -- 3.4.1. Experimental Procedure -- 3.4.2. Results and Discussion -- 4. APPLICATION OF MOSI₂ -- 4.1. MoSi₂ Heating Elements -- 4.1.1. Properties of MoSi₂ Heating Elements -- 4.1.2. Manufacture of MoSi₂ Heating Elements -- 4.1.3. Development of MoSi₂ Heating Element -- 4.1.4. MoSi₂ Heating Element in China -- 4.1.5. Other Application -- SUMMARY -- REFERENCES --

MOLYBDENUM COMPLEXES: STRUCTURE, PROPERTIES AND APPLICATIONS -- ABSTRACT -- 1. INTRODUCTION -- 2. MATERIALS -- 3. PREPARATIVE TECHNIQUES -- 3.1. Preparation of Grafted Copolymer-molybdenum Complexes -- 3.2. Preparation of PEO-molybdenum Complexes -- 3.3. Preparation of Dendrimer-molybdenum Complexes -- 3.4. Preparation of Molybdenum Complexes of Glutathione and Histidine -- 3.5. Determination of Molybdenum Ions Content in the Polymer Complexes -- 3.6. Oxidation of Cyclohexene -- 4. ANALYSES -- 4.1. Specific Electric Resistance -- 4.2. IR Spectroscopy -- 4.3. FT-IR Analysis -- 4.4. EPR Analysis -- 4.5. NMR Analysis -- 4.6. Thermal Analysis -- 4.7. GC/MS Analysis -- 5. RESULTS AND DISCUSSION -- 5.1. Characterization of the Polymer-supported Complexes Prepared by Radiation and Plasma Grafting -- 5.2. Characterization of Molybdenum Complexes of PDMAEM -- 5.3. Characterization of Molybdenum Complexes of PEO -- 5.4. Characterization of Molybdenum Complexes of Poly(propylene imine) Dendrimers D8[DAB-dendr-(NH₂)₈] and D32 [DAB-dendr-(NH₂)₃₂] -- 5.5. Characterization of Molybdenum Complexes of Glutathione -- 5.6. Characterization of Molybdenum Complexes of Histidine -- Oxidation of Cyclohexene -- CONCLUSION -- REFERENCES --

MOLYBDENUM-CONTAINING ENZYMES AND THEIR APPLICATIONS -- ABSTRACT -- 1. INTRODUCTION -- 2. GENERAL ASPECTS OF MOLYBDENUM ENZYMES -- 2.1. Classification of Mo Enzymes. 2.1.1. Molybdenum Nitrogenases -- 2.1.2. Pterin-based Molybdenum Enzymes -- 2.2. Reactions Catalyzed by Pterin-based Mo Enzymes: Structure, Function and Reaction Mechanisms -- 2.2.1. Mo Enzymes Catalyzing Oxidative Hydroxylation Reactions -- 2.2.2. Mo Enzymes Catalyzing Oxygen Atom Transfer Reactions -- 3. APPLICATIONS OF MOLYBDENUM ENZYMES -- 3.1. Biocatalytic Hydrocarbon Oxyfunctionalizations -- 3.2. Biocatalytic Application Potential of Mo Enzymes for Hydrocarbon Oxyfunctionalizations -- 3.3. Industrially and Technically Applied Mo Enzymes -- 3.3.1. Regiospecific Hydroxylation of Functionalized N-Heteroaromatic Compounds -- 3.3.2. Regioselective Aromatic Hydroxylation of N-heteroaromatic Compounds -- 3.3.3. Ethylbenzene Dehydrogenase: An Interesting Mo Enzyme for Anaerobic Aromatic Hydroxylations -- 3.4. Current Status and Feasibility of Processes Utilizing Mo Enzymes -- CONCLUSION -- REFERENCES --

NANO- AND MICROCRYSTALS OF MOLYBDENUM TRIOXIDE AND METAL-MATRIX COMPOSITES ON THEIR BASIS -- ABSTRACT -- 1. INTRODUCTION -- 2. FORMATION OF MOO₃ PHASE THROUGH THE POLYCONDENSATION OF MOLYBDIC ACID -- 3. CONTROL OF THE SIZE AND MORPHOLOGY OF MOO₃ PARTICLES

DURING THE SOLVOTHERMAL SYNTHESIS -- 4. ELECTROCHEMICAL CODEPOSITION OF MOO₃ PARTICLES IN A METALLIC MATRIX -- 5. WEAR BEHAVIOUR OF NI-MOO₃ COMPOSITE COATINGS -- 6. LUBRICATING PROPERTIES OF MOO₃ -- 7. HETEROGENEOUS OXIDE PARTICLES OF CORE-SHELL TYPE FOR PREPARATION OF METAL-MATRIX COMPOSITES -- CONCLUSIONS -- ACKNOWLEDGEMENT -- REFERENCES -- MOLYBDENUM COMPOUNDS AS EFFICIENT ADDITIVES TO LUBRICANTS -- INTRODUCTION -- 1. SULFUR CONTAINING MOLYBDENUM COMPOUNDS IN FRICTION AND WEAR PROCESSES -- 1.2. Molybdenum Sulfides -- 1.2. Oil Soluble Sulfur Containing Molybdenum Compounds -- 2. MOLYBDENUM COMPLEXES AS ANTIOXIDANTS -- 3. ECOLOGICAL PROBLEMS OF USING OF LUBRICATING OILS ADDITIVES. 4. TRIBOLOGICALLY ACTIVE NANOPARTICLES OF MOLYBDENUM SULFIDES -- CONCLUSIONS -- REFERENCES -- THE ROLE OF MOLYBDENUM AS CATALYST PROMOTER IN THE GROWTH OF CARBON NANOTUBES -- ABSTRACT -- 1. INTRODUCTION -- 2. MOLYBDENUM AS A CATALYST PROMOTER FOR CNT FORMATION -- 2.1. Mo-promoted Co Based Catalysts -- 2.2. Mo-promoted Fe Based Catalysts -- 2.3. Mo-promoted Ni Based Catalysts -- 2.4. Mo Based Catalyst -- 3. THE ROLE OF MOLYBDENUM AS A PROMOTING AGENT -- CONCLUSIONS -- ACKNOWLEDGMENTS -- REFERENCES -- V₂O₅-MOO₃ SYSTEM: ITS PHYSICO-CHEMICAL AND CATALYTIC PROPERTIES -- ABSTRACT -- 1. INTRODUCTION -- 2. V₂O₅-MOO₃ SYSTEM -- 3. V₂O₅-MOO₃ CATALYSTS, SUPPORTED AND PROMOTED -- 4. THE INTERACTIONS OF V₂O₅-MOO₃ CATALYSTS WITH OXYGEN AND BENZENE -- 5. KINETICS AND MECHANISM OF BENZENE OXIDATION ON V₂O₅-MOO₃ CATALYSTS -- REFERENCES -- TRIBOLOGY OF MOS₂ NANOPARTICLES IN THE AMBIENT AND IN LIQUID SUSPENSION -- ABSTRACT -- 1. INTRODUCTION -- 2. MECHANICS OF DEFORMATION UNDER TRACTION AND FRICTION: LATERAL FORCE MICROSCOPY AND CONTINUUM MODELING -- 2.1. Lateral Force Microscopy of Single MoS₂ Particles -- 2.2. Elastic Analysis in Ambient Condition -- Groove Depth Estimate -- 2.3. Rigid Plastic Analysis -- Groove Depth Estimate -- 2.4. Wear Analysis -- 3. USE OF MOS₂ PARTICLES TO MODULATE STEEL ON STEEL TRIBOLOGY - SOME GENERAL ISSUES -- 3.1. Microtribology of Sprayed MoS₂ Particles in Ambient Condition -- 3.1.1. Investigation of the Tribofilm -- 3.1.2. Building of the Tribofilm: Ball-On-Disc Sliding of Sprayed Particles in the Ambient Condition -- 3.2. Microtribology of MoS₂ Particles in Oil Suspension -- 3.2.1. Effect of Particle Size/Agglomeration on Friction -- 4. RAMAN SPECTRAL ANALYSIS OF THE TRANSFER TRIBO-FILM BETWEEN THE CONTACTS -- 5. LUBRICATION MECHANISMS OF MOS₂ NANOPARTICLES - A SUMMARY -- CONCLUSION -- REFERENCES -- INDEX.

Sommario/riassunto

In this book, the authors present current research in the study of the characteristics, production and application of molybdenum. Topics discussed include the electrocatalysis of molybdenum containing substrates for fuel cell applications; morphology-controllable solvothermal synthesis of nano- and microcrystals of molybdenum trioxide; molybdenum compounds as efficient additives to lubricants; molybdenum as a catalyst promoter in the growth of carbon nanotubes and the physico-chemical and catalytic properties of V₂O₅-MoO₃.
