KOMAR, Igor' Valer'yanovich. Prinimali uchastiye: KOLOTIYEVSKIY, A.M., dots.; KHISMATOV, M.F., dots.; GRIGOR'YEV, A.A., akademik, otv. red.; NEMCHINOV, V.S., akademik, otv. red. FRADKIN, N.G., red.izd-va; KYLINA, Yu.V., tekhn. red.

[Geography of the economy of the Urals by regions] Geografiia khoziaistva Urala; poraionnaia ekonomiko-geograficheskaia kharakteristika. Moskva, Izd-vo "Nauka," 1964. 393 p. (MIRA 17:4)

KUZNETSOV, V.N., otv. red.; KHISMATOV, M.F., red.; ZAPLATINA, G.N., red.; MASLOV, M.D., red.

[All-Ural Conference on the Problems of Geography and Preservation of Nature, Materials of the Section on Economic and Geographic Regionalization] Materialy Vseural'skogo soveshchaniia po voprosam geografii i okhrany prirody. Sektsiia ekonomiko-geograficheskgo raionirovaniia. Ufa, Bashkirskii filial Geograficheskogo ob-va SSSR, 1962. 80 p. (MIRA 17:7)

1. Vseural'skoye soveshchaniye po voprosam geografii i okhrany prirody, 6th. Ufa, 1961.

KHISMATOV, M.F.; MASLOV, M.D., kand. geogr. nauk, red.

[Outline of the geography of Bashkiria] Ocherki po geografii Bashkirii. Ufa, Bashkirskii in-t usovershenstvovaniia uchitelei, 1963. 103 p. (MIRA 18:11)

MATKHANOV, V.N., kand. tekhn. nauk; KHISMATULIN, Ye.R., inzh.; Prinimala uchastiye PIROGOVA, V.A., inzh.

Restoring the frames of screw high-pressure apparatus. Khim. i neft. mashinostr. no.1:28-30 Jl '64. (MIRA 17:12)

L 34838-66 EWT(m)/EWP(w)/T/EWP(t)/ETI/EWP(k) JD/IG/EM

ACC NR: AP6021003 (N) SOURCE CODE: UR/0125/66/000/006/0031/0034

AUTHOR: Pimshteyn, P. G.; Lushpey, M. K.; Khismatulin, Ye. R.

ORG: Irkutsk Division of the NIIKhimmash (Irkutskiy filial NIIKhimmasha)

TITLE: The strength of welded multilayer high-pressure vessels

SOURCE: Avtomaticheskaya svarka, no. 6, 1966, 31-34

TOPIC TAGS: high pressure vessel, welded vessel, multilayer vessel, prestressed vessel, vessel property

ABSTRACT: Results are presented of the theoretical and experimental investigation of the prestressed state and strength of a welded, multilayer, high-pressure vessel made at the Irkutsk Division of the NIIKhimmash in 1964. The vessel shell was made of three sections, 1100, 1000 and 900 mm long, arc welded together along the circumference. Each shell section consisted of a central carbon steel pipe, 300 mm in diameter, and 7 close fitting steel jackets welded from prestretched, 6-mm steel sheets pressed tightly over the central pipe and each successive jacket. The steel had a tensile strength of 40 kg/mm$^2$ and a yield strength of 25 kg/mm$^2$; the vessel was designed for a working pressure of 290 kg/cm$^2$. In hydrostatic pressure tests, plastic failure without fragmentation occurred at a pressure of 775 kg/mm$^2$, forming a longitudinal crack, 1300 mm long and 184 mm$^2$. The circumferencial welds made by automatic multilayer welding had a strength equal to that of the multilayer sections.

Card 1/2 UDC: 621.791:66.023/025

Card 2/2

ACCESSION NR: AP4027224 S/0184/64/000/002/0032/0034

AUTHORS: Khismatulin, Ye. R. (Engineer); Lushpey, M. K. (Engineer)

TITLE: Repairing damaged high-pressure casings by welding

SOURCE: Khimicheskoye mashinostroyeniye, no. 2, 1964, 32-34

TOPIC TAGS: welding, fusion welding, fracture welding, through-hole welding, casing welding, high-pressure device, steel, 25Kh3NM steel, tensometry, magnetic defectoscopy, ultrasonic defectoscope

ABSTRACT: The experimental study of fracture welding and through-hole welding of steel 25Kh3NM made it possible to determine the most effective method for repairing heat exchangers and reactors. Simple fractures were repaired by the standard methods of fusion welding while the through-holes of large diameter were filled with plugs made of the same steel as the objects to be repaired, and were welded with Kh3M electrodes at 250-300C. This technique resulted in the appearance of cracks in the inner surface of the objects due to the greater hardness of welded areas. No cracking was observed when the steel 25Kh3NM sublayers were substituted for the plugs. The metal was preheated to the required temperature

Card 1/2

ACCESSION NR: AP4027224

by electrical heaters placed inside the objects, which were subsequently heat-treated in a gas oven. The repaired casings were tested by magnetic and ultrasonic defect-detection devices, and the structure of the welds was studied in polished sections. The repaired heat exchangers were also subjected to tensometric tests at 20-cycle loading. The maximum hydraulic pressure applied was 500 atm (actual expected pressure is 320 atm). No defects were observed after the tests. Orig. art. has: 4 tables and 3 figures.

ASSOCIATION: none

SUBMITTED: 00 DATE ACQ: 17Apr64 ENCL: 00

SUB CODE: ML NO REF SOV: 000 OTHER: 000

Card 2/2

L 23325-66 EWT(1)/EWP(m)/EWT(m)/T/ETC(m)-6/EWA(1) WW/JW/WE

ACC NR: AP6011794 SOURCE CODE: UR/0147/66/000/001/C130/0139

AUTHOR: Kosterin, V. A.; Rzhevskiy, Ye. V.; Khismatullin, A. Ya.

ORG: none

68

B

TITLE: Some problems of the gas dynamics of jets in transverse flow during combustion

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 1, 1966, 130-139

TOPIC TAGS: combustion, flame stabilization, propulsion, afterburner, air breathing propulsion

ABSTRACT: An experimental study was made of flame stabilization by means of a transverse fan-shaped air jet injected perpendicularly into a circular burning jet. Air was preheated in a chamber by fuel combustion, and the combustion products with the excess air were passed through a section in which T-1 kerosene was injected to form a uniform combustible mixture. A fan-shaped hot air jet was discharged into the burning mixture. The temperature, velocity, and pressure profiles were measured to determine the dimensions of the recirculation zone. The results showed that the trajectories of the fan-shaped jets are steeper in the presence of combustion than in its absence, and the length and the width of the recirculation zones are larger. An empirical equation was obtained for calculating the jet trajectories and the maximum diameter of the recirculation zone. The profile of excess velocities in the zone of interaction

Card 1/2 UDC: 629.194.33:532.522

L 23325-66

ACC NR: AP6011794

between a fan-shaped jet and a circular jet was found to be universal and similar to the profiles in the wake of a fan-shaped jet and behind a bluff body in the absence of combustion. Orig. art. has: 9 figures and 3 formulas. [PV]

SUB CODE: 21/ SUBM DATE: 09Apr65/ ORIG REF: 003/ OTH REF: 002/ ATD PRESS: 4232

Card 2/2

Khismatullina, A. G.

AUTHORS: Arbuzov, B. A., Khismatullina, A. G. 62-2-6/28

TITLE: On the Structure of the Resin Acids of Turpentine From Pinus Pithyusa in Pinus Insignis (O sostave smolyanykh kislot zhivitsy pinus pithyusa y pinus insignis).

PERIODICAL: Izvestiya AN SSSR Otdeleniye Khimicheskikh Nauk, 1958, Nr 2, pp. 166-173 (USSR).

ABSTRACT: Numerous researchers for many decades dealt with the structure of the above-mentioned resin acids and their elimination. The investigation of these acids, however, meets with great difficulties due to their easy variability. The property of these acids to form mixed crystals also renders the investigation very difficult. After a number of successfully employed methods the discovery was made that a small quantity of resin acids, separate from each other, exists in the sap of various Coniferae. A new acid, palustric acid (reference 4) is now added to the already discovered ones. As Garris (reference 5) already proved, abietic acid is the primary acid. The elaboration of the quantitative methods of the determination of individual resin acids of turpentine showed that individual resin acids which were eliminated from the sap (in

Card 1/2

5.3400

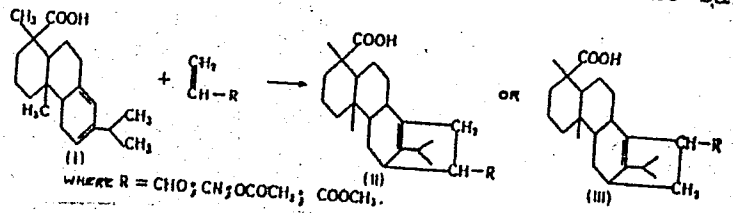
77067
SOV/62-59-12-11/43

AUTHORS: Arbuzov, B. A., Khismatullina, A. G.

TITLE: Diels-Alder Synthesis With Levopimaric Acid

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 12, pp 2126-2129 (USSR)

ABSTRACT: Crude resin acids of the galipot, Pinus maritima, containing 40% levopimaric acid, were condensed with acrolein, acrylonitrile, vinyl acetate, and methyl acrylate, in dry ether under carbon dioxide at 40-60°, in sealed tubes. The obtained products were purified as cyclohexylamine or diacetoneamine salts:




Card 1/3

Diels-Alder Synthesis With Levopimaric Acid

77067
SOV/62-59-12-11/43

It was not determined whether the products had structure (II) or (III). The acrolein adduct, regenerated from the amine salt with boric acid, had mp 50-62°, $[\alpha]_D = +37.5°$ (all rotation measurements were made in ethanol); it formed a semicarbazone, mp 216-218°, $[\alpha]_D = -8.7°$. The acrylonitrile adduct, similarly obtained, had mp 80-90°, $[\alpha]_D = -12.5°$. The vinyl acetate adduct, after regeneration, had mp 67-83°, $[\alpha]_D = -26°$, neutralization equivalent, 103 (calculated, 103). The methyl acrylate adduct, after repeated recrystallization from aqueous ethanol, had mp 134-138°. The results of elemental analysis, in all cases, were in good agreement with calculated percentages. There are 2 figures; and 7 references, 3 Soviet, 2 Swiss, 1 German, 1 U.S. The U.S. reference is: G. C. Harris, J. Am. Chem. Soc., 11, 3671 (1948).

Card 2/3

KHISMATULLINA, A. G., Cand Chem Sci -- "Certain studies in the field of resin acids of conifers." Kazan', 1961, (Min of Higher and Sec Spec Ed RSFSR. Kazan' Chem-Technological Inst im S. M. Kirov) (KL, 8-61, 232)

ARBUZOV, B.A.; KHISMATULLINA, A.G.

Monoxide and dioxide of abietic acid. Izv. AN SSSR, Otd.khim. nauk no.7:1280-1287 Jl '61. (MIRA 14:7)

1. Kazanskiy gosudarstvennyy universitet imeni V.I. Ul'yanova-Lenina.

(Abietic acid)

AREUZOV, B.A.; KHISMATULLINA, A.G.

Thermal decomposition of abietic acid adducts and its esters with maleic anhydride. Izv. AN SSSR. Otd.khim.nauk no.9:1630-1635 S '61. (MIRA 14:9)

1. Kazanskiy gosudarstvennyy universitet im. V.I.Ul'yanova-Lenina.
(Abietic acid) (Maleic anhydride)

KHISMATULLINA, L. A.

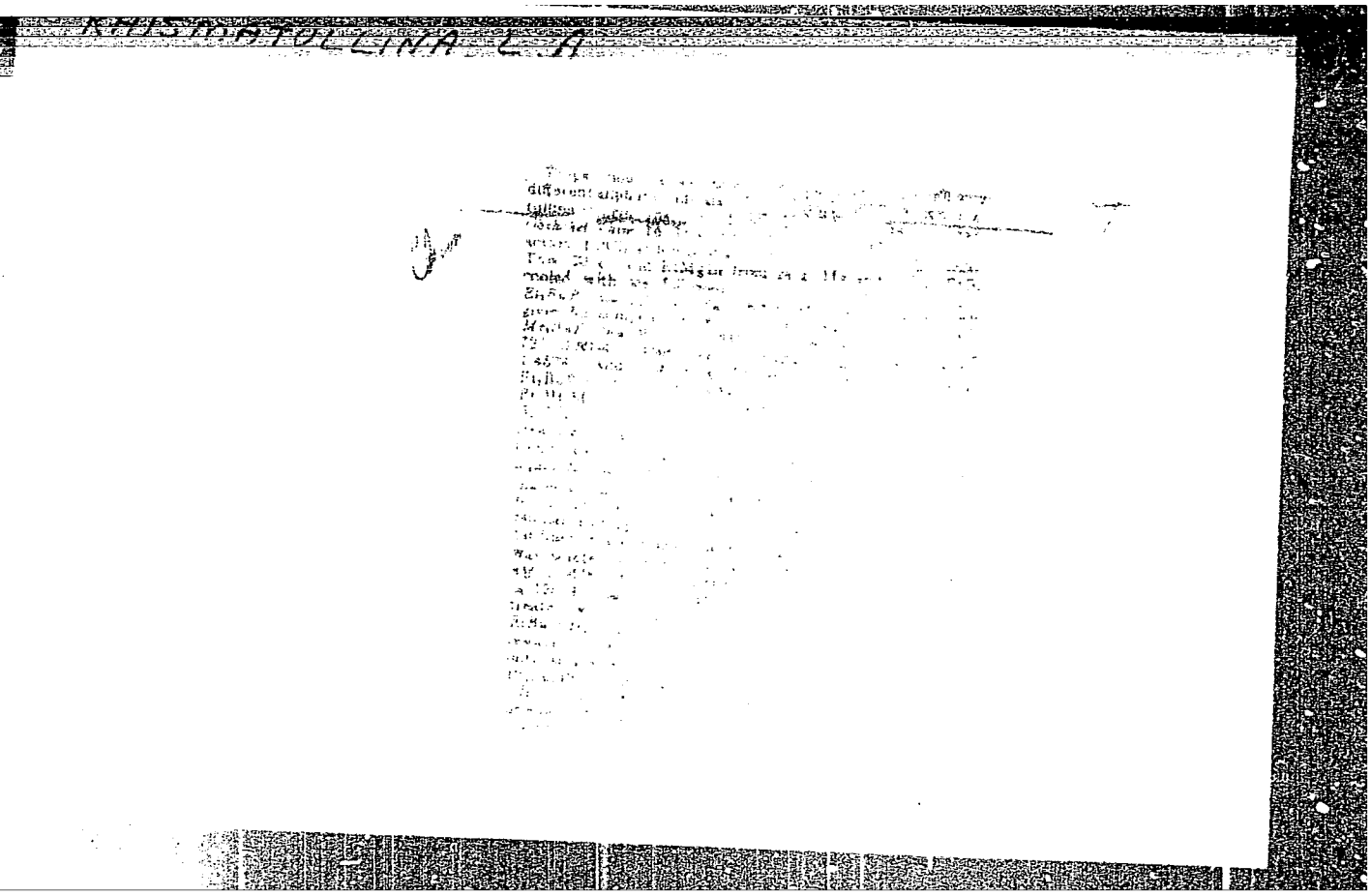
"Investigation in the field of certain quaternary asymetric phosphonium compounds." Min Higher Education USSR. Kazan' Order of Labor Red Banner State U imeni V. I. Ul'yanov-Lenin. Kazan', 1956. (Dissertation for the Degree of Candidate in Chemical Sciences).

SO: Knizhnaya letopis', No. 16, 1956

KAMAY, Gil'm; KHISMATULLINA, L.; ARBUZOV, A.Ye., akademik.

Separation of asymmetric tetracovalent phosphonium compounds into optically active components. Dokl.AN SSSR 92 no.1:69-71 S '53. (MLRA 6:8)

1. Akademiya nauk SSSR (for Arbuzov). 2. Khimicheskiy institut im. A.Ye. Arbuzova Kazanskogo filiala Akademii nauk SSSR (for Kamay and Khismatullina). (Phosphonium compounds)



KAMAY, Gil'm; KHISMATULLINA, L.A.

Preparation of new asymmetric phosphines. Izv.Kazan.fil.AN SSSR.Ser.khim.nauk no.4:79-82 '57. (MIRA 12:5)
(Phosphine)

ACCESSION NR: AP4030364

S/0190/64/006/003/0473/0479

AUTHORS: Khismatullina, L. A.; Levi, S. M.; Kukhtin, V. A.

TITLE: Synthesis and investigation of graft copolymers of gelatin

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 6, no. 3, 1964, 473-479

TOPIC TAGS: protein, gelatin, acryl monomer, polymer, copolymer, graft copolymer, methylmethacrylate, polymethylmethacrylate, initiator of copolymerization, potassium persulfate

ABSTRACT: After reviewing the synthesis of graft copolymers of gelatin with various acrylic acid derivatives, the authors centered their attention on the copolymerization of gelatin with methylmethacrylate (MMA). To a flask, containing water kept at 86C, they added a 10% solution of gelatin and various amounts of potassium persulfate. To this they added various doses of monomers, and heated the mixture for 45 minutes. After cooling at room temperature and drying, the product was extracted with dichloroethane to obtain the homopolymethylmethacrylate. The residue was hydrolyzed with hydrochloric acid, and the grafted branch polymethylmethacrylate fraction was separated out. While experimenting with ratios of gelatin to MMA of 2:1, 1:1, 1:3, and 1:4, it was found that the amount of homopolymer

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ACCESSION NR: AP4030364

and of the grafted branch polymer fraction increased with higher MMA content in the original mixture. It was calculated that for each molecule of gelatin of a molecular weight of 60 000 there were 13-17 graft polymer branches of a molecular weight of 2700-2000. Experiments with concentrations of the initiator within the 0.75-9% range revealed that the firmness of the gel and the viscosity of the solution decreased with higher concentrations of potassium persulfate, while the quantitity of homopolymeric MMA increased, and the molecular weight of the graft polymers diminished. A study of the physico-chemical and physico- mechanical properties of various graft copolymers of gelatin with monomers of the acryl series showed their superior mechanical strength, elasticity, and thermal stability, while the viscosity of their aqueous solutions, unlike that of gelatin, remained constant within a pH range of 2.5-10. Orig. art. has: 5 tables and 3 charts.

ASSOCIATION: Nauchno-issledovatel'skiy kinofotoinstitut (Scientific Research Institute of Cinematography)

SUBMITTED: 11Mar63 DATE ACQ: 07May64 ENCL: 00

SUB CODE: OC NO REF SOV: 002 OTHER: 002

Card 2/2

L 33056-66 EWT(1)/T IJP(c)
ACC NR: AP6024071

SOURCE CODE: UR/0077/66/011/002/0081/0087

AUTHOR: Khismatullina, L. A.; Levi, S. M.; Bogdanov, L. M.; Kukhtin, V. A.

ORG: All-Union Scientific Research Motion Picture Institute (Vsesoyuznyy nauchno-issledovatel'skiy kinofotoinstitut)

TITLE: Investigation of the application of grafted gelatin copolymers for photographic emulsions

SOURCE: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, v. 11, no. 2, 1966, 81-87

TOPIC TAGS: photographic emulsion, graft copolymer, photographic processing, photographic property

ABSTRACT: Conditions are worked out for synthesis of grafted gelatin copolymers. As a result of physico-mechanical and photographic investigations of the grafted gelatine copolymers, introduced to the emulsion in quantities of 25-50%, it has been established that these materials have no negative effect on the photographic properties, but increase the elasticity, strength and heat stability of the emulsion layer, which makes the layer immune to separation during high-temperature photographic processing. Orig. art. has: 9 tables. [JPRS]

SUB CODE: 14, 07 / SUBM DATE: 15Sep64 / ORIG REF: 002 / OTH REF: 001

Card 1/1

UDC: 771.513

KHISNYY, G.I.

Perforating ulcer of Meckel's diverticulum with the presence of pancreatic tissue in the latter. Vest.khir. 75 no.4:132-133 My '55. (MLRA 8:8)

1. Iz otdeleniya neotlozhnoy khirurgii i travmatologii 1-y gorodskoy bol'nitsy Dneprodzerzhinska (glavn. vrach-zasl. vrach USSR P.K. Koleshik) Dneprodzerzhinsk, ul. Novo-Zaporozhskaya, d. 1/2, kv.58.
(MECKEL'S DIVERTICULUM, complications,
ulcer perf., with presence of pancreas tissue, surg.)

BUBLIK, P.K.;ZOLOTAREVSKAYA, Ye.M.;KHISTNAYA, Z.G.

Problem of sterilization chamber. Aptech. delo, Moskva 2 no.2:61-63 Mar-Apr 1953. (CLML 24:3)

1. Of Dneprodzerzhinsk Branch of Dnepropetrovsk Division of the All-Union Scientific Pharmaceutic Society.

KHISTOV, G., d-r

Morphological changes in Klebsiella pneumoniae under the influence of antibiotics and sulfathiazole. Izv. mikrob. inst., Sofia no. 11: 207-220 '60.

(KLEBSIELLA pharmacol.)
(ANTIBIOTICS pharmacol.)
(SULFATHIAZOLES pharmacol.)

KHIT', G. L.

"Dermatoglifika narodov Sredney Azii."

report submitted for 7th Intl Cong, Anthropological & Ethnological Sciences, Moscow, 3-10 Aug 64.

L 8589-66 EWT(m)/EWG(m)/T/EWP(b)/EWA(m)-2/EWP(t)/EWT(1) IJP(c) AT/WW/JD/GG/RDW

ACCESSION NR: AP5019900 UR/0181/65/007/008/2573/2575

AUTHOR: Dzhanelidze, R. B.; Purtseladze, I. M.; Khitarishvili, L. S.; Chikovani, R. I.; Shkol'nik, A. L.

TITLE: Certain optical and photoelectric properties of molybdenum trioxide

SOURCE: Fizika tverdogo tela, v. 7, no. 8, 1965, 2573-2575

TOPIC TAGS: molybdenum compound, light absorption, absorption edge, electron capture, crystal lattice vacancy, photoelectric property

ABSTRACT: In view of the scarcity and contradictory nature of data on $MoO_3$, due for the most part to the difficulty of obtaining sufficiently large samples, the authors have produced large samples ((15--50) x (1--6) x (0.05--0.5) mm) of $MoO_3$ single crystals, whose optical-absorption spectra were investigated with allowance for reflection. The crystals exhibited strong absorption (350 nm andshorter wavelengths). The absorption edge shifted somewhat with increasing temperature toward the long-wave region. The results are shown in Fig. 1 of the Enclosure and are interpreted from the point of view of the level scheme of the electronic transitions shown in Fig. 2 of the Enclosure. In particular, the peaks near 350 and 900 nm, which can be appreciably strengthened or reduced by different treatments, are attributed to the presence of oxygen vacancies, capable of capturing one or two

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L 8589-66

ACCESSION NR: AP5019900

6

electrons. "The authors thank I. A. Mirtskhylava for interest in the work." Orig. art. has: 2 figures.

44,55. 44,55

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tbilisi State University)

SUBMITTED: 13Apr65 ENCL: 01 SUB CODE: SS

NR REF SOV: 005 OTHER: 001

Card 2/3

L 8589-66

ACCESSION NR: AP5019900

ENCLOSURE: 01

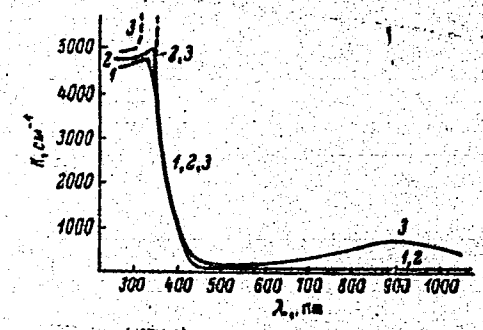


Fig. 1. Absorption spectra of single-crystal $MoO_3$.

1 - Before irradiation, 2 - after x-irradiation, 3 - after neutron bombardment

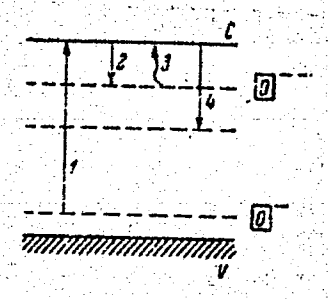


Fig. 2. Scheme of electronic transitions

jw

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S/058/62/000/006/093/136
A057/A101

AUTHORS: Chikovani, R. I., Shkol'nik, A. L., Purtseladze, I. M., Khitarishvili, L. S.

TITLE: On the photoconductivity of single crystals of molybdenum trioxide $MoO_3$

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 38, abstract 6E306 ("Tr. Tbilissk. un-ta", 1960, 86, 449 - 458; English summary)

TEXT: The photoconductivity of $MoO_3$ single crystals, obtained by a single, or multiple distillation of $MoO_3$ powder, and also of films of this compound, obtained by evaporation in vacuum on a quartz backing, was investigated. The experiments were carried out with non-irradiated crystals, and also with crystals irradiated by X-rays, gamma-rays, and neutrons. The region of photosensitivity of the crystals lies below 360 mμ and coincides with the region of strong absorption. The photosensitivity has a maximum at room temperature and is at the maximum in the average 20 - 30%. At temperatures above 70°C the photosensitivity disappears

Card 1/2

irreversibly. With time, a recovery of the photosensitivity takes place, which can be accelerated by annealing. Irradiation of the crystals with X-rays does not change their photosensitivity. Irradiation with gamma-rays effects a small increase of photosensitivity, and irradiation by neutrons - a loss The photosensitivity is absent in thin films. The obtained results are explained by the presence of oxygen vacancies in the crystals, which are able to capture one or two electrons.

P. Konorov

[Abstracter's note: Complete translation]

S/058/62/000/006/032/136
A061/A101

AUTHORS: Purtseladze, I. M., Khitarishvili, L. S., Chikovani, R. I., Shkol'nik, A. L.

TITLE: A study of the optical properties of molybdenum trioxide $MoO_3$

PERIODICAL: Referativnyy zhurnal, Fizika, no. 6, 1962, 32, abstract 6V214 ("Tr. Tbilissk. un-ta", 1960, v. 86, 439 - 448, English summary)

TEXT: A quantitative investigation has been conducted on absorption and reflection spectra of single crystals and polycrystalline $MoO_3$ films at temperatures between 90 and 465°K. The spectral coefficient of $MoO_3$ self-absorption displays a steep rise at ~350 mμ This absorption edge is displaced, in films, toward the longwave side as compared with single crystals, and shifts toward the side of long waves during heating. In crystals subjected to X- and γ-irradiation and neutron bombardment in the reactor, the spectrum displays an additional absorption band at 350 mμ, which is unstable and decays under the action of light, and also a stable band at ~900 mμ (with neutron bombardment). The 350-mμ band refers to a center consisting of an oxygen vacancy by which an electron has been

Card 1/2

A study of the...

S/058/62/000/006/032/136
A061/A101

trapped, while the 900-mμ band is due to large aggregates of lattice imperfections.

[Abstracter's note: Complete translation]

Card 2/2

DZHANELIDZE, R.B.; PURTSELADZE, I.M.; KHITARISHVILI, L.S.; CHIKOVANI, R.I.; SHKOL'NIK, A.L.

Some optical and photoelectric properties of $MoO_3$. Fiz. tver. tela 7 no.8:2573-2575 Ag '65. (MIRA 18:9)

1. Tbilisskiy gosudarstvennyy universitet.

KHITARISHVILI, S.A., inzhener.

Metalizing in the restoration of worn parts. Mekh.stroi. 11 no.8:17-18 Ag '54. (MIRA 7:8)
(Metal spraying)

KHITAROV, A.I.

Recent data on phase transformations of bismuth, cesium, thallium, and barium at very high pressures; a contribution to works on the synthesis of diamonds, garnets, and other minerals. Geokhimiia no.2:187 '61. (MIRA 14:3)

(Phase rule and equilibrium)
(Metals)

3(8)

AUTHORS: Demin, A. M., Khitarov, D. N. SOV/7-58-6-7/16

TITLE: Geochemistry of Potassium, Rubidium and Thallium Applied to Problems of Petrology (Geokhimiya kaliya, rubidiya i talliya v prilozhenii k voprosam petrologii)

PERIODICAL: Geokhimiya, 1958, Nr 6, pp 570 - 581 (USSR)

ABSTRACT: Rocks of the Malo-Labinskiy massif in the Glavnyy Kavkazskiy khrebet zone were investigated. K and Rb were flame photometrically determined according to Ye. A. Fabrikova (Ref 7). The accuracy was 7%. Tl was determined according to a method by N. T. Voskresenskaya (Ref 4), accuracy 15 - 17%. Tables 1, 2 and 3 show the distribution of the three elements in the main intrusion phases. Table 4 presents a summary and the Rb/Tl, K/Rb and K/Tl ratio. The mineral fractions of quartz, feldspar and biotite (Tables 5 - 7) were also investigated. On tables 8 and 9 a survey is given as well as the ratio. The results of geochemical investigation agree with petrographical observations: The granitoids of the massif originate from a common magmatic focus. The content increases from older to younger rocks, the K/Rb and K/Tl ratio (tonalite - coarse-grained microcline mica

Card 1/2

biotite granite - leucocratic granite - alaskite) decreases in the same direction. The results of analyses are in favor of a metasomatic formation of the porphyritic granodiorites. Biotite contains comparatively more Rb and Tl. In feldspars containing a higher percentage of acid, Rb and Tl are more intensively concentrated than potassium. The authors thank A. A. Saukov, N. T. Voskresenskaya and Ye. A. Fabrikova for advice in their work. There are 9 tables and 12 references, 6 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova (Moscow State University imeni M.V. Lomonosov)

SUBMITTED: June 18, 1958

S/026/62/000/003/004/006
D055/D113

AUTHOR: Khitarov, D.N. (Moscow)

TITLE: Coesite in nature

PERIODICAL: Priroda, no. 3, 1962, 79-80

TEXT: The author gives an account of the artificial synthesis of coesite in the USSR and theories on its distribution, reference being made to American research in this field. In 1957, N.I. Khitarov and co-workers of the Institut geokhimii i analiticheskoy khimii im. V.I. Vernadskogo AN SSSR (Institute of Geochemistry and Analytical Chemistry imeni V.I. Vernadskiy, AS USSR) synthesized coesite from amorphous silica at 26,000 - 38,000 atm and at 450-600°C. It took the form of colorless, transparent crystals with idiomorphic shapes scattered in quartz. Separate crystals have the form of flattened prisms with well-formed end faces, which in many cases were rounded, thus resembling apatite. Khitarov pointed out that coesite could probably be found under natural conditions particularly in regions with sharply defined, large tectonic faults and block displacement, as considerable pres-

Card 1/2

Coesite in nature

S/026/62/000/003/004/006
D055/D113

sures and temperatures would have coincided here with the rapid displacement of a block of strata into a region with different physical and chemical characteristics. There are 2 figures.

Card 2/2

KHITAROV, D.N.; VOVK, I.P.

Improved conductometric method for the determination of carbonic acid microquantities in gas-liquid inclusions of minerals. Trudy IMGRE no.18:142-146 '63. (MIRA 16:12)

KHITROV, M.Z.

Comparative evaluation of the determination of uropepsinogen using V.N.Tupoluxov and Mest's method modified by L.I.Idelson; an abstract. Lab. delo no. 11:663 '64. (MIRA 17:12)

ANDREYEV, L.V.; KHITAROV, M.Z.

Comparative evaluation of the determination of pepsin by Mett and Tugolukov's method; an abstract. Lab. delo no. 11: 664 '64. (MIRA 17:12)

1. Kafedra terapii dlya usovershenstvovaniya vrachey No.2 (nachal'nik - prof. V.A.Smagin) Voyenno-meditsinskoy ordena Lenina akademii im. S.M.Kirova.

KHITAROV, M.Z.

Role of a test breakfast in the study of the interrelation of the internal Castle's factor and other secretory indications; an abstract. Lab. delo no. 12:719 '64. (MIRA 18:1)

KHITAROV,

KHITAROV, M.Z.

Effect of bread, meat, milk and vitamin $B_{12}$ on the secretion of gastromucoprotein. Vop. pit. 24 no.2:81-82 Mr-Ap '65. (MIRA 18:8)

1. Kafedra terapii dlya usovershenstvovaniya vrachey No.2 (nachal'nik - prof. G.A.Shagin) Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova, Leningrad.

PROCESSES AND PROPERTIES INDEX

Cyanite from the middle Urals. N. Kuitanov. *Bull. Geol. and Prospecting Service* (U.R.S.S.) 49, 130–3(1930); *Neues Jahrb. Mineral. Geol.* 1931, I, 362.—An analysis of cyanite from Maly Kaslinsky is included. J. F. Schairer

METALLURGICAL LITERATURE CLASSIFICATION

PROCESSES AND PROPERTIES INDEX

**Geochemistry of chromium under supercritical conditions.** N. I. Khitarov and A. I. Ivanov. *Problems of Soviet Geol.* 6, 1009-1100(1936); *Rev. Geol.* 17, 210. The crit. subs. (temp.) of aq. solns. of $Na_2CrO_4$, $H_2CrO_4$, and $Cr(OH)_3$ are detd. Addns. of $SiO_2$, $Al(OH)_3$, and $Fe(OH)_3$ [illegible] (OH)[illegible] crit. temp. The possibility of transport of Cr in the vapor phase is discussed and the great mobility of Cr under natural conditions is emphasized.
I. F. Schairer

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

18

Cu

The characteristics of mine waters as sources for the production of copper sulfate. N. I. Khiterov. *J. Chem. Ind.* (U.S.S.R.) 14, 50-4(1937). H. M. Leicester

COMMON ELEMENTS

MATERIALS INDEX

A10-S1A METALLURGICAL LITERATURE CLASSIFICATION

AUTHOR INDEX

1ST AND 2ND LETTER

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

CA

2

**State of the residual magnesite solution.** N. I. Khitrov. *Soviet Geol.* 9, No. 7, 71-7 (1939).—The increases in the crit. temps. of various solns. above the crit. temp. of pure $H_2O$ are: for 0.25 *M* $K_2CO_3$, 18.3°; $Na_2CO_3$, 24.4; $Na_2SiO_3$, 18.0; $K_2SiO_3$, 41.2; $SiO_2$ gel, 10.6; 0.05 *M* $Li_2SiO_3$, 8.1; 0.10 *M* $Al(OH)_3$, 23.0; 0.11 *M* $Al(ONa)_3$, 58.0; 0.22 *M* NaOH, 68.3; 0.05 *M* $H_3BO_3$, 12.3; 0.20 *M* $Na_2B_4O_7$, 29.8; 0.05 *M* $H_2MoO_4$, 30.5; 0.05 *M* $Na_2Cr_2O_7$, $MoO_3$, 30.2; 1.00 *M* $H_2CrO_4$, 26.8; 0.50 *M* $Na_2Cr_2O_7$, 30.0. The significance of these data for contact metamorphic processes is discussed. F. H. Rathmann

**Vapor pressure of oleum.** F. D. Miles, H. Niblock and O. L. Wilson. *Trans. Faraday Soc.* 36, 345-56(1940).—The vapor pressures of oleum were detd. up to a max. pressure of 950 mm. and between 20 and 170°. The free trioxide was at 6 different concns. from about 7% to 65% $SO_3$. A glass Bourdon gage between the oleum and the manometer was used, the gage being sensitive to 0.1 mm. of Hg and able to withstand an atm. difference of pressure between the two sides. The heats of vaporization of $SO_3$ from the 6 varieties of oleum were found by plotting log $p_{atm}$ against $1/T$: 6.4% $SO_3$, 21,100 cal.; 12.7%, 11,300 cal.; 31.1%, 12,190 cal.; 33.2%, 12,600 cal.; 48.2%, 11,190 cal.; 64.7%, 10,240 cal.; pure $SO_3$, 10,485 cal. The vapor pressure of pure $SO_3$ was detd. from 17 to 62°. The results are not in agreement with any published data of oleum vapor pressures, but they appear to be reliable and agree well with indirect estimates. V. R. Deitz

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

COMMON ELEMENTS

MATERIALS INDEX

A

2

Critical phenomena in natural processes. N. I. Khitarov, L. A. Ivanov and L. R. Rotman. *Soviet Geol.* 6, No. 2, 98-106(1960).—The critical temps. of various mineral solns. are as follows: $Fe(OH)_3$ 0.25 *M*, 307°; $SiO_2$ gel 0.25 *M*, 365°; $H_3BO_3$ 0.65 *M*, 385°; $Mg(OH)_2$ 0.50 *M*, 380°; NaOH 0.25 *M*, 448°; $H_2MoO_4$ 0.03 *M*, 405°; $H_2CrO_4$ 1.00 *M*, 400°; $Al(OH)_3$ 0.10 *M*, 397°. The increase of the crit. temp. is roughly proportional to the concn. for simple solns. but no rule can be given for solns. of mixts. The unusually large effect of the $Na^+$ ion is attributed to some special effect it has on the structure of water. The significance of the increased crit. temp. in the case of magmatic solns. and other geol. processes is considered. F. H. Rathmann

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

7

**Some data on the genesis of jarosite.** N. I. Khitarov and E. P. Mulikovskaya. *Trudy Inst. Geol. Nauk, Akad. Nauk S. S. S. R.* No. 10, *Mineral.-Geokhim. Ser.* No. 2, 55-8(1940).—Mineral waters of the region where the jarosite is found may be used in ppts. the mineral. X-ray and chem. analyses proved that the substance formed was jarosite.

J. S. Joffe

METALLURGICAL LITERATURE CLASSIFICATION

CA

The mutual connection of molybdenum and silic[illegible] acid.
N. I. Khitarov and L. A. Ivanov. *Compt. rend. acad. sci. U. R. S. S.* 27, 604-6(1940) (in English).—Wh[illegible] aq. soln. of $Na_2MoO_4$ were heated in autoclaves wi[illegible] and without gelatinous $SiO_2$ for 0.5-5.0 days at 420-30[illegible] there were large transfers of Mo to PbO and CaO (place[illegible] in Pt boats in the upper parts of the autoclaves) when[illegible] the gelatinous $SiO_2$ was used, but only traces of Mo wer[illegible] transferred otherwise. Addn. of KOH to the $Na_2Mo$[illegible] soln. and gelatinous $SiO_2$ before heating to 420-30° [illegible] 4-17 hrs. decreased the transfer of Mo. The transfer [illegible] possibly took place through formation of $SiO_2$-$MoO_3$ c[illegible] complexes that were carried by the gas present to the CaO a[illegible] PbO. The critical temp. (disappearance of the men[illegible]) of molybdic acid soln. (0.06 m./l.) was 404.5°; it [illegible] decreases upon addn. of $SiO_2$. This probably explains the [illegible] frequent occurr. of Mo and Si in minerals. George Ayers

SSA-SLA METALLURGICAL LITERATURE CLASSIFICATION

KHITAROV, N.I.

Does powellite occur only in an oxidation zone? Izv.AN Arm.SSR. Est.nauki no.8:63-67 '47. (MLRA 9:8)

1. Laboratoriya geokhimii rud i Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut ministerstva geologii, Leningrad.
(Powellite)

KHITAROV, N.I.

Experimental description of the stability of quartz and the migration of silicon dioxide in hydrothermal conditions. (In: Soveshchanie po eksperimental'noi mineralogii i petrografii. 4th, Moscow, 1952. Trudy, Moskva, 1953. No.2, p.180-186.) (MLRA 7:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy geologicheskiy institut (VSYeGYeI). (Quartz) (Silica)

Hydrothermal experiments. N. I. Khitarov. [illegible] *Petrog. i Mineral., Akad. Nauk* [illegible] (1963). A special "leaching autoclave" has been constructed by the author which is a double-tube steel bomb in which a [illegible] rock sample is exposed to circulating supercritical [illegible] supercrit. $H_2O$ or solns. at 430°-60° and under pressures of 400 to 500 atm. for 4 to 4.5 hrs. Selected fragments of [illegible] g. wt. of a porphyritic granodiorite (chem. and mineralogical compn. is given), and one arkose sandstone were [illegible]. The bombs are continuously rocked during the reaction expts. The reaction products in the rocks were [illegible] microscopic methods, the solns. analyzed. The sum of the dissolved substance was in both rocks about 600 mg./l. $SiO_2$ is the most easily mobilized ingredient (up to 400 mg./l.). Na (46.5 mg./l. in granodiorite, 40 mg./l. in arkose) is much more mobilized by pure water than K (9 mg./l.); the plagioclase feldspar in the arkose is particularly [illegible] sol. Mg (36.5 mg./l. in granodiorite) cannot be derived from the biotite which is abundant in arkose, although no Mg is found in the solns. C (25.5 and 27.7 mg./l.) is easily dissolved by the $HCO_3^-$ and $CO_3^{--}$ present in the solns. (91.5 and 30.0 mg./l. in granodiorite, 9.0 and 87.0 mg./l. in arkose). Leaching expts. with a 0.1*N* and a 1.0*N* soln. of $MgCO_3$ showed a particularly high solv. of $SiO_2$ (up to 1800 mg./l. for the arkose), and K is abundantly dissolved (50 mg./l.), but no Mg and not much Ca (3 mg./l.) have been found. The arkose fragments appeared distinctly corroded, and strongly cemented by a grayish opaline $SiO_2$ hydrogel (n 1.460 to 1.467) which shows innumerable "drying cracks." The gel layer on the arkose fragments is about 2 mm. thick; quartz and feldspar crystals in the laminary layers are intensely fissured, and acicular crystals of a reaction product (not detd.) are observed. The cakes of the diffuse

show how important the effects of "hydrothermal leaching" may be for metasomatic processes, especially concerning the high mobilization of $SiO_2$ by hydrothermal solns. from the surrounding rocks. W. Eitel

KHITAROV, N. I.

Sodium chloride and calcium chloride [illegible]
for the origin [illegible]
hydrogens [illegible]
[illegible]
[illegible]
[illegible]
pressures [illegible]
appearance of acid hydrothermal solns which are im-
portant for metasomatic and metamorphic [illegible]
mineralization [illegible]
acid in a special diffusion filter [illegible]
[illegible]
[illegible]
of digestion [illegible]
[illegible]
a deep slope [illegible] observed in the resulting soln
also much $K^+$ is dissolved from feldspar [illegible]
[illegible]
[illegible]
[illegible]
high reactivity. NaCl and [illegible] are common [illegible]
inclusions [illegible]

KHITAROV, N. I.

MAKARENKO, F.A., doktor geologo-mineralogicheskikh nauk; KHITAROV, N.I., kandidat geologo-mineralogicheskikh nauk

Geothermy of the Greater and Lesser Caucasus; conference in Tiflis. Vest.AN SSSR 25 no.9:102-103 S'55. (MIRA 8:12)
(Caucasus--Geology)

KHITAROV, N.I.

USSR/Physical Chemistry. Thermodynamics, Thermochemistry, B-8
Equilibria, Physical-Chemical Analysis, Phase Transitions.

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14700

Author : N. I. Khitarov
Inst : -
Title : Four Hundred Degree Isotherm of System $H_2O$-$SiO_2$ within Pressure Range up to 4,000 kg per sq.cm.

Orig Pub: Geokhimiya, 1956, No 1, 62-66

Abstract: The 400° isotherm of the system $H_2O$-$SiO_2$ in the pressure range from 600 to 4,000 kg per sq.cm. was plotted basing on experimental data and taking into consideration the results obtained by the author earlier (Tr. IV konf. po eksperim. miner. i petrografii, 1952, vyp. 2). The experimental data are brought together in a table. It is shown that the stability of quartz decreases with the pressure increase and that at 4,000 kg per sq.cm. the content of $SiO_2$ in the solution rises to 3,000 mg per lit. The comparison of the author's results with

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USSR/Physical Chemistry. Thermodynamics, Thermochemistry, B-8
Equilibria, Physical-Chemical Analysis, Phase Transitions.

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14700

Abstract: available bibliographical data referring to the adjoining region of lower pressures showed a good agreement, especially in case of pressures above 1,000 kg per sq.cm. Isotherms of 350, 450, 500 and 600° of the system $H_2O$-$SiO_2$ were plotted in addition. The greatest drop of the stability of quartz is observed in NaOH solutions.

Card 2/2

KHITAROV, N.I.

International geological congress. Geokhimiia no.1:118 '56. (MLRA 9:9)

(Mexico--Geology--Congresses)

KHITAROV, N.I.

USSR/Cosmochemistry. Geochemistry. Hydrochemistry. D.

Abs Jour : Ref Zhur - Khimiya, No 9, 1957, 30372

Author : Khitarov, N.I., Rengarten, Ye.V.
Inst :
Title : Contribution to the Geochemistry of Carbon Dioxide in Granite Intrusions.

Orig Pub : Geokhimiya, 1956, No 2, 74-77

Abst : Determinations were made of the carbon dioxide content in granite from the areas of the Maritime Province, Caucasus and Kazakhstan. Prior to determination the specimen was comminuted to 1 mm, washed with water, dried, ground again in an agate mortar, screened, and small samples of the 0.25-0.1 mm fraction were used for analysis. The sample was placed into a quartz test tube which was connected to a special assembly with $Ba(OH)_2$ absorber. The $CO_2$ was displaced with a current of nitrogen. For determination of $CO_2$ a

Card 1/2

Card 2/2

KHITAROV, N.I.

Category: USSR

D

Abs Jour: RZh--Kh, No 3, 1957, 7864

Author : Khitarov, N. I.
Inst : Not given
Title : The First All-Union Conference on Geothermal Research

Orig Pub: Geokhimiya, 1956, No 2, 94-96

Abstract: No abstract.

Card : 1/1

Experimental characteristics of a part of the system

[illegible] the autoclave. Corrections of ~0.2% $CO_2$ were introduced into calcns. to compensate for $CO_2$ loss before sealing of the auto-

KHITAROV, N.I.

KRASNIKOV, V.I., glavnyy red.; BRODSKIY, A.A., red.; PEREL'MAN, A.I., red.; SAUKOV, A.A., red.; SAVROMOV, N.I., red.; SKROBYEV, Ye.A., red.; KHITAROV, N.I., red.; SHARKOV, Yu.V., red. SHCHERBINA, V.V., red.; GUROVA, O.A., tekhn.red.

[Geokhimicheskie poiski rudnykh mestorozhdenii v SSSR; trudy soveshchaniia. Pod red. V.I.Krasnikova. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po geol. i okhrane nedr, 1957. 466 p. (MIRA 11:3)

1. Vsesoyuznoye soveshchaniye po geokhimicheskim metodam poiskov rudnykh mestorozhdeniy. 1st, Moscow, 1956.
(Geochemical prospecting)

The melting conditions of granite [illegible]
Kitaiev (V. I. Vernadskii [illegible]
Chem. Acad. Sci. U.S.S.R. [illegible]
[illegible] Granite was melted [illegible]
[illegible] which sometimes also [illegible]
[illegible] eliminate the occurrence of [illegible]
[illegible] granites. One of the [illegible]
at [illegible] was kept at this temp. [illegible]
$H_2O$ at 800 atm. for 24 hrs. [illegible]
pare with the findings of [illegible]
[illegible] 2 1956 B. Reduction [illegible]
[illegible] 50 [illegible]

KHITAROV, N.I.

Nature and problems of present-day experimental investigations in the field of mineral formation. Zap. Vses. min. ob-va 86 no.2:281-293 '57. (MLRA 10:6)
(Geology--Research) (Mineralogy)

KHITAROV, N.I.

Coesite, a new stable modification of silica at high pressures, and some problems connected with it. Geokhimiia no.3:265-266 '57. (MLRA 10:7)

(Silica) (Coesite)

KHITAROV, N.I.; ARSEN'YEVA, R.V.; LEBEDEV, Ye.B.

Experiments on the fusion of granite in the presence of water. Geokhimiia no.5:380-384 '57. (MIRA 12:3)

1. V.I. Vernadsky Institute of Geochemistry and Analytical Chemistry, Academy of Sciences, USSR, Moscow.
(Granite) (Fusion)

KHITAROV, N.I.

KHITAROV, N.I.

The chemical properties of solutions arising as a result of the interaction of water with rocks at elevated temperatures and pressures [with summary in English]. Geokhimiia AN SSSR no.6: 481-492 '57. (MIRA 11:2)

1. Institut geokhimii i analitichskoy khimii im. V.I. Vernadskogo AN SSSR, Moskva.
(Solution (Chemistry)) (Thermodynamics)

KHITAROV, N.I.

Geochemical symposium, 16th International Congress on General and Applied Chemistry (Paris, July 22 - 24, 1957). Geokhimiia no.8:740-746 '57. (MIRA 11:2)
(Paris--Geochemistry--Congresses)

KHITAROV, N. I.

"Reaction Between Oligoclase and Water in Conditions of High Temperatures and Pressures" p. 208

~~"Synthesis and Structure of Hydrosilicates containing Simple and Complex Heavy Metal Cations." p. 38~~

Transactions of the Fifth Conference on Experimental and Applied Mineralogy and Petrography, Trudy ... Moscow, Izd-vo AN SSSR, 1958, 516pp.

reprints of reports presented at conf. held in Leningrad, 26-31 Mar 1956. The purpose of the conf. was to exchange information and coordinate the activities in the fields of experimental and applied mineralogy and petrography, and to stress the increasing complexity of practical problems.

7-58-3-5/15

AUTHORS: Khitarov, N. I., Rengarten, Ye. V., Lebedeva, N. Ye.

TITLE: The Chemical Composition of Liquid Inclusions in Iceland Crystal and the Problems of Its Genesis (Khimicheskiy sostav zhidkikh vklyucheniy islandskogo shpata i voprosy genezisa)

PERIODICAL: Geokhimiya, 1958, Nr 3, pp. 214 - 221 (USSR)

ABSTRACT: 8 crystals from the Tuvinskiy region were supplied by Ye.Ya. Kiyevlenko and N.N. Andrusenko. They are from four different types of deposits:
1)Gonchak and Nidym deposits, 2)Shpat deposit, 3)Yangurakta and Kuktule deposits, 4)Dzhekinde and Markhaya deposits. The content of $CO_2$ and water of the vacuoles was determined in a special apparatus which is given and described in a schematic diagram; the device for opening the vacuoles is shown in a figure. The salt contents were determined by means of microanalysis. All results are compiled in a table. The second part treats the particularities of the composition of inclusions and the conceptions concerning the genesis. The inclusions con-

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The Chemical Composition of Liquid Inclusions in Iceland Crystal and the Problems of Its Genesis 7-58-3-5/15

sist of rather concentrated solutions of chloride, calcium, and sodium. In order to be able to fix the hydrothermal formation conditions, it was tried to wash out gabbro-dolerite (Dzhekindin deposit) by means of water, NaCl- and CaCl- solutions under various conditions. The results are shown in two tables and one diagram. Hence results a formation temperature of the crystals of below 200° at a pressure below 15-16 atmospheres; the low $CO_2$-content as well as the conplete development of the crystals speak in favor of this lowtemperature. There are 5 figures, 3 tables, and 2 references, 2 of which are Soviet.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V.I. Vernadskogo, AN SSSR, Moskva ( Moscow Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy, AS USSR)

SUBMITTED: March 5, 1958

1. Calcite crystals--Impurities 2. Calcite crystals--Temperature factors 3. Chemical impurities--Analysis 4. Salts--Determination

Card 2/2

AUTHOR: Khitarov, N. I. SOV/7-58-5-14/15

TITLE: Transactions of the Second All-Union Conference on Petrography (Vtoroye Vsesoyuznoye petrograficheskoye soveshchaniye)

PERIODICAL: Geokhimiya, 1958, Nr 5, pp. 507 - 508 (USSR)

ABSTRACT: The second All-Union Conference on Petrography took place at Tashkent from May 19 to 23, 1958. It was attended by about 600 scientists from home and abroad. About 20 scientific lectures were held at the plenary meetings. The Minister of Geology and the Protection of Mineral Deposits of the USSR P.Ya.Antropov spoke twice. He dealt with the state of geology in the Soviet Union and with the tasks of the geologists in science and practical work. The lecture delivered by V.A.Nikolayev dealt with the investigation of a system with unequal pressure exerted on the phases, and the application of the processes of endogenic mineral formation. D.S.Korzhinskiy spoke about "Acidity - Basicity, the Most Important Factor of Magmatic and Post-Magmatic Processes". Yu.A.Kuznetsov suggested a classification of the magmatic formations which is based on the most important tectonic structural types and the

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magmatism connected with them. N.P.Semenenko lectured on the genetic classification of metamorphous rocks and processes. V.P.Petrov pointed to the necessity of introducing new research methods into practical petrographic work. N.I.Khitarov spoke about the water content of basalt magma. V.S.Koptev -Dvornikov et al., in their lecture presented the results obtained by the collaborators of the IGEM, GEOKhI, AS USSR, and MGU in the investigation of the granitoids from various areas of the Union. The lecture delivered by Yu.I.Polovinkina dealt with geological rules governing the development of the magmatism in the area of the USSR. G.S.Dzotsenidze reported on the role played by the effusive volcanism in the formation of useful deposits. Sh.A.Azizbekov and collaborators dealt with the magmatism and the metallogenesis in Azerbaydzhan. I.G.Magak'yan and S.S.Mkrtchyan reported on the genetic relation between mineralization and magmatism as shown by the example of the Malyy Kavkaz. Kh.M.Abdullayev spoke about the magmatism and the metallogenetic processes in Central Asia connected with it (Srednyaya Aziya). Ye.D.Karpova delivered a lecture on the "Intrusive and Ore Complexes in the Tectonic Zones of the

Southern Tien Shan". . Then D.N.Yelyutin and collaborators spoke about the formation of the intrusive complexes in the Northern zone of the Tien Shan . R.B.Baratov reported on peculiarities of the magmatism and the metallogenesis in Tadzhikistan. At the final session A.A.Polkanov and E.K. Gerling spoke about the potassium-argon method for the determination of the absolute age of rocks, and G.D.Afanas'yev on the determination of the absolute age of rocks and their geological importance. Furthermore the following lectures were held: S.Dimitrov (Bulgaria) "On the Magmatism and the Ore Deposits in Bulgaria", Koutch (German Democratic Republic) "On the Genetic Peculiarities of the Mansfeld Slates". M.Savula (Roumania) "On the Application of the Method of Investigating Liquid Inclusions to Petrographic Problems". K.Smulikovskiy (Poland) "On the Genetic Classification of Granitoids". More than 70 lectures were held in 4 departments. Details of the transactions are to be presented in a special publication: Transactions of the Second All-Union Conference on Petrography (Materialy ko vtoromu Vsesoyuznomu petrograficheskomu soveshcha-

niyu). After the Conference two excursions were organized. The Third Petrographic Conference is to take place at Novosibirsk.

3(8)

AUTHOR: Khitarov, N. I. SOV/7-58-6-2/16

TITLE: Problems of Petrogenesis in the Light of Experimental Results (Voprosy petrogeneza v svete eksperimental'nykh dannykh)

PERIODICAL: Geokhimiya, 1958, Nr 6, pp 524 - 534 (USSR)

ABSTRACT: The author observed the activity of the volcano Bezymyannyy (Klyuchevskaya gruppa, Kamchatka). Investigations of pressure and heat supply and experiments at high pressure led to the conclusions that basaltic magma is to be regarded as the least altered primary substratum. For the mentioned magma two extreme cases are valid: 1. Immediate eruption to the surface, limited reaction with the surrounding rocks, the partial pressure of $H_2$ is comparatively high, or 2. Magma is prevented from exuding to the surface, assimilation is possible and the partial pressure of $H_2$ drops, at the same time the effect of water increases. It may be measured by $\alpha = \frac{Fe_2O_3}{FeO}$. Test series at high temperatures (450°, 600°) and pressure (600 atmospheres, 3000 atmospheres) showed that most of the water originates from the basaltic magma, and is therefore juvenile. The further formation of

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rock is due to transformation of basic eruption magma, particularly by the effect of variations in the system $H_2$ - Fe - $H_2O$ during crystallization. Investigations carried out by other authors (Refs 6 and 7) on the $O^{16}/O^{18}$ ratio in igneous rocks prove the importance of water in the formation of igneous rock.

Analyses were made by: T. N. Kozintseva, E. Ye. Filippova and Ye.V. Rengarten. S. I. Naboko put a sample at the author's disposal. There are 3 figures, 8 tables, and 7 references, 4 of which are Soviet.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V.I. Vernadskogo AN SSSR, Moskva (Institute of Geochemistry and Analytical Chemistry imeni V.I. Vernadskiy AS USSR, Moscow)

SUBMITTED: June 20, 1958

5(4)

AUTHORS: Khitarov, N. I., Malinin, S. D.

SOV/7-58-7-8/13

TITLE: News in Brief (Kratkiye soobshcheniya) On the Equilibrium Phase Relations in the System $H_2O$-$CO_2$ (O ravnovesnykh fazovykh otnosheniyakh v sistemé $H_2O$-$CO_2$)

PERIODICAL: Geokhimiya, 1958, Nr 7, pp 678 - 679 (USSR)

ABSTRACT: The system $H_2O$-$CO_2$ was investigated in the range of from 200 to 300°C and under pressures of up to 600 kG/cm$^2$. The result of the investigations, which were carried out in the Laboratoriya magmatogennykh protsessov (Laboratory for Magmatogeneous Processes), is a pressure-concentration diagram where the equilibrium curves for 50, 200, 250, 300, and 330°C are plotted. The following facts can be learned from the diagram: 1) The solubility of carbon dioxide increases markedly with pressure and temperature. 2) Beginning with a certain temperature, which depends upon pressure, the solubility isobar passes a minimum value. 3) Regarding an isotherm the $CO_2$-content passes a maximum. 4) The isothermal lines for 300 and 330° C form a loop,

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News in Brief. On the Equilibrium Phase Relations in the System $H_2O$-$CO_2$ SOV/7-58-7-8/13

i.e. beginning with a certain temperature there is only one phase left. Furthermore the authors observed that by dissolving $CO_2$ in water the critical temperature of the latter is decreased. There are 1 figure and 4 references, 2 of which are Soviet.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im.V.I. Vernadskogo AN SSSR, Moskva(Institute of Geochemistry and Analytic Chemistry imeni V.I.Vernadskiy, AS USSR, Moscow)

SUBMITTED: August 3, 1958

Card 2/2

KAITAROV N.I.

AUTHORS: Khamrabayev, I.Kh. and Rub, M.G. SOV-11-58-10-12/12

TITLE: The Second All-Union Petrographic Conference (Vtoroye vsesoyuznoye petrograficheskoye soveshchaniye)

PERIODICAL: Izvestiya Akademii nauk, SSSR, Seriya geologicheskaya, 1958, Nr 10, pp 124 - 128 (USSR)

ABSTRACT: The above-mentioned conference took place in Tashkent from 19 to 23 May 1958. Over 1,000 representatives of over 100 geological organizations and vuzes took part in the conference. Scientists from China, Poland, East Germany, Rumania and Bulgaria also attended. The conference was opened by the president of the AS of the UzbekSSR Kh.M. Abdullayev. The Minister of Geology and Conservation of Mineral Resources of USSR P.Ya. Antropov reported on the extent of knowledge of the territory of the USSR, and on problems of petrology. Lectures were given at plenary sessions by Academician S.T. Dmitrov (Bulgaria), K. Smulikowski (Poland), Prof. Kautsh (E.Germany), Academician D.S. Korzhinskiy, Corresponding Members G.D. Afanas'yev, Yu.A. Kuznetsov, N.A. Yeliseyev and others. The majority of lectures and reports were concerned with the definition of regularities of manifestation of magmatism in various regions of the Union, and peculiarities of their metallogeny. Yu.A. Kuznetsov and Yu.M. Sheynman reported on

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general questions in the development of magmatism. The problem of genetic connection of endogenous mineralization with magmatism was the theme of many reports, among them a collective report by the scientific collaborators of the Institute of Geology of Ore Deposits, Petrography, Mineralogy and Geochemistry of the AS USSR V.S. Koptev-Dvornikov, O.S. Polkvaya, M.G. Rub, I.Ye. Smorchkov and F.K. Shipulin and also the reports by Ye.A. Radkevich, I.G. Magak'yan and S.S. Mkrtchyan (Institute of Geology of the AS of Armenian SSR) and by M.P. Materikov (VIMS). G.S. Dzotsenidze, M.A. Kashkay, Sh.A. Azizbekov, M.A. Favorskaya and A.M. Kalik reported on the problem of the correlation of ore-bearing with effusive formations. A.P. Lebedev and G.G. Moor reported on the magmatic formations of the plateau regions. O.A. Vorob'yeva, V.K. Monich and G.P. Bagdasaryan reported on peculiarities of manifestations of alkaline magmatism in certain regions. The physico-chemical trend in the study of magmatic and post-magmatic formations was represented in reports by D.S. Korzhinskiy, V.A. Maslennikov and I.G. Govorov. The problem of genezis, the distribution of metamorphic rocks and their classification were the themes of reports by the Ukrainian geo-

logists N.P. Semenenko, Ya.N. Belevtsev and S.P. Rodionov.- B.V. Zalesskiy, B.P. Belikov and Yu.A. Rozanov reported on physical, chemical and mechanical properties of rocks and on methods of their study. N.I. Khitarov reported on "Problems of Petrogenezis in the Light of Experimental Data", and G.D. Afanas'yev reported on "Some Data on the State of the Study of the Absolute Age of Rocks and Their Geological Importance". Finally a resolution was adopted in which the conference, after having enumerated the achievements of Soviet petrographers, complained about the shortage of laboratories for petrographers and stressed the importance of the further study of magmatic processes.

1. Geology--USSR

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USCOMM-DC-55822

KHITAROV, N.I.

Studying regions of modern volcanoes in connection with subsurface ore formation. Trudy Lab.vulk. no.13:179-185 '58. (MIRA 12:3)
(Ore deposits) (Volcanoes)

VLODAVETS, V.I., red.; DERGUNOV, I.D., red. [deceased]; IVANOV, V.V., red.; MAKARENKO, F.A., red.; KHITAROV, N.I., red.; GESSEN, L.V., red.izd-va; GUSEVA, I.N., tekhn.red.

[Problems in geothermy and practical utilization of the earth's heat; transactions of the First All-Union Conference on Geothermic Research, March 1956] Problemy geotermii i prakticheskogo ispol'zovaniia tepla zemli; trudy Pervogo Vsesoiuznogo soveshchaniia po geotermicheskim issledovaniiam, mart 1956 g. Moskva, Izd-vo Akad.nauk SSSR. Vol.1. 1959. 254 p. (MIRA 12:10)

1. Laboratoriya vulkanologii AN SSSR (for Vlodavets). 2. Institut fiziki Zemli AN SSSR im. O.Yu.Shmidta (for Dergunov [deceased]).
(Earth temperature--Congresses)

SOV/7-59-5-1/14

AUTHORS: Khitarov, N. I., Lebedev, Ye. B., Rengarten, Ye. V., Arsen'yeva, R. V.

TITLE: Comparative Characterization of the Solubility of Water in Basaltic and Granitic Melts (Sravnitel'naya kharakteristika rastvorimosti vody v bazal'tovom i granitnom rasplavakh)

PERIODICAL: Geokhimiya, 1959, Nr 5, pp 387 - 396 (USSR)

ABSTRACT: The laboratory assistants P. V. Boytsov and E. Ye. Filippova took part in the experiments. An apparatus which had been worked out by B. A. Korndorf and N. I. Khitarov was used. This apparatus is described in short (Figs 1 and 2). Pressures of 1000, 2000 and 3000 kg/cm$^2$ and temperatures of 900 and 1000$^0$ were used for the investigation. The samples were heated first up to 105$^0$, then up to 1200$^0$ in order to determine water; the weighed portion amounted to 200-370 mg, the weighing out of the Pregel tube was carried out on the microbalance ADV-200. The sample material was pulverized rock, i.e. basalt of the side crater Kirgurich of the Klyuchevskiy volcano from the eruption in 1932, put at the authors' disposal by V. I. Vlodavtsev, Laboratoriya vulkanologii Akademii nauk SSSR (Laboratory of Volcanology of the Academy of Sciences, USSR); further-

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more El'dzhurtinskiy granite, a porphyritic biotite granite of the northern Caucasus. The rocks were investigated under the microscope, the chemical composition is given (Table 1). A total of almost 30 determinations were carried out. A series with basalt was investigated 2 1/2 hours at 900° and 3000 kg/cm$^2$; the chilled melts contained an average of 3.2% water. The samples of the second series were heated 1 hour up to 1000°, then 2 1/2 hours up to 900°, the pressure amounted again up to 3000 kg/cm$^2$. The basalt of these samples contained an average of 3.6%, granite 6.7% water (Table 2). Further investigations were carried out under different conditions (Table 3). The basalt melt contains 5.4% water at 1000° and 3000 kg/cm$^2$, the granite melt 5.7% water. It is possible that the water content does not depend on the chemical composition at higher temperatures (Fig 9). A comparison with the values of Goranson (Refs 1 and 2) in figure 5 shows that the values of Goranson are higher by approximately one half. The values of the authors are probably more realistic, as confirmed by the curve of Johns and Burnham (Ref 4). The chilled melts were investigated under the

microscope; granite was transformed into light-grey glass with cracks and a small quantity of hematite (Fig 6), basalt into glass and hornblende with a small quantity of magnetite (Fig 7). Pyroxene insets were almost not changed at all, the olivines had a hornblende seam (Fig 8). Since hornblende usually does not occur in basalt, as well as in diabases and dolerites, it is assumed that the basaltic magmas have only low water content. Furthermore it is assumed that basaltic magma consists at 900° and 3000 kg/cm$^2$ of a comparatively easily mobile melt and olivine- and pyroxene insets. There are 9 figures, 3 tables, and 10 references, 3 of which are Soviet.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernadskogo AN SSSR, Moskva (Institute of Geochemistry and Analytical Chemistry imeni V. I. Vernadskiy AS USSR, Moscow)

SUBMITTED: April 15, 1959

VINOGRADOV, A.P., otv.red.; SAUKOV, A.A., red.; VLASOV, K.A., red.; SHCHERBINA, V.V., red.; KHITAROV, N.I., red.; OVCHINNIKOVA, S.V., red.izd-va; BYKOVA, V.V., tekhn.red.

[Geochemical cycles] Geokhimicheskie tsikly. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po geol. i okhrane nedr, 1960. 186 p. (MIRA 14:3)

1. International Geological Congress. 21st, Copenhagen, 1960. (Geochemistry--Congresses)

KHITAROV, N.I.

First All-Union Vulcanological Conference. Geokhimiia no.1:80 '60. (MIRA 13:6)
(Volcanoes—Congresses)

KHITAROV, N.I.

Relations between water and magmatic melts. Geokhimiia no.7: 586-589 '60. (MIRA 13:11)

1. V.I.Vernadsky Institute of Geochemistry and Analytical Chemistry, Academy of Sciences, U.S.S.R., Moscow.
(Magma)

KHITAROV, N.I.

New experimental data in the field of petrogenesis. Biul.MOIP.Otd. geol. 35 no.4:131-132 Jl-Ag '60. (MIRA 14:4)
(Petrology)

VLODAVETS, V.I., red.; DERGUNOV, I.D., red. [deceased]; IVANOV, V.V., red.; MAKARENKO, F.A., red.; KHITAROV, N.I., red.; BARABANOV, L.N., red.; SHEYNMAN, V.S., red. izd-va; YEGOROVA, N.F., tekhn. red.

[Problems in geothermy and the practical utilization of the earth's heat; transactions] Problemy geotermii i prakticheskogo ispol'zovaniia tepla Zemli; trudy. Moskva, Izd-vo Akad. nauk SSSR. Vol.2. 1961. 304 p. (MIRA 14:8)

1. Vsesoyuznoye soveshchaniye po geotermicheskim issledovaniyam. (Heating) (Water, Underground)

KHITAROV, N.I.

Concerning the formation of hydrothermal solutions. Trudy Lab. vulk. no.19:34-44 '61. (MIRA 14:9)
(Geysers (Geology))

KHITAROV, N.I.

Extra deep drilling in the Soviet Union. Sov.geol.4 no.6:134-138 Je '61. (MIRA 14:6)

1. Institut geokhimii i analiticheskoy khimii AN SSSR.
(Boring)

VINOGRADOV, A.P., akademik, glav. red.; KHITAROV, N.I., otv. red.; SHLEPOV, V.K., red. izd-va; VOLKOVA, V.G., tekhn. red.

[Experimental investigations of abyssal processes; from papers of a symposium] Eksperimental'nye issledovaniia v oblasti glubinnykh protsessov; po materialam simpoziuma. Moskva, Izd-vo Akad. nauk SSSR, 1962. 239 p. (MIRA 15:7)

1. Simposium po eksperimental'nym issledovaniyam v oblasti glubinnykh protsessov, 1960. 2. Institut geokhimii i analiticheskoy khimii im. V.I.Vernadskogo AN SSSR (for Khitarov).
(Earth—Surface)

KHITAROV, N.I.; PUGIN, V.A.

Relationship between the pressure and the temperature of the initial melting of sandy-shale formations. Geokhimiia no.4:300-303 '62. (MIRA 16:7)

1. Vernadsky Institute of Geochemistry and Analytical Chemistry Academy of Sciences, U.S.S.R., Moscow.
(Shale--Thermal properties) (Sand--Thermal properties)