BELOVA, V.A.

Content of pectin substances in sugar beets. Nauch. dokl. vys. shkoly; biol. nauki no.1:171-175 '66.

(MIRA 19:1)

1. Rekomendovana kafedroy organicheskoy i biologicheskoy khimii Severo-Osetinskogo sel'skokhozyaystvennogo instituta. Submitted July 9, 1964.

LEDANOV, S.N.; GERES, V.S.; BELOVA, V.I.

Effect of the nervous system on the development of malignant tumors. Medych.zhur. 21 no.3:37-45 '51. (MIRA 11:1)

1. Iz laboratorii patofiziologii (zav. - dots. S.N.Ledanov) Ukrains'kogo rentgeno-radiologichnogo i onkologichnogo Institutu (direktor - dots. Ye.A.Pazlov)
(NERVOUS SYSTEM) (CANCER)

Antibiotics

CZECHOSLOVAKIA

UDC 615.779.93-033

BARNA, K.; BARNOVA, E.; BELOVA, V.; WESSELA, E.; Chair of Medical Chemistry, Medical Faculty, P.J. Safarik University (Katedra Lekarskej Chemie Lekarskej Fakulty Univerzity P.J. Safarika), Kosice, Head (Veduci) Docent Dr K. BARNA

"Distribution of Antibiotics in Blood. V. Tetracyclines and Erythrocytes."

Prague, Casopis Lekaru Ceskych, Vol 105, No 27-28, 4 Jul 66, pp 726-731

Abstract [Authors' English summary modified]: The bond of tetracycline to intact bovine erythrocytes and to isolated erythrocytes fractions -- hemoglobin and stroma- in vitro was investigated. Erythrocytes have greater affinity for oxytetracycline, followed by tetracycline, and finally chlortetracycline. The bond is established immediately and alters during incubation period. Part of the chlortetracycline and tetracycline is irreversibly bound to red blood cells; oxytetracycline is bound by a labile bond. Chlortetracycline and tetracycline have a great affinity for stroma, oxytetracycline has a greater affinity for hemoglobin than for the stroma. 5 Fig., 4 Tab., 12 West., 5 East., 1 Jap. ref. (Ms. rec. Nov. 65).

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BELOVA, V. I.

Spectral analysis of small amounts of iridium and rhodium in platinum preparations. A. V. Babaeva, V. I. Belova, and S. A. Borovik (*Compt. rend. Acad. Sci. U.R.S.S.*, 1942, 37, 101—103). No. 3
Ir and Rh are determined in Pt compounds by their spark spectra, ~3 mg. of material being fixed in a hollow in the lower C electrode with collodion. The method is sensitive to 0·001% with an accuracy of ±4·8%. M. H. M. A.

BELOVA, V. I.

"Spectrum Analysis of Small Quantities of Iridium and Rhodium in Platinum Preparations," by A. V. Babayeva, V. I. BELOVA and S. A. Borovik. Full translation. RUSSIAN, per, Iz Sectora Platiny, Vol. XX, USSR, 1946, pp. 168-171 (CTS 34, 29 Aug 52)

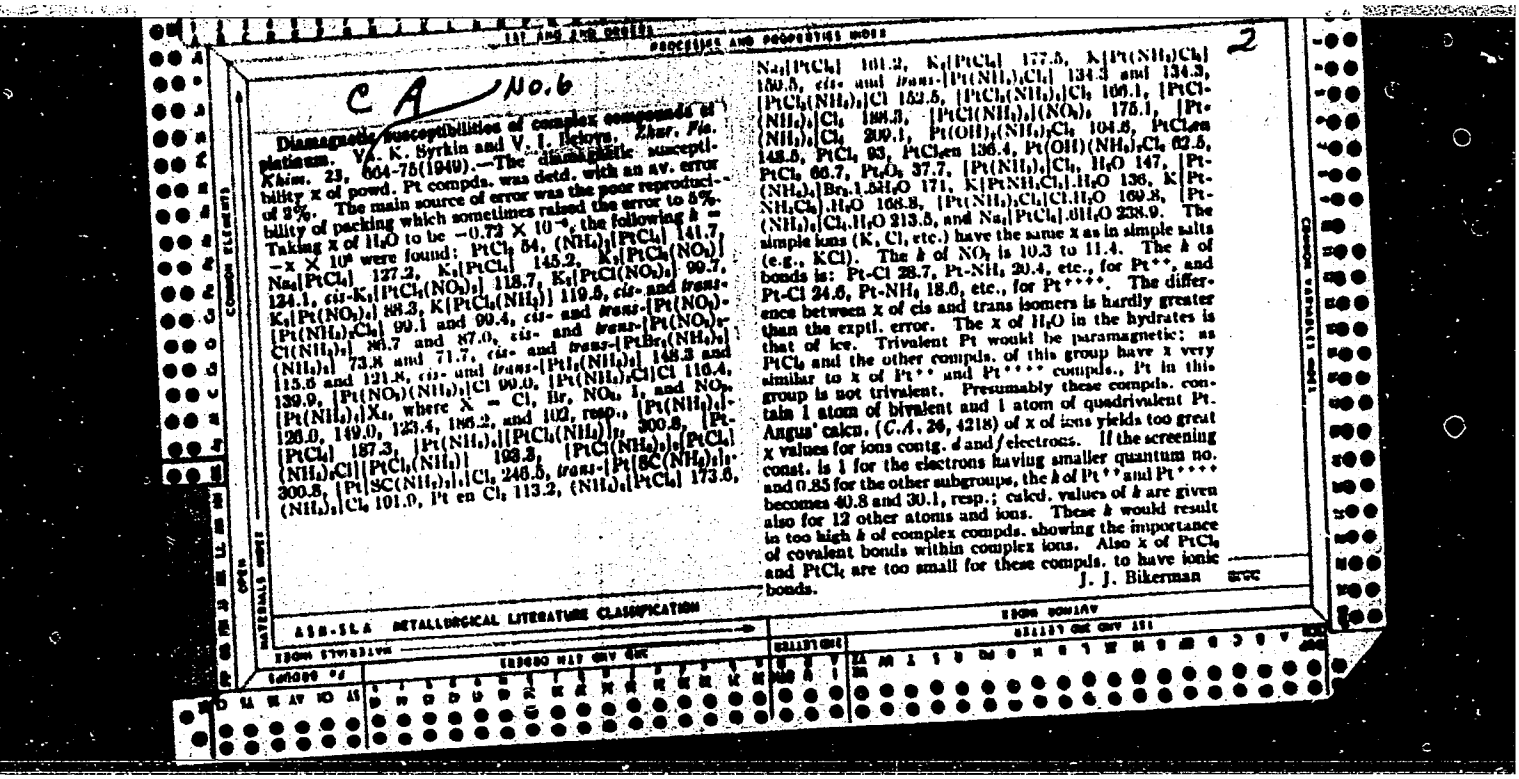
M

9

Spectroscopic Analysis of Small Quantities of Iridium and Rhodium in Platinum Products. A. V. Babaeva, V. I. Belova, and S. A. Borovik (*Trudy Sekt. Platiny*, 1947, (20), 168–171; *C. Abs.*, 1950, **44**, 5262). [In Russian]. This method is particularly adapted for determining Ir and Rh in intermediate products of Pt refining. Two procedures were worked out, one using an arc spectrum and the other a spark. The arc spectrum gave a probable error of 10–20% in determining Ir and Rh. The lower limit for determining these metals was 0·01%. The arc spectrum required too much of the precious metal, and therefore the spark method proved preferable for routine analyses. For the spark spectrum purified C electrodes of 3 mm. dia. were used. The lower electrode had a cavity 0·4–0·5 mm. deep to receive the sample, weighing 0·003 g. The spark gap was 3·5 mm., exposure 15–45 sec. For Ir concentrations of 0·5–0·05%, best results were obtained with the line pair Ir 3220·79 and Pt 3230·29 Å. and for <0·05% Ir with Ir 3220·79 and Pt 3212·40 Å. For Rh the preferred lines were Rh 3396·82 and Pt 3427·92 Å. For <0·005% Rh it was preferable to use the line pair Rh 3434·9 and Pt 3427·92 Å. By this procedure the average probable error in determining Rh was ±8·5% and in determining Ir ±7·8%.

CA

Spectroscopic determination of palladium in platinum, platinum in palladium, and rhodium in iridium. A. V. Babaeva, V. L. Belova, and L. A. Nazarova. *Issled. Sektora Platiny i Drug. Blagorod. Metal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* (Ann. secteur platine, Inst. chim. gén.) No. 20, 172-5(1947).—The detns. were carried out in a condensed spark spectrum. For 5-0.7% Pd in Pt the preferred lines were Pt 3027.91, Pt 3017.88 A., and for 0.7-0.001% Pd the lines were Pd 3404.50, Pt 3427.92 A. For 5-0.2% Pt in Pd the preferred lines were Pt 2997.96, Pd 3002.66 A., and below 0.2% Pt, Pt 2997.96, Pd 2996.56 A. For 1.0-0.001% Rh in Ir the preferred lines were Rh 3369.82, Ir 3310.54 A. Although the lines of this pair are quite apart, their intensity is comparable. If desired the pair Rh 3434.90, Ir 3437.05 A. can also be used. M. Hoseh



C A No. 6

Diamagnetic susceptibilities of complex compounds of platinum. V. K. Syrkin and V. I. Belova. *Zhur. Fiz. Khim.* 23, 664-75(1949).—The diamagnetic susceptibility χ of powd. Pt compds. was detd. with an av. error of 2%. The main source of error was the poor reproducibility of packing which sometimes raised the error to 5%. Taking χ of H_2O to be -0.72×10^{-6}, the following $k = -\chi \times 10^6$ were found: $PtCl_2$ 54, $(NH_4)_2[PtCl_4]$ 141.7, $Na_2[PtCl_4]$ 127.2, $K_2[PtCl_4]$ 145.2, $K_2[PtCl_2(NO_2)_2]$ 99.7, 124.1, *cis*-$K_2[PtCl_2(NO_2)_2]$ 118.7, $K_2[PtCl(NO_2)_3]$ 119.5, *cis*- and *trans*-$K_2[Pt(NO_2)_4]$ 88.3, $K[PtCl_3(NH_3)]$ 119.5, *cis*- and *trans*-$[Pt(NO_2)_2(NH_3)_2Cl_2]$ 99.1 and 99.4, *cis*- and *trans*-$[Pt(NO_2)_2Cl(NH_3)_3]$ 86.7 and 87.0, *cis*- and *trans*-$[PtBr_2(NH_3)_2]$ $(NH_3)_2]$ 73.8 and 71.7, *cis*- and *trans*-$[PtI_2(NH_3)_2]$ 148.3 and 115.6 and 121.8, *cis*- and *trans*-$[Pt(NH_3)_2Cl]Cl$ 116.4, 139.9, $[Pt(NO_2)(NH_3)_3]Cl$ 99.0, $[Pt(NH_3)_4Cl]Cl$ 116.4, $[Pt(NH_3)_4X_2]$, where X = Cl, Br, NO_2, I, and NO_3, 126.0, 149.0, 123.4, 186.2, and 102, resp.; $[Pt(NH_3)_4][PtCl_4]$ 300.8, $[Pt(NH_3)_4][PtCl_4]$ 187.3, $[Pt(NH_3)_4][PtCl_2(NH_3)_2]_2$ 198.3, $[PtCl(NH_3)_3]_2[PtCl_4]$ $(NH_3)_2Cl][PtCl_3(NH_3)]$ 198.3, $[PtCl(NH_3)_3]_2[PtCl_4]$ 300.8, $[Pt(SC(NH_2)_2)_4]Cl_2$ 246.5, *trans*-$[Pt(SC(NH_2)_2)_2]$ $(NH_3)_2]Cl_2$ 101.0, Pt en Cl_2 113.2, $(NH_3)_2[PtCl_4]$ 173.6, $Na_2[PtCl_6]$ 101.2, $K_2[PtCl_6]$ 177.5, $K[Pt(NH_3)Cl_5]$ 160.5, *cis*- and *trans*-$[Pt(NH_3)_2Cl_4]$ 134.3 and 134.3, $[PtCl_3(NH_3)_3]Cl$ 152.5, $[PtCl_2(NH_3)_4]Cl_2$ 166.1, $[PtCl(NH_3)_5]Cl_3$ 188.8, $[PtCl(NH_3)_5](NO_3)_2$ 175.1, $[Pt(NH_3)_6]Cl_4$ 209.1, $Pt(OH)_2(NH_3)_2Cl_2$ 104.6, $PtCl_2en$ 148.5, $PtCl_4$ 93, $PtCl_4en$ 136.4, $Pt(OH)(NH_3)_3Cl_3$ 62.5, $PtCl_2$ 66.7, Pt_2O_3 37.7, $[Pt(NH_3)_4]Cl_2.H_2O$ 147, $[Pt(NH_3)_4]Br_2.1.5H_2O$ 171, $K[PtNH_3Cl_5].H_2O$ 136, $K[Pt(NH_3Cl_2).H_2O$ 168.8, $[Pt(NH_3)_5Cl_2]Cl.H_2O$ 169.8, $[Pt(NH_3)_6]Cl_4.H_2O$ 213.5, and $Na_2[PtCl_6].6H_2O$ 238.9. The simple ions (K, Cl, etc.) have the same χ as in simple salts (e.g., KCl). The k of NO_2 is 10.3 to 11.4. The k of bonds is: Pt-Cl 28.7, Pt-NH_3 20.4, etc., for Pt^{++}, and Pt-Cl 24.6, Pt-NH_3 18.6, etc., for Pt^{++++}. The difference between χ of cis and trans isomers is hardly greater than the expti. error. The χ of H_2O in the hydrates is that of ice. Trivalent Pt would be paramagnetic; as $PtCl_3$ and the other compds. of this group have χ very similar to χ of Pt^{++} and Pt^{++++} compds., Pt in this group is not trivalent. Presumably these compds. contain 1 atom of bivalent and 1 atom of quadrivalent Pt. Angus' calcn. (*C.A.* 26, 4218) of χ of ions yields too great χ values for ions contg. d and f electrons. If the screening const. is 1 for the electrons having smaller quantum no. and 0.85 for the other subgroups, the k of Pt^{++} and Pt^{++++} becomes 40.8 and 30.1, resp.; calcd. values of k are given also for 12 other atoms and ions. These k would result in too high k of complex compds. showing the importance of covalent bonds within complex ions. Also χ of $PtCl_3$ and $PtCl_4$ are too small for these compds. to have ionic bonds.

J. J. Bikerman

A58-SLA METALLURGICAL LITERATURE CLASSIFICATION

C.A.

Additivity of diamagnetic susceptibilities of platinum complexes. Ya. K. Syrkin and V. I. Belova. *Inst. Sektora Platiny i Drugikh Blagorod. Metal., Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* No. 24, 72-8(1940); cf. *C.A.* 43, 7277g.—In addn. to data given previously, $\chi \times 10^{-6}$ for K_2PtBr_4 was detd. to be −184.5 and for $(NH_4)_2NH_4ClPtCl_4$ −160.5. M. Hoseh

2

CA

Diamagnetic susceptibilities of complex compounds of quadrivalent platinum. Ya. K. Syrkin and V. I. Belova. *Doklady Akad. Nauk S.S.S.R.* 69, 873-6(1949); cf. *C.A.* 43, 7277g.—Experimentally detd. values of the sp. and mol. diamagnetic susceptibilities $10^6 \times$ are: $K_2[PtBr_6]$ 0.308, 229.6; $(NH_4)_2[PtBr_6]$ 0.316, 224.6; $Na_2[PtBr_6]$ 0.295, 212.6; *trans*-$K_2[PtBr_4Cl_2]$ 0.307, 203.6; *cis*-$K_2[PtBr_4Cl_2]$ 0.313, 207.8; mixt. cryst. of $K_2[PtBr_6]$ and $K_2[PtCl_6]$ 0.313, 217.8; *trans*-$K_2[PtBr_2Cl_4]$ 0.334, 192.1; *cis*-$K_2[PtBr_2Cl_4]$ 0.319, 189.5; *trans*-$[Pt(NH_3)_2Br_4]$ 0.313, 171.8; *cis*-$[Pt(NH_3)_2Br_4]$ 0.311, 170.7; $[Pt(NH_3)_4Br_2](NO_3)_2$ 0.318, 174.0; $[Pt(NH_3)_4Br_2]Br_2$ 0.342, 199.4; $[Pt(NH_3)_4(NH_3)Br]Br_3$ 0.365, 189.5; $[Pt(NH_3)_4Br]Br_3$ 0.374, 224.4; $[Pt(NH_3)_4Cl]Br_3$ 0.386, 214.5; $[Pt(NH_3)_4Cl]Cl_2.H_2O$, 0.346, 196.3; $Na_2[PtBr_6].6H_2O$, 0.352, 291.7. The difference between *cis*- and *trans*-$K_2[PtBr_4Cl_2]$ is greater than the possible exptl. error; on the basis of poly. detns., only the *trans* form is an individual compd. If it is assumed that the bond diamagnetic susceptibilities Pt-NH_3 = 18.6 ± 0.6, Pt-Cl = 24.6, Pt-NH_3 = 11.5, the ionic susceptibilities K^+ 14.9, Na^+ 6.8, NH_4^+ 13.3, NO_3^- 18.9, Cl^- 23.4 ± 1.3, Br^- 34.6 ± 1.6, and for H_2O, 12.6, the bond susceptibility of Pt-Br is found to be 33. Additivity of the susceptibilities holds generally within a few %, with greater deviations found only in cases where the observed values for the cis and the trans form are distinctly different. The fact that the bond susceptibility for Pt-Br is smaller than the ionic susceptibility of Br^- indicates that in complex compds. of Pt the bonds are largely covalent. N. Thon

Inst. Gen. + Inorg. Chem. im. Kurnakov, AS USSR

(BA-A1Ja 53:46)

BELOVA, V. I. Cand Chem Sci

Dissertation: "Diamagnetic Susceptibility of the Platinum Complex Compounds." 22/12/50

Inst of General and Inorganic Chemistry imeni N. S. Kurnas'ov, Acad Sci USSR

SO Vecheryaya Moskva
Sum 71

KITAYGORODSKIY, A.I.; VOL'KENSHTEYN, M.V., redaktor; BELOVA, V.I., redaktor; ASTAF'YEVA, G.A., tekhnicheskiy redaktor.

[Order and confusion in the world of atoms] Poriadok i besporiadok v mire atomov. Moskva, Izd-vo Akad. nauk SSSR, 1954. 69 p. (MLRA 7:12)
(Atoms) (Crystallography)

KLAUS, K.K.; ZVYAGINTSEV, O.Ye., redaktor; BELOVA, V.I., redaktor

[Selected works on the chemistry of the platinum metals] Izbrannye trudy po khimii platinovykh metallov. Red., stat'ia i primechaniia O.E.Zviagintseva. Moskva, Izd-vo Akademii nauk SSSR, 1954. 302 p.
(Platinum group) (MLRA 7:9)

BELOVA, V.I.; PATSUKOVA, N.N.

Magnetic properties of double salts $MeIHI \cdot ZnSO_4$. Izv.Sekt.fiz.-khim. anal. 26:132-137 '55. (MIRA 8:9)

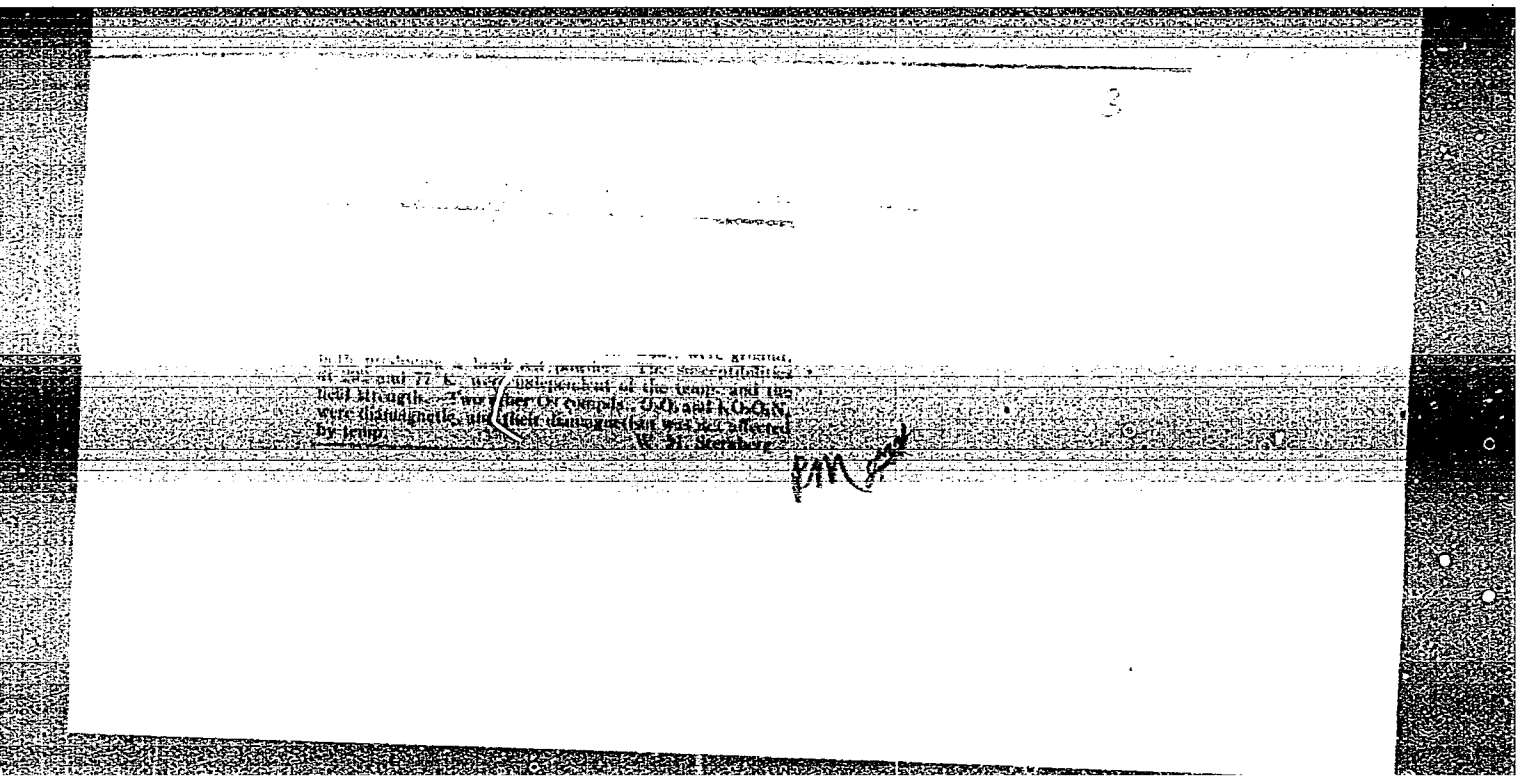
1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR. (Salts, Double)

BELOVA, V.I.

The magnetic susceptibility of some complex compounds of trivalent iridium. V. I. Belova. *Izvest. Sektora Platiny i Drug. Blagorod. Metallov Inst. Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 30, 120–4(1955).—The magnetic susceptibility measurements by the Sucksmith method (*Proc. Roy. Soc.* (London) A170, 551(1939)) give sufficiently accurate results and require small amts. of material. The magnetic susceptibility of a no. of complex Co^{+++} compds. was measured, and a conclusion is drawn from the results on the predominantly covalent bonds of Ir with the inner substituents of the compds. studied. W. M. Sternberg

Comparative magnetic susceptibility studies of palladium and platinum compounds. V. I. Belova. *Issled. Sfery Primen. Platiny i Drug. Blagorod. Metallov, Inst. Obshch. i Neorg. Khim., Akad. Nauk S.S.S.R.* 31, 59–65 (1955).—The diamagnetic mol. susceptibilities × 10^6 of the Pd and Pt compds. are (with the nos. in parentheses referring to the Pt compds.): $K_2[MCl_4]$ −132.3 (−145.2); $[NH_4]_2[MCl_4]$ −126.7, (−141.7); $K_2[M(NO_2)_4]$ −74.2, (−89.2); *trans*-$[M(NH_3)_2Cl_2]$ −83.6, (−99.4); *trans*-$[M(NH_3)_2(NO_2)_2]$ −51.0, (−71.7); *trans*-$[M\ py_2Cl_2]$ −145.4, (−159.9); $[M\text{-}enCl_2]$ −99.8, (−113.2); $[M(NH_3)_4]Cl_2.H_2O$ −123.0, (−147.2); $[M(NH_3)_4]Cl_2$ −108.4, (−126.0); $[M\ py_4]Cl_2.3H_2O$ −282.7; $[M\ py_4]Cl_2.2H_2O$ (−287.6); $[M\ py_4]Cl_2$ −244.0, (−262.4) (calcd. from the magnetic susceptibility of the hydrated Pd and Pt compds. and the magnetic susceptibility of H_2O); $[M\ en_3]Cl_4$ −159.7, (−183.0); $[M(NH_3)_4][MCl_4]$ −158.8, (−185.3); $[M\ py_4][MeCl_4]$ −280.7, (−313.8); $[M\ en_3][MCl_4]$ −183.0, (−215.3). The av. difference in mol. susceptibility/atom of M (Pd or Pt) = 16.2 ± 1.3 × 10^{-6}, or very close to the magnetic susceptibility difference of the Pd and Pt atoms. 14.9 × − × 10^{-6}.

W. M. Sternberg



BELOVA, V.I.

"Magnetochemistry" [in English] by P.W. Selwood. Reviewed by V.I. Belova. Zhur.fiz.khim. 31 no.9:2151 S '57. (MIRA 11:1)
(Magnetochemistry)

67074

24.4100

SOV/124-59-1-727

Translation from: Referativnyy zhurnal. Mekhanika, 1959, Nr 1, p 106 (USSR)

AUTHOR: Belova, V.I.

TITLE: The Distribution of Stresses in a Stretched Plane Sheet With an Axially Symmetric Indention

PERIODICAL: Uch. zap. LGU, 1957, Nr 217, pp 236-253

ABSTRACT: The distribution of stresses near indentions in a plane sheet for the case of stretching in one direction is investigated. Indentions of two forms are considered: 1) In the form of a segment of a flattened spheric shell imbedded into the plane sheet; 2) a smooth axially symmetric indention gradually passing over into the plane sheet. For the determination of the stress condition in the case of an indention of the first form, the solution for the plane sheet with a circular cut is conjugated with the solution for the segment of the flattened spherical shell. The stress condition caused by the indention of the second form is obtained from the solution for the flattened shell of revolution, which can be defined in a cylindrical coordinate system by means of the equation

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67074

SOV/124-59-1-727

The Distribution of Stresses in a Stretched Plane Sheet With an Axially Symmetric Indention

$$z = \frac{z_o}{1 + (k\,r)^4} .$$

The results of the numerical calculations are given. On the basis of the determination of the concentration coefficients a slight weakening of the plane sheet due to the effect of the shallow smooth indentions is noted.

M.I. Guseyn-Zade

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Card 2/2

AUTHORS: Belova, V. I., Syrkin, Ya. K. SOV/78-3-9-5/38

TITLE: The Magnetic Susceptibility of the Complex Compounds of Osmium (Magnitnaya vospriimchivost' kompleksnykh soyedineniy osmiya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 9, pp 2016-2023 (USSR)

ABSTRACT: The magnetic susceptibility of osmium compounds of different valence was investigated. The investigations were carried out at 77 and 300° K. The methods of preparing the initial compounds are described. The non-magnetic compounds of osmium belong to the type of the covalent complexes. Also the osmium compounds with two nuclei are non-magnets. An unusual magnetism is ascertained in tetravalent osmium compounds of the type K_2OsCl_6. A comparison of the ligand field theory and Pauli's theory shows that Pauli's theory provides more satisfactory results in compounds with covalent bindings and the ligand field theory in compounds without covalent binding. The hexamine and pentamine of osmium are paramagnetic. At room temperature the hexamines have a magnetic moment of $1,77\mu_B$ and at 77° K one of $1,65\mu_B$. For the pentamines the magnetic moment at room

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The Magnetic Susceptibility of the Complex Compounds of Osmium SOV/78-3-9-5/38

temperature is 1,7μ_B, and at 77° K it is 1,5μ_B. Osmium dioxide has crystal lattices of the rutile type and is non-magnetic. OsS_2 at room temperature is diamagnetic and at 77° K paramagnetic. The unusual magnetic properties of some osmium complex compounds are explained by the ligand field theory. There are 2 tables and 8 references, 2 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii imeni N. S. Kurnakova, Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, AS, USSR)

SUBMITTED: February 1, 1958

Card 2/2

5(2)

AUTHORS: Syrkin, Ya. K., Belova, V. I. SOV/62-58-12-17/22

TITLE: Magnetic Susceptibility and Structure of Nitrosyl Complexes of Ruthenium (Magnitnaya vospriimchivost' i stroyeniye nitrozil'-nykh kompleksov ruteniya)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1958, Nr 12, pp 1492-1493 (USSR)

ABSTRACT: In this paper the authors give a brief report mentioning that the magnetic susceptibility of 4 nitrosyl compounds was measured. All compounds turned out to be diamagnetic. The results of the measurements are mentioned in the table. It seems probable that the nitrogen electrons $2s^2 2p^3$ take part in the bonds of nitrogen with oxygen and the ruthenium atom. The data in publications concerning other diamagnetic nitrosyl complexes of ruthenium (Ref 2), agree with this concept. The authors thank V. N. Filimonova and N. A. Parpiyev for the compound samples supplied by them. There are 1 table and 5 references, 2 of which are Soviet.

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Magnetic Susceptibility and Structure of Nitrosyl Complexes of Ruthenium SOV/62-58-12-17/22

ASSOCIATION: Institut obshchey i neorganicheskoy khimii imeni N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences, USSR)

SUBMITTED: May 22, 1958

Card 2/2

5(4)

AUTHORS: Belova, V. I., Babayeva, A. V.

SOV/78-4-5-16/46

TITLE: Magnetic Susceptibility of Diacidodipyridine Nickel Compounds (Magnitnaya vospriimchivost' diatsidodipiridinnikelevykh soyedineniy)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 5, pp 1043-1046 (USSR)

ABSTRACT: Magnetic susceptibility of diacidodipyridine nickel compounds in the solid and dissolved states was investigated. Special interest was devoted to the mixed diammines $NiPy_2NO_2Cl.2H_2O$ and $NiPy_2NO_2Br.2H_2O$. The compounds were obtained by crystallization from methanolic solutions of $NiPy_2Cl_2$ or $NiPy_2Br_2$ with $NiPy_2(NO_2)_2.2H_2O$. The magnetic susceptibility of the following nickel diammines was measured and shown in table 1: $NiPy_2Cl_2$, $NiPy_2Br_2$, $NiPy_2(NO_2)_2.2H_2O$, $NiPy_2C_2O_4$, $NiPy_2(NCS)_2$, $NiPy_2NO_2Cl.2H_2O$, $NiPy_2NO_2Br.2H_2O$. The magnetic susceptibility of the solution $NiPy_2(NO_2)_2.2H_2O$ was measured in methyl alcohol,

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results are shown in table 2. The magnetic susceptibility of solutions of dihalogen- and nitrohalogen diammine nickel in methyl alcohol is shown by table 3. The experiments show that the magnetic susceptibility of diammine solutions in a methyl alcohol solution does not change. The magnetic susceptibility of diammine-thiocyanate-nickel compounds is given by table 4. The structural investigations carried out show that the nickel diammines probably have an octahedral structure. There are 4 tables and 10 references, 4 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR
(Institute for General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences, USSR)

SUBMITTED: February 28, 1958

SOV/79-29-2-70/71

AUTHORS: Belova, V. I., Vol'pin, M. Ye., Syrkin, Ya. K.

TITLE: Letter to the Editor (Pis'mo v redaktsiyu)
The Magnetic Receptivity of Tropyl Salts (Magnitnaya vospriimchivost' soley tropiliya)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 693-694 (USSR)

ABSTRACT: The compound C_7H_7 is known to be stable in the cyclic structure form of the positively charged $C_7H_7^+$ ion. It is of interest to determine the diamagnetic receptivity of this ion and to compare it with the receptivity of other cyclic molecules, e.g. benzene and cyclooctatetraene. For this purpose the following compounds were synthesized and their receptivity was determined: tropyl hexachloro platinate $(C_7H_7)_2PtCl_6$, tropyl perchlorate $C_7H_7ClO_4$ and tropyl mercury tetraiodide $(C_7H_7)_2HgJ_4$. A report on the synthesis of the first two compounds had already been made earlier (Ref 2). Tropyl mercury tetraiodide was first synthesized as follows: aqueous $HgCl_2$-solution and KJ were added to C_7H_7Br solved in water (2.34 g, 3.72 g, and 9.1 g,

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respectively). $(C_7H_7)_2HgJ_4$ was separated and filtered, washed with 10 % KJ solution of water and alcohol and finally recrystallized from nitromethane. The magnetic receptivity was determined according to Saxsmith (Saksmit) at room temperature and with certain strength values of the magnetic field (Table 1). Unlike other platinates, the receptivity values of tropyl chloro platinate differ from one another in various syntheses. The table shows therefore the highest determination of receptivity, which surely corresponds to the purest sample (from the magnetic point of view). The value of magnetic receptivity in the organic cations of tropyl $C_7H_7^+$ was calculated from experimental data. The anion value of receptivity is given in the fourth column of the table. The receptivity value of ion $PtCl_6^{2-}$ was determined according to reference 3, that of the ion HgJ_4^{2-} according to reference 4. The value of ion ClO_4^- was obtained from table 3 (from the book by Selwood, P.W.) (Ref 5).The value of receptivity of ion $C_7H_7^+$, from various tropyl compounds, is recorded in the last column of the table. Pascal's additive scheme concerning the receptivity values of the compounds, containing conjugate bonds

Letter to the Editor. The Magnetic Receptivity of Tropyl Salts SOV/79-29-2-70/71

$(C_6H_6, C_7H_7^+, C_8H_8)$ is judged negatively by the authors and their own explanations are given.- There are 1 table and 6 references, 2 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii i Institut elemento-organicheskikh soyedineniy Akademii nauk SSSR (Institute for General and Inorganic Chemistry and Institute for Elemental-organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: July 20, 1958

Card 3/3

S/078/61/006/002/016/017
B017/B054

AUTHORS: ~~Belova, V. I.,~~ Syrkin, Ya. K., Markov, V. P., Tsapkina, I. V.

TITLE: Magnetic Susceptibility of Uranyl Compounds

PERIODICAL: Zhurnal neorganicheskoy khimii, 1961, Vol. 6, No. 2, pp. 495 - 497

TEXT: As had been found by V. P. Markov and I. V. Tsapkina (Ref. 1), the uranyl compounds UO_2SO_4, $UO_2(NO_3)_2$, UO_2Cl_2, and $UO_2C_2O_4$ may add 1 - 6 molecules of water, urea, acetamide, etc. The authors studied the magnetic susceptibility of 26 such addition compounds. Results of these investigations are compiled in a table. It was found that in the compounds $(CN_3H_6)_2[UO_2(C_2H_4)_2CO(NH_2)_2]$ and $Cs_2[UO_2(C_2O_4)_2(H_2O)_2]$ the paramagnetic properties depended on temperature. In various compounds, the diamagnetic component is nonuniform, and variable with the number of addenda, the

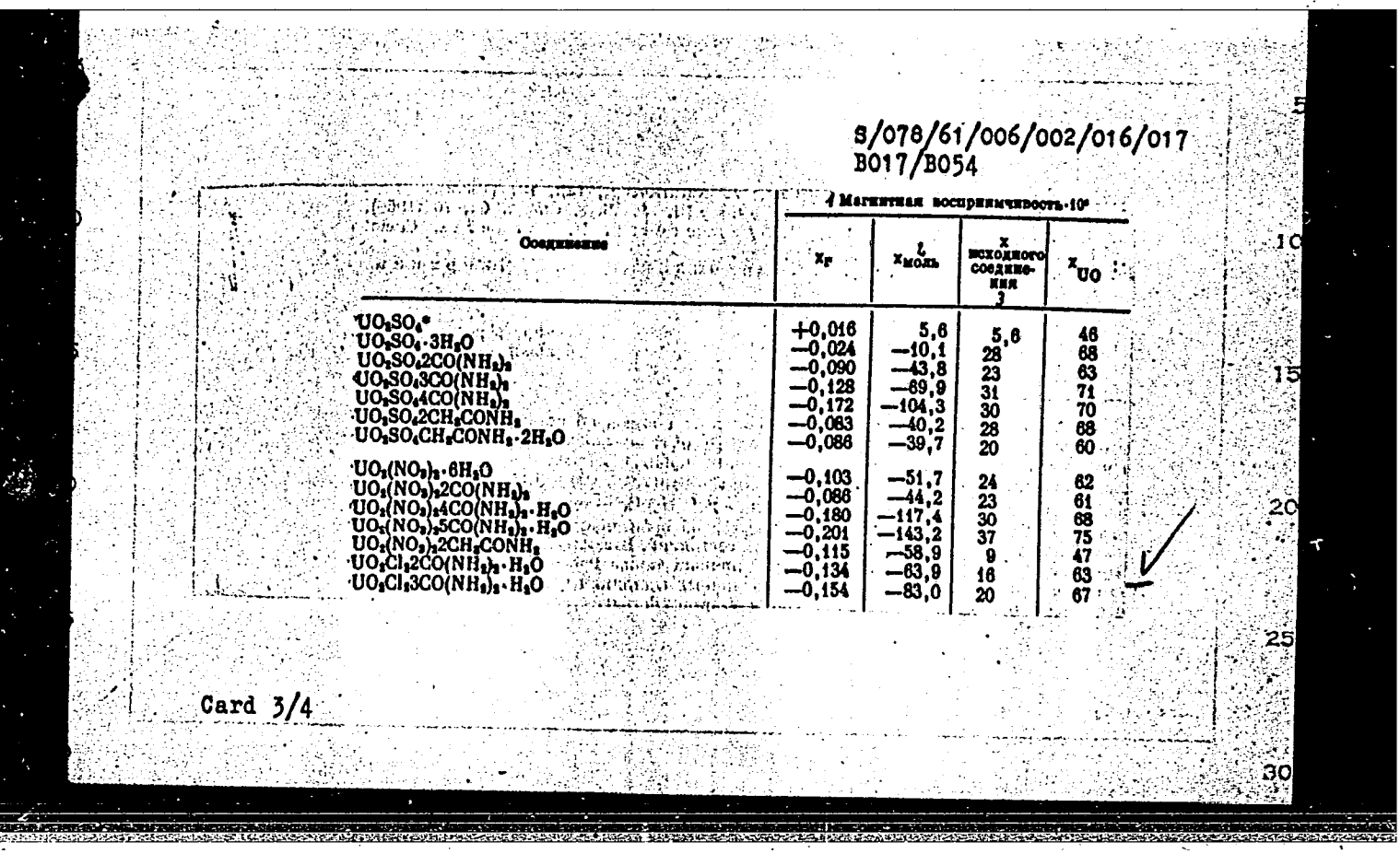
Magnetic Susceptibility of Uranyl Compounds S/078/61/006/002/016/017
B017/B054

structure of addenda, and the binding character. The addition compounds of uranium with urea, acetamide, water, etc. are of the donor-acceptor type. The addenda influence the electron orbits, and are characterized by the change in diamagnetic susceptibility and the higher frequency of the paramagnetism. Some of the compounds were synthesized by R. N. Shchelokov. There are 1 table and 4 references: 1 Soviet, 1 US, 1 British, and 1 Indian.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR)

SUBMITTED: September 14, 1960

Card 2/4



S/078/61/006/002/016/017
B017/B054

Соединение	Магнитная восприимчивость·10⁶ χ_F	$\chi_{моль}$	χ исходного соединения	χ_{UO}
UO_2SO_4*	+0,016	5,6	5,6	46
$UO_2SO_4 \cdot 3H_2O$	−0,024	−10,1	28	68
$UO_2SO_4 2CO(NH_2)_2$	−0,090	−43,8	23	63
$UO_2SO_4 3CO(NH_2)_2$	−0,128	−69,9	31	71
$UO_2SO_4 4CO(NH_2)_2$	−0,172	−104,3	30	70
$UO_2SO_4 2CH_3CONH_2$	−0,063	−40,2	28	68
$UO_2SO_4 CH_3CONH_2 \cdot 2H_2O$	−0,086	−39,7	20	60
$UO_2(NO_3)_2 \cdot 6H_2O$	−0,103	−51,7	24	62
$UO_2(NO_3)_2 2CO(NH_2)_2$	−0,086	−44,2	23	61
$UO_2(NO_3)_2 4CO(NH_2)_2 \cdot H_2O$	−0,180	−117,4	30	68
$UO_2(NO_3)_2 5CO(NH_2)_2 \cdot H_2O$	−0,201	−143,2	37	75
$UO_2(NO_3)_2 2CH_3CONH_2$	−0,115	−58,9	9	47
$UO_2Cl_2 2CO(NH_2)_2 \cdot H_2O$	−0,134	−63,9	16	63
$UO_2Cl_2 3CO(NH_2)_2 \cdot H_2O$	−0,154	−83,0	20	67

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$UO_2C_2O_4CO(NH_2)_2$	−0,027	−11,3	22	60
$UO_2C_2O_4CH_2CONH_2$	−0,025	−10,4	24	62
$K_2[UO_2(C_2O_4)_2H_2OCO(NH_2)_2]$	−0,135	−81,3		70
$(C_{10}H_8N_2H)_2[(UO_2)_2C_2O_4(SO_4)_2(CO(NH_2)_2)_2]$	−0,188	−235,9		70
$C_{10}H_8N_2H[UO_2C_2O_4Cl]$	−0,131	−72,1		85
$C_{10}H_8N_2H_2[(UO_2)_2C_2O_4Cl_4(CO(NH_2)_2)_2]$	−0,147	−154,1		72
$C_{10}H_8N_2H_2[UO_2C_2O_4Cl\cdot H_2O]_2$	−0,087	−85,4		81
$(CN_2H_6)_2[UO_2(C_2O_4)_2CO(NH_2)_2]$ *	−0,166	−104		73
$(C_{10}H_8N_2H)_2[UO_2(SO_4)_2\cdot H_2OCO(NH_2)_2]$	−0,264	−225,6		92
$(NH_4)_2[UO_2(C_2O_4)_2(H_2O)_2]$ **	−0,119	−61,7		66
$Rb_2[UO_2(C_2O_4)_2(H_2O)_2]$ **	−0,110	−71,8		75
$Cs_2[UO_2(C_2O_4)_2(H_2O)_2]$ **	−0,147	−110,0		61

Legend to the table: 1: magnetic susceptibility, 2: mole, 3: initial compound

Card 4/4

BELOVA, V.I.; SYRKIN, Ya.K.; BARANOVA, L.I.

Magnetic susceptibility of compounds of platinum (II) with amines. Zhur. neorg. khim. 6 no.3:625-629 Mr '61. (MIRA 14:3)

1. Institut obshchey i neorganicheskoy khimii imeni N. S. Kurnakova AN SSSR.

(Platinum compounds)
(Amines)

S/078/61/006/004/009/018
B121/B216

AUTHORS: Belova, V. I., Syrkin, Ya. K., and Babayeva, A. V.

TITLE: Magnetic susceptibility of nickel complexes

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 4, 1961, 830-834

TEXT: The magnetic susceptibility of 25 freshly prepared nickel complexes containing ammino groups was measured at 293°K and at 78°K. The results are recorded in Table 1. The synthesis of these complexes is described in Ref. 6 (A. V. Babayeva, Yang Wei-ta, Zh. neorgan. khimii, 5, 2735 (1960); A. V. Babayeva, Chang Shou-kang, Zh. neorgan. khimii, 5, 2167, 2174 (1960)). Of the various ammines studied, only $Nitu_4SO_4CH_3OH$ was not paramagnetic. Repeated measurements showed that its susceptibility varied considerably (Table 3). Susceptibility measurements on the compound $Nien_2(NO_2)_2$ were also carried out at higher temperatures (Table 2). At 130°K the compound exhibits a thermochromic effect (from blue-purple to red). The magnetic properties and X-ray patterns of the nickel amines show that the formation of octahedral complexes with $4s4p^34d^2$ bonds is

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characteristic of nickel. The tendency of nickel towards octahedral coordination is demonstrated by M. A. Poray-Koshits (Ref. 8: M. A. Poray-Koshits, E. K. Yukhno, A. S. Antsyshkina, and L. M. Dikareva, Kristallografiya, 2, 371 (1957)) et al. by using $Ni(NH_3)_3(NCS)_2$ as an example. In the latter complex, a thiocyano group forms a bridge between two nickel atoms by forming an Ni - N and an Ni - S bond. Further, the magnetic susceptibility of $Rb_2NiCl_4 \cdot 1.6H_2O$ and Rb_2NiCl_4 was measured at different temperatures (Table 4). The latter compound was supplied by M. A. Poray-Koshits. The authors thank M. A. Poray-Koshits for his advice and interpretation of the structure of the nickel compounds, and G. G. Afanas'yev, Yang Wei-ta and Chang Shou-kang for preparing and analyzing the initial substances. There are 4 tables and 9 references: 6 Soviet-bloc and 3 non-Soviet-bloc.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR)

Magnetic susceptibility of ...

S/078/61/006/004/009/018
B121/B216

SUBMITTED: March 31, 1960

Table 1: Magnetic susceptibility of nickel complexes containing ammino groups. Legend: 1) compound; 2) magnetic susceptibility $\times 10^6$; 3) χ_g; 4) χ_{mole}; 5) effective moment, μ_V; 6) weakly diamagnetic.
** The compounds were prepared by thermal decomposition of the corresponding diammines and tetrammines.

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S/078/61/006/004/009/018
B121/B216

Magnetic susceptibility of ...

Table 1

(1) Соединение	(2) Магнитная восприимчивость · 10^6				(5) Эффективный момент, μ_B	
	(3) χ_p		(4) $\chi_{моль}$			
	293°K	78°K	293°K	78°K	293°K	78°K
$Nitu_2Br_2$	5,50	—	3714	—	3,08	—
$Nitu_2J_2$	4,73	—	3639	—	3,07	—
$Nitu_2(NO_3)_2$	5,70	—	3045	—	3,04	—
$Nitu_4Py_2Br_2$	6,04	20,8	4115	14170	3,22	3,02
$Nitu_4Cl_2$	0,01	29,2	3911	12600	3,13	2,85
$Nitu_4Br_2$	7,64	22,9	3996	11980	3,17	2,77
$Nitu_4SO_4 \cdot CH_3OH$	Слабо диамагнитен (6)					
$Nitu_2Py_2Cl_2$	0,03	30,4	3968	13370	3,15	2,93
$Nitu_2Py_2Cl_2 \cdot 2CH_3OH$	8,00	30,0	4033	15130	3,19	3,11
$Nitu_2Py_2SO_4$	8,45	30,2	3931	14050	3,14	3,00
$NiPy_4Cl_2$	8,78	30,7	3916	13690	3,14	2,96
$NiPy_4Br_2$	7,39	26,5	3953	14170	3,16	3,02
$NiPy_4ClBr$	8,38	29,2	4110	14320	3,21	3,04
$NiPy_4J_2$	6,21	23,0	3906	14460	3,15	3,05
$NiPy_4(NCS)_2$	7,80	26,7	3832	13120	3,11	2,90
$NiPy_2(H_2O)_2SO_4$	11,6	36,6	4048	12770	3,16	2,85
$Nien_2Br_2$	11,4	41,7	3861	14120	3,09	3,00
$Nien_2ClNO_3$	14,8	52,5	3853	13670	3,07	2,96
$Nien_2BrNO_3$	13,2	49,0	4023	14940	3,14	3,08
$Nien_2JNO_3$	11,2	41,7	3944	14670	3,11	3,05
$Nien_2NO_3NCS$	14,0	52,1	3962	14740	3,11	3,05
$Nien_2(NO_3)_2$	13,8	48,5	3739	13140	3,01	2,89
$Nitu_2PyCl_2$**	11,7	47,9	4224	17200	3,21	3,31
$Nitu_2(NCS)_2$	14,2	80,5	4045	20330	3,35	4,07
$NiPyBr_2$**	15,7	83,4	4673	24820	3,37	3,96

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Magnetic susceptibility of ...

Legend to Tables 2, 3, and 4: 1) Sample number; 2) temperature, °K; 3) magnetic susceptibility $\times 10^6$; 4) χ_g; 5) χ_{mole}; 6) effective moment, μ_V; 7) composition.

Таблица 2

Магнитная восприимчивость $Nien_3(NO_3)_2$ при повышенных температурах

Температура, °К (2)	Магнитная восприимчивость · 10^6 (3) $\chi_г$ (4)	$\chi_{моль}$ (5)	Эффективный момент, μ_B (6)	Температура, °К (2)	Магнитная восприимчивость · 10^6 (3) $\chi_г$ (4)	$\chi_{моль}$ (5)	Эффективный момент, μ_B (6)
340	12,6	3429	3,12	400	10,9	2953	3,15
360	12,0	3243	3,13	415	10,6	2872	3,16
380	11,8	3197	3,19				

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B121/B216

Таблица 3

Магнитная восприимчивость $NiTu_2SO_4 \cdot CH_3OH$

№ образца п/п (1)	Температура, °K (2)	Магнитная восприимчивость · 10^6 (3) $\chi_г$ (4)	$\chi_{моль}$ (5)	Эффективный момент, μ_B (6)	№ образца п/п (1)	Температура, °K (2)	Магнитная восприимчивость · 10^6 (3) $\chi_г$ (4)	$\chi_{моль}$ (5)	Эффективный момент, μ_B (6)
1	295	−0,330	−162	0,42	4	283	+0,03	+15	0,76
2	290	−0,062	− 30	0,70		363	−0,05	−25	0,79
	78	+0,860	+423	0,64		78	+0,138	+68	0,44
3	293	−0,120	− 59	0,65	5	293	+0,01	+ 5	0,76
4	78	+1,13	+555	0,71					

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Magnetic susceptibility of ...

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B121/B216

Table 4

Состав (7)	Температура, °K (2)	Магнитная восприимчивость · 10^6 (3)		Эффективный момент, μ_B (6)
		χ_r (4)	$\chi_{моль}$ (5)	
$Rb_2NiCl_4 \cdot 1,6H_2O$	298	9,46	3789	3,08
	78	32,2	1290	2,87
Rb_2NiCl_4	373	7,08	2630	2,89
	333	8,16	3031	2,92
	300	9,10	3380	2,92
	78	24,0	8916	2,37

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BELOVA, V.I.; SYRKIN, Ya.K.

Magnetic susceptibility of salicylalimine derivatives and of some orther organic compounds. Izv.AN SSSR.Otd.khim.nauk no.10:1903-1904 O '61. (MIRA 14:10)

1. Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova.
(Salicyaldehyde—Magnetic properties)

31184
S/076/61/035/012/004/008
B101/B138

24.2200

AUTHORS: Shapovalova, R. D., Belova, V. I., Zalesskiy, A. V., and Gerasimov, Ya. I.

TITLE: Some physical properties of tungstates. III. Magnetic properties of tungstates

PERIODICAL: Zhurnal fizicheskoy khimii, v. 35, no. 12, 1961, 2713 - 2716

TEXT: The authors studied the magnetic properties of 12 tungstates (Table 1). Magnetic susceptibility, χ, was determined by the Gouy Sucksmith method. The absence of ferromagnetic impurities was indicated by the fact that χ was independent of field strength. Table 1 shows the χ values obtained at 293°K. On the basis of these data, the diamagnetic susceptibility of the WO_4^{2-} ion was calculated to be $-(28.4 \pm 1.9)\cdot10^{-6}$ which is in good agreement with published data. For paramagnetic tungstates, the temperature dependence of χ was studied at 290 - 700°K and field strengths between 4500 and 7600 oersteds. All substances followed

Card 1/02

Some physical properties...

31184
S/076/61/035/012/004/008
B101/B138

the Curie-Weiss law. θ and C of the Curie-Weiss equation $\chi = C/(T - \theta)$ were determined graphically. The authors found: $MnWO_4$: θ = -53.6, C = 0.01233; $FeWO_4$: θ = +42.0, C = 0.01031; $CoWO_4$: θ = +9.57, C = 0.00963; $NiWO_4$: θ = -66.1, C = 0.00407; $CuWO_4$: θ = +18.0, C = 0.00086. Table 4 gives the magnetic moments calculated according to Gouy (1) and Sucksmith (2), and the theoretical moment for Me^{2+}. There are 1 figure, 4 tables, and 6 non-Soviet references. The three references to English-language publications read as follows: Mata Prasad, C. R. Kanekar, G. Scient. and Industr. Res., 11A, 183, 1952; Venkateswarlu, Ramanathan, Current Sci., 24, 83, 1955; R. S. Nyholm, Quart. Rev., 7, 377, 1953.

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

SUBMITTED: March 24, 1960

Card 2/2

BELOVA, V.I.; SYRKIN, Ya.K.; GOLOVNYA, V.A.; NI TSZYA-TSZYAN' [Ni Chia-Chien]

Magnetic susceptibility of compounds of platinum with nitriles. Zhur.neorg.khim. 7 no.3:479-481 Mr '62. (MIRA 15:3)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova AN SSSR.
(Platinum compounds—Magnetic properties) (Nitriles)

KURNAKOV, Nikolay Semenovich; CHERNYAYEV, I.I., akademik, otv. red.; ZVYAGINTSEV, O.Ye., doktor khim. nauk, otv. red.; BOGUSH, O.F., red.; BELOVA, V.I., red.; SIMKINA, G.S., tekhn. red.

[Works on the chemistry of complex compounds]Trudy po khimii kompleksnykh soedinenii. Moskva, Izd-vo Akad.nauk SSSR, 1963. 154 p. (MIRA 16:4)

(Complex compounds)

AVTOKRATOVA, T.D.; ANDRIANOVA, O.N.; BABAYEVA, A.V.; BELOVA, V.I.; GOLOVNYA, V.A.; DERBISHER, G.V.; MAYOROVA, A.G.; MURAVEYSKAYA, G.S.; NAZAROVA, L.A.; NOVOZHENYUK, Z.M.; ORLOVA, V.S.; USHAKOVA, N.I.; FEDOROV, I.A.; FILIMONOVA, V.N.; SHENDERETSKAYA, Ye.V.; SHUBOCHKINA, Ye.F.; KHANANOVA, E.Ya.; CHERNYAYEV, I.I., akademik, otv. red.

[Synthesis of complex compounds of platinum group metals; a handbook] Sintez kompleksnykh soedinenii metallov platinovoi gruppy; spravochnik. Moskva, Izd-vo "Nauka," 1964. 338 p. (MIRA 17:5)

1. Akademiya nauk SSSR. Institut obshchey i neorganicheskoy khimii. 2. Institut obshchey i neorganicheskoy khimii AN SSSR (for all except Chernyayev).

BELOVA, V.I.; SYRKIN, Ya.K.; IPPOLITOV, Ye.G.; KOTEL'NIKOVA, A.S.; BABESHKINA, G.K.; DOVLYATSHINA, R.A.

Magnetic susceptibility of some rhenium compounds. Zhur. strukt.khim. 5 no. 2:281-287 Mr-Ap '64. (MIRA 17:6)

1. Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova AN SSSR.

SEYFER, G.B.; BELOVA, V.I.; MAKAROVA, Z.A.

Thermal decomposition of cobalt and nickel cyanides. Zhur. neorg. khim. 9 no.7:1556-1558 Jl '64. (MIRA 17:9)

BELOVA, V.I.; SYRKIN, Ya.K.; IKRAMOV, Kh.U.

Magnetic susceptibility of the compounds of nickel with nitriles. Zhur. neorg. khim. 9 no.7:1773-1775 Jl '64.
(MIRA 17:9)

1. Institut obshchey i neorganicheskoy khimii AN SSSR.

BELOVA, V.I.; SYRKIN, Ya.K.; TRAGGEYM, Ye.N.

Magnetic susceptibility of thiocyanate compounds of uranium (IV) and uranyl. Zhur. neorg. khim. 9 no.11:2673-2674 N '64 (MIRA 18:1)

1. Institut obshchey i neorganicheskoy khimii AN SSSR.

BARANOVSKIY, I.B.; BOLDYREVA, V.I.

Polyiodide complexes of bivalent nickel. Zhur. neorg. khim. 10 no.1:306-307 Ja '65. (MIRA 18:11)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova AN SSSR. Submitted June 15, 1964.

SUDAKOVA, L.V.; KRONGAUZ, Ye.A.; GANDMAN, M.G.; BELOVA, V.K.

Study of the effect of various contaminants on the growth of Bac. megaterium, var. ghosphaticum. Prikl. biokhim. i mikrobiol. 1 no. 6:717-721 N-D '65. (MIRA 18:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut sel'skokhozyaystvennoy mikrobiologii, Moskovskoye otdeleniye. Submitted May 20, 1965.

BELOVA, V. M.

"Foodstuffs From Lupines and the Prospect of Their Utilization in Bacteriological Practice." Cand Vet Sci, Omsk State Veterinary Inst, Min Higher Education USSR, Omsk, 1954. (KL, No 11, Mar 55)

SO: Sum. No. 670, 29 Sep 55—Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

POLYAKOVA, K.S.; BELOVA, V.N.

Obtaining the esters of unsaturated acids as a result of the ester cleavage of alkylidene acetoacetic esters. Trudy VNIISNDV no.5:57-58 '61. (MIRA 14:10)

(Esters) (Acetoacetic acid)

BELOVA, Ya. A.

BELOV, V.I., doktor tekhn.nauk; BELOVA, Ya.A.

Physical and mechanical testing of coal. Podzem.gaz.ugl. no.1:23-24 '58. (MIRA 11:4)

1. Donetskiy industrial'nyy institut, g. Stalino.
(Coal--Testing)

USSR/ Agriculture - Herbs

Card 1/1 : Pub. 123 - 8/13

Authors : Belova, E. A.

Title : About the culture of Turkestan water fennel and citric catnip

Periodical : Vest. AN Kaz. SSR, 11/2, 67-72, Feb 1954

Abstract : An account is given of experimentation with the growing of Turkestan water fennel (Leonurus Turkestanicus) and citric catnip (nepeta cataria L. var. citriodora Beck) in Kazakhstan. A description is given of these plants and some information as to their use for medicinal purposes. Tables; illustrations.

Institution : ....

Submitted : ....

GORYAYEV, M.I.; SAZONOVA, R.N.; POLYAKOV, P.P.; BELOVA, Ye.A.

Santonin-bearing wormwood species of the subgenus Seriphidium (Bess.) Rouy from Kazakhstan and Central Asia. Trudy Inst. khim. nauk AN Kazakh. SSR 4:68-96 '59.

(MIRA 13:3)

(Santonin) (Kazakhstan--Wormwood) (Soviet Central Asia--Wormwood)

BELOVA, Ye.A.

Biology of flowering and selection of santonin-rich forms of wormwood in the trans-Ili region. Trudy Alma-At. bot. sada 7:100-107 '63. (MIRA 16:10)

YEFREMOVA, Nina Alekseyevna; BELOVA, Ye.G., red.

[Medicinal plants of Kamchatka] Lekarstvennye rasteniia Kamchatki. Petropavlovsk-Kamchatskii, Knizhnaia red. "Kamchatskoi pravdy," 1963. 76 p. (MIRA 17:8)

ASTAF'YEV, B.A.; BELOVA, Ye.I.; SMIRDIN, P.M.

Drying wood impregnated with sodium-chloride solution. Der.prom. 8 no.3:9-10 Mr '59. (MIRA 12:4)

1. Nerekhtskaya kabluchnaya fabrika Kostromskogo sovnarkhoza.
(Lumber--Drying)

ISAYEV, N.S.; BELOVA, Ye.I.; KUKARKINA, M.N.; OZHIGANOVA, Z.I.; SHEREMETEVSKAYA, T.A.; YURIN, B.A., red.; KOROBOVA, N.D., tekhn. red.

[Documents of proletarian solidarity; collected documents on the cooperation of Soviet Union workers with the workers of Asia, Africa and Latin America in 1918-1961]Dokumenty proletarskoi solidarnosti; sbornik dokumentov o sodruzhestve trudiashchikhsia Sovetskogo Soiuza s trudiashchimisia stran Azii, Afriki i Latinskoi Ameriki v 1918-1961 godakh. Moskva, Profizdat, 1962. 207 p. (MIRA 15:12)

(Trade unions)

BOCHKAREV, V.M.; ANTROPOVA, Z.G.; BELOVA, Ye.I.

Migration of strontium-90 and cerium-144 in soils of various mechanical composition. Pochvovedenie no.9:56-59 S '64. (MIRA 17:12)

PALATNIK, L.S.; KOMNIK, Yu.F.; BELOVA, Ye.K.; ATROSHCHENKO, L.V.

Ternary semiconductor compounds containing copper and elements of group IV and VI. Kristallografiia 6 no.6:960-964 N-D '61. (MIRA 14:12)

1. Khar'kovskiy gosudarstvennyy universitet imeni A.M. Gor'kogo i Nauchno-issledovatel'skiy institut osnovnoy khimii.
(Semiconductors)
(X-ray crystallography)

20319

9,4300 (1150)
24,7700 1143, 1160, 1155

S/020/61/137/001/011/021
B104/B209

AUTHORS: Palatnik, L. S., Komnik, Yu. F., Koshkin, V. M., and Belova, Ye. K.

TITLE: A group of ternary semiconducting compounds

PERIODICAL: Doklady Akademii nauk SSSR, v. 137, no. 1, 1961, 68-71

TEXT: In the introduction, the authors show that in the choice of new multi-component semiconducting compounds one must use not only chemical criteria but has also to consider the thermodynamic stability of the compound concerned. The authors synthetized a series of alloys of the type of the ternary compound $B^{I}_{2}B^{IV}B^{VI}_{3}$. Here, B^{I} = Cu, B^{IV} = Ge, Sn, Pb, and B^{VI} = S, Se, Te. X-ray photographs show that all these compounds except that with Pb, form diamond-type crystals. From the "structural" lines of the X-ray photographs, the authors determined the lattice parameters which are compiled in Table 1. Beside these "structural" lines, also "superstructural" lines were found. The hkl indices of these lines

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A group of ternary...

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are all even numbers, and their sum is $h_i = \sum 4n + 2$ $(n = 0, 1, 2)$. These values are listed in Table 1, too. It is noted that S, Se, and Te form an anion subgroup of the compound and a sublattice. Cu, Sn, and Ge atoms form an unalogous cation sublattice. When the differences in the atomic factors of anion and cation are great, the "superstructural" lines were stronger than in the case of a slight difference. It was further found that the substitution S $\longrightarrow$ Se $\longrightarrow$ Te causes a regular increase in the lattice parameter. Similar changes, but to a lesser degree, were observed when Ge was substituted by Sn. The authors conclude from the ratios of the ionic radii shown in Table 2 that the Ge^{4+} and Sn^{4+} cations form tetrahedrons with all anions concerned (S^{2-}, Se^{2-}, Te^{2-}). It is improbable that the Pb^{4+} cation forms a tetrahedron with these anions since strong structural stresses would arise. This crystallochemical representation thus proves the above results of the authors to be true. On the basis of these results, the lattice parameters are calculated according to the formula

$a_{calc.} = \frac{8}{\sqrt{3}} \frac{\bar{d}}{2} \simeq \frac{8}{\sqrt{3}} \bar{r}$ (1). Therein, $\bar{d}$ denotes the mean distance between the connections of anion and cation in the anion- (and cation-) tetrahedron, $\bar{r}$ - the mean atomic radius in the lattice of the examined ternary compounds. Results are shown in Table 1. Moreover, the ternary compounds studied here turned out to be semiconductors. Finally, it is shown that in the synthesis of new semiconducting compounds, attempts should be made to obtain compounds with the electron structure of the above-described compounds. The shape of the Brillouin zones is conserved if the lattice structure of the new compounds is the same; and if the concentration of the valency electrons is the same, the position of the Fermi levels is conserved, too. Since both factors determine the semiconducting properties of a compound, the semiconducting properties of new compounds will depend on the degree of ionicity of the new compound. There are 1 figure, 3 tables, and 6 references: 4 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet im. A. M. Gor'kogo (Khar'kov State University imeni A. M. Gor'kiy).

A group of ternary...

S/020/61/137/001/011/021
B104/B209

Nauchno-issledovatel'skiy institut osnovnoy khimii Khar'kov
(Scientific Research Institute of Basic Chemistry, Khar'kov)

PRESENTED: December 2, 1960, by S. A. Bekshinskiy, Academician

SUBMITTED: November 26, 1960

Table 1

Соединения	1 Параметр решетки, Å: a вычисл.	a эксп.	2 Погрешность Δ, %	3 Наблюдаемые (слаб.) сверхструктурные линии Σh²
Cu_2GeS_3	5,30	5,30	—	4,12,36,44
Cu_2SnS_3	5,44	5,43	−0,2	4,12,20,36,44
Cu_2GeSe_3	5,52	5,55	+0,5	44
Cu_2SnSe_3	5,65	5,68	+0,5	4,44
Cu_2GeTe_3	5,97	5,95	−0,3	4,12,20,36, 44,52
Cu_2SnTe_3	6,11	6,04	−1,1	4,12,44

Legend to Table 1:
1) Lattice parameter, A;
1a) calculated with (1),
1b) experimental;
2) error, %; 3) observed weak "superstructural" lines.

Table 2

1 Ионы	$r_к$, Å	S^{2-}	Se^{2-}	Te^{2-}
		$r_а$, Å		
		1,74	1,91	2,03
Ge^{4+}	0,44	0,25	0,23	0,22
Sn^{4+}	0,74	0,42	0,39	0,36
Pb^{4+}	0,84	0,48	0,44	0,41

Legend to Table 2: 1) Ions

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X-Ray investigation of the structure of alloys in the system $CuGaSe_2$-Ga_2Se_3. L. S. Palatnik, Yu. F. Komnik, Ye. K. Belova.

Electrical and optical properties of alloys in the system $CuGaSe_2$-Ga_2Se_3. V. M. Koshkin, L. G. Manyukova, Yu. F. Komnik, L. S. Palatnik.

X-Ray investigation of the system $CuInSe_2$-In_2Se_3. L. S. Palatnik, Yu. F. Komnik, E. I. Rogacheva, L. V. Atroshchenko.

Electrical properties of alloys in the system $CuInSe_2$-In_2Se_3. L. S. Palatnik, V. M. Koshkin, Yu. F. Komnik, L. N. Gal'chinetskiy, L. G. Manyukova.

Report presented at the 3rd National Conference on Semiconductor Compounds, Kishinev, 16-21 Sept 1963

L 16388-65 EWT(m)/EWP(t)/EWP(b) IJP(c)/ESD(gs)/AFWL RDW/JD
ACCESSION NR: AP4049133 S/0020/64/159/001/0068/0071

AUTHORS: Palatnik, L. S.; Belova, Ye. K.; Koz'ma, A. A.

TITLE: Anomalous effects seen on x-ray patterns of gallium selenide and its alloys

SOURCE: AN SSSR. Doklady*, v. 159, no. 1, 1964, 68-71, and bottom half of insert facing p. 54

TOPIC TAGS: gallium compound, state diagram, x ray diffraction pattern, line broadening, heat treatment, ordered alloy

ABSTRACT: In view of the scarcity of studies on the Ga-Se diagram of state, the authors studied Ga_2Se_3 and the alloys Ga-Se, Ga_2Se_3-$CuGaSe_2$ and Ga_2Se_3-$AgGaSe_2$, rich in Ga_2Se_3. The alloys were made by fusing the initial components, soaking at 1150°, and slowly cooling with the oven to room temperature (15 hours). X-ray analysis

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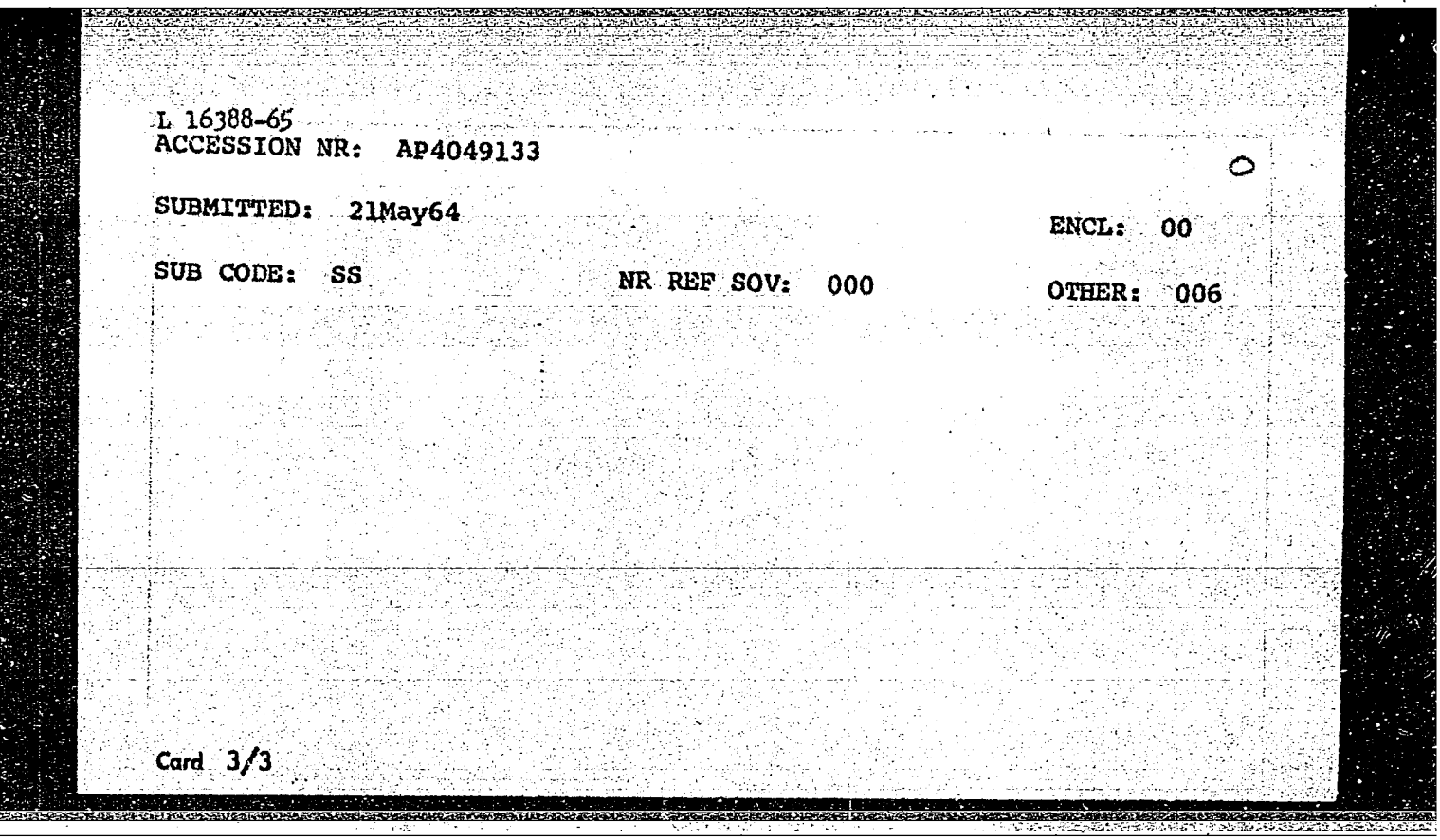
and microstructure studies showed the gallium selenide to have high uniformity. Some of the Debye-pattern lines were sharp and others diffuse, and various tests showed that the smearing of the lines had a behavior different from that caused by the customary physical factors such as dispersion, crystal lattice distortion, or microstresses. It was found that the anomalous line broadening had a noticeable dependence on the heat treatment, thus indicating a connection with the degree of ordering. It is concluded that the anomalous effects are due to defects in the stratification of the crystal lattice in the cation sublattice, and to the existence of stacking faults. This report was presented by S. A. Vekshinskiy. Orig. art. has: 3 figures, 2 formulas, and 3 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut osnovnoy khimii (Scientific Research Institute of Fundamental Chemistry); Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina (Khar'kov Polytechnic Institute)



L 16388-65
ACCESSION NR: AP4049133

SUBMITTED: 21May64 ENCL: 00

SUB CODE: SS NR REF SOV: 000 OTHER: 006

Card 3/3

S/185/63/008/002/012/012
D234/D308

AUTHORS: Palatnik, L. S., Komnik, Yu. F., Belova, Ye. K. and Atroshchenko, L. V.

TITLE: X ray investigation of ordering processes in 3-component semiconductor alloys

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 8, no. 2, 1963, 263-268

TEXT: The authors investigated A_2BC_3 type alloys, A being Cu, B being Ge or Sn, C - Se or Te. The c/a ratio is tabulated. Conclusions: alloys containing Ge and having tetragonal lattice distortions have concentrational ordering of cations. This is indicated by the disappearance of the tetragonal lattice if the ratio of cations to anions decreases, and by its absence in Sn-containing alloys. There are 1 figure and 2 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut osnovnoy khimii (Scientific Research Institute of Basic Chemistry, Khar'kov

Card 1/1

L 34531-65 EWA(k)/EWT(l)/EWT(m)/EEC(t)/EWG(m)/EWP(b)/EWP(t) IJP(c) RDW/JD

ACCESSION NR: AP4049133 S/0020/64/159/001/0068/0071

19
17
B

AUTHORS: Palatnik, L. S.; Belova, Ye. K.; Koz'ma, A. A.

21

TITLE: Anomalous effects seen on x-ray patterns of gallium selenide and its alloys

27 27

SOURCE: AN SSSR. Doklady*, v. 159, no. 1, 1964, 68-71, and bottom half of insert facing p. 54

TOPIC TAGS: gallium compound, state diagram, x ray diffraction pattern, line broadening, heat treatment, ordered alloy

ABSTRACT: In view of the scarcity of studies on the Ga-Se diagram of state, the authors studied Ga_2Se_3 and the alloys Ga-Se, Ga_2Se_3-$CuGaSe_2$ and Ga_2Se_3-$AgGaSe_2$, rich in Ga_2Se_3. The alloys were made by fusing the initial components, soaking at 1150°, and slowly cooling with the oven to room temperature (15 hours). X-ray analysis

1/3

and microstructure studies showed the gallium selenide to have high uniformity. Some of the Debye-pattern lines were sharp and others diffuse, and various tests showed that the smearing of the lines had a behavior different from that caused by the customary physical factors such as dispersion, crystal lattice distortion, or microstresses. It was found that the anomalous line broadening had a noticeable dependence on the heat treatment, thus indicating a connection with the degree of ordering. It is concluded that the anomalous effects are due to defects in the stratification of the crystal lattice in the cation sublattice, and to the existence of stacking faults. This report was presented by S. A. Vekshinskiy. Orig. art. has: 3 figures, 2 formulas, and 3 tables.

ASSOCIATION: Nauchno-issledovatel'skiy institut osnovnoy khimii (Scientific Research Institute of Fundamental Chemistry); Khar'kovskiy politekhnicheskiy institut im. V. I. Lenina (Khar'kov Polytechnic Institute)

L 64786-65 EWA(h)/EWT(1)/EWT(m)/EWG(m)/EWP(b)/T/EWP(t) IJP(c) RDW/AT/JD

ACCESSION NR: AP5018714 UR/0070/65/010/004/0474/0479

AUTHORS: Palatnik, L.S.; Belova, Ye.K.; Atroshchenko, L.V.; Komnik, Yu.F.

TITLE: Investigation of semiconducting alloys of $CuGaSe_2$ and Ga_2Se_3

SOURCE: Kristallografiya, v. 10, no. 4, 1965, 474-479, and insert facing p. 474

TOPIC TAGS: gallium compound, semiconducting material, crystal lattice parameter, crystal lattice structure

ABSTRACT: The structure of alloys in the quasibinary system formed by the tertiary compound $CuGaSe_2$ and by the binary defect compound Ga_2Se_3 is investigated. The alloy synthesis was carried out by melting the initial components in evacuated quartz ampoules. After five hours at 1150C, the alloys were cooled for 15 hours down to room temperature. The x-ray studies were carried out with Debye-

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L 64786-65

ACCESSION NR: AP5018714

Scherrer photographs taken in a 57.3-mm camera and copper radiation. The lattice constants were determined more precisely, silver being used as a standard. The microstructure of the alloys was investigated on an MIM-8M microscope after etching. The microhardness was measured by the standard method (PMT-3 instrument with automatic loading). The following lattice constants were found: $CuGaSe_2$ -- a = 5.603 ± ± 0.003 kX, c = 11.006 ± 0.006 kX, c/a = 1.96; Ga_2Se_3 -- a = 5.411 ± ± 0.001 kX. The $(CuGaSe_2)_{3(1-x)} \cdot (Ga_2Se_3)_{2x}$ alloys with large $CuGaSe_2$ contents were single phase for $x < 0.20$ (crystallizing with the chalcopyrite lattice). With increasing x the tetragonal distortion decreases and the microhardness increases. Microphotographs of samples with $0.235 \leq x \leq 0.428$ show subgrains inside grains. For $0.428 < x <$ < 0.521 microphotographs of etched sections exhibit a very perfect Wiedmanstatt-type structure resulting from the disintegration of the solid solution; each grain contains platelike oriented regions of the second phase. The mixture of two phases for $0.2 < x \leq 0.52$ was con-

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L 64786-65

ACCESSION NR: AP5018714

firmed by the x-ray analysis: one with a tetragonal and one with a sphalerite cubic lattice. After high-temperature annealing with subsequent fast quenching, alloys with $x < 0.4$ were of a single tetragonal phase, the lattice constants decreasing with increasing x. The alloy with $x = 0.428$ consisted after cooling of a mixture of two phases (tetragonal and cubic). Alloys with $x > 0.521$ are single phase with a sphalerite lattice. In the range $0.52 < x < 0.85$ the dependence of the lattice constant on x is almost linear. X-ray photos of the $CuGa_5Se_8$ ($x = 0.75$) alloy exhibit superstructure lines indicating ordering of the cations and cation vacancies. Similar lines appear in the range $0.521 < x < 0.85$. Studies of the microstructure for $0.70 < x < 0.85$ indicate that homogenization of the alloys requires prolonged annealing. For $0.85 < x < 1$ there appear solid solutions in Ga_2Se_3. Peculiarities observed on the x-ray patterns (sharp and diffuse lines, differences in the lines obtained when the sample was stationary, differences in the lattice parameter calculated from various lines) are noted and explained by the lack of

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L 64786-65

ACCESSION NR: AP5018714 3

stoichiometry, ordering, and layer defects. The homogeneous regions formed by the defect and nondefect compounds with tetragonal coordination are: 0--20 mole % ($2Ga_2Se_3$), 52--70 mole % ($2Ga_2Se_3$), and 85--100 mole % ($2Ga_2Se_3$). The heterogeneity regions separating the regions of solid solution are $0.20 < x < 0.52$ and $0.70 < x < 0.85$. Orig. art. has: 2 formulas, 1 table, 2 photographs, and 3 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut osnovnoy khimii (Scientific Research Institute of Basic Chemistry) 44,55

SUBMITTED: 01Jul64 ENCL: 00 SUB CODE: SS

NR REF SOV: 009 OTHER: 005

Card KE 4/4

L 12097-66 EWT(m)/EWP(t)/EWP(b) LJP(c) JD
ACC NR: AP6000530 SOURCE CODE: UR/0070/65/010/006/0858/0861

33
B

AUTHOR: Palatnik, L.S.; Belova, Ye. K.

ORG: Khar'kov Scientific-Research Institute of Basic Chemistry (Khar'kovskiy nauchno-issledovatel'skiy institut osnovsnoy khimii); Khar'kov Polytechnic Institute im. V.I. Lenin (Khar'kovskiy politekhnicheskiy institut)

TITLE: The structure of semiconducting Gu*GaTe$_2$-Ga$_2$Te$_3$ alloys

SOURCE: Kristallografiya, v. 10, no. 6, 1965, 858-861

TOPIC TAGS: semiconductor alloy, gallium containing alloy, crystal structure

ABSTRACT: The knowledge of the structure of Gu*GaTe$_2$-Ga$_2$Te$_3$ alloys is of interest for the study of interactions between defect-containing and defect-free compounds. The authors carried out the study of the structure of the alloy by means of the x-ray and microstructural analysis and established the state diagram of the system. The results show that 1) there exist significant regions of solutions with chalcopyrite and sphalerite lattices; 2) the creation of a two-phase region is related to the decay into the two phases of the solid solution during cooling (the two phases having an ordered and a nonordered cation lattice, respectively); 3) at high temperatures there exist within the systems under investigation a continuous series of solid solutions; and 4) the magnitude of the effective covalent tetrahedral radius of cation vacancies in alloys with sphalerite structure is constant and smaller than the covalent radii of the copper

Card 1/2 *[Probably Copper is meant]

UDC: 548.736

L 12097-66

ACC NR: AP6000530

and gallium cations. Orig. art. has: 4 figures.

SUB CODE: 07,11 / SUBM DATE: 28Nov64 / ORIG REF: 003 / OTH REF: 004

Card 2/2

L 10867-66 EWT(m)/T/EWP(t)/EWP(b)/EWA(c) IJP(c) JD

ACC NR: AP5028716 SOURCE CODE: UR/0363/65/001/011/1883/1888

48
45B

AUTHOR: Palatnik, L. S.; Belova, Ye. K. 44,55 44,55 44.55

ORG: Scientific Research Institute of Fundamental Chemistry (Nauchno-issledovatel'skiy institu osnovnoy khimii); Polytechnic Institute im. V. I. Lenin, Kharkov (Politekhnicheskiy institut) 44.55

TITLE: Study of the polymorphism of the variable-composition selenide Ga_2Se_3 27 27

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 11, 1965, 1883-1888

TOPIC TAGS: gallium alloy, selenium alloy, gallium compound, selenium compound, phase transition

ABSTRACT: Ga-Se alloys close to Ga_2Se_3 in composition (38.5-42.5 at % Ga) were studied. The microstructure, microhardness, and x-ray diffraction patterns were determined. Ga_2Se_3 was found to be a compound of variable composition. Selenium dissolves in Ga_2Se_3 to the extent of ≤ 0.2 at %; the boundary of the solubility region of Ga lies at 40.24-40.59 at % Ga. New β and γ phases of gallium selenide were observed in the range of 60.4-60.2 at % Se. The conditions of existence of the α, β, and γ phases were investigated. Like the α phase, the γ phase has a zinc blende type structure and differs in the value of the lattice parameter (a_α = 5.422 ± 0.003 Å, a_γ =

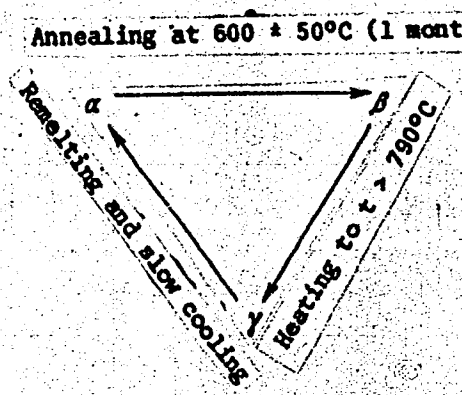
UDC: 546.681'231:539.261

Card 1/2

L 10867-66

ACC NR: AP5028716

= 5.463 ± 0.003 Å). A cation-vacancy ordering takes place in alloys of the β phase. The following scheme of phase transitions in Ge_2Se_3-Se alloys is proposed:



Orig. art. has: 3 figures, 2 tables.

SUB CODE: 20,[illegible] 11/ SUBM DATE: 19Apr65/ ORIG REF: 004/ OTH REF: 004

Card 2/2

L 32058-66 EWT(m)/T/EWP(t)/ETI LJP(c) RDW/JD/JG

ACC NR: AP6013354 SOURCE CODE: UR/0363/66/002/004/0770/0771

AUTHOR: Palatnik, L. S.; Belova, Ye. K.

ORG: Polytechnic Institute im. V. L. Lenin, Khar'kov (Politekhnicheskiy institut)

TITLE: Study of the Ga-Se phase diagram

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 4, 1966, 770-771

TOPIC TAGS: gallium alloy, selenium alloy, alloy phase diagram

ABSTRACT: The phase composition of Ga-Se alloys was studied in the concentration range of 50—100 at. % Se. Microscopic, x-ray phase, and thermal analyses were employed. The phase diagram obtained (see Fig. 1) shows that in the vicinity of 100% Se the eutectic Ga_2Se_3+Se is formed; its crystallization temperature is 205 ± 10C. At the boundary of the region of homogeneity of Ga_2Se_3 at 60.2 at. % Se, a cation-vacancy ordering takes place (β phase of Ga_2Se_3). This phase was not observed in alloys with over 60.4 at. % Se because such alloys decompose during annealing (~600C). Only the lines of the α phase of Ga_2Se_3 appeared on the x-ray patterns of these alloys. Ga_2Se_3-GaSe alloys (59.76—50 at. % Se) were shown by x-ray data to consist of the two phases Ga_2Se_3 and GaSe. At about 55.4 at. % Se, they form a eutectic whose melting temperature is 780 ± 10C. The authors thank A. Ye. Voytsekhovskiy for recording the thermograms. Orig. art. has: 2 figures.

UDC 546.681+546.23

Card 1/2

L 32056-66

ACC NR: AP6013354

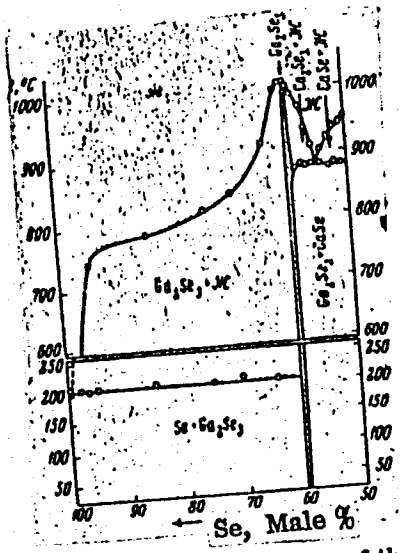


Figure 1. Phase diagram of the Ga-Se system in the range of 50–100 at. % Se.

SUB CODE: 11 / SUBM DATE: 09Aug65 / ORIG REF: 002 / OTH REF: 004

Card 2/2

L 06486-67 EWT(m)/EWP(t)/ETI IJP(c) JD
ACC NR: AP6028298 SOURCE CODE: UR/0363/66/002/006/1025/1030

AUTHOR: Palatnik, L. S.; Belova, Ye. K.

ORG: Scientific Research Institute of Basic Chemistry (Nauchno-issledovatel'skiy institut osnovnoy khimii); Polytechnic Institute im. V. I. Lenin, Kharkov (Politekhnicheskiy institut)

TITLE: Structure of the semiconductor alloys Ag_2Te-Ga_2Te_3

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 2, no. 6, 1966, 1025-1030

TOPIC TAGS: semiconductor alloy, silver compound, gallium compound, telluride, alloy phase diagram

ABSTRACT: The structure of alloys of the binary section Ag_2Te-Ga_2Te_3 of the ternary system Ag-Ga-Te was studied by x-ray diffraction, microscopy, thermal analysis, and microhardness measurements. The phase diagram plotted for the Ag_2Te-$GaTe_3$ system shows that alloys containing 77-100 mole % Ga_2Te_3 crystallize with the formation of γ solid solutions. At room temperature, there is observed a region of solid solutions (γ) based on Ga_2Te_3 (90-100 mole % Ga_2Te_3) and a narrow region of homogeneity based on the $AgGa_5Te_8$ phase with an ordered cation-vacancy sublattice γ'. A two-phase region in the range of 85-90 mole % Ga_2Te_3 arises when the solid solution decomposes into two phases: one with an ordered and one with a disordered cationic sublattice. In the

Card 1/2 UDC: 546.57'141+546.681

L 06486-67

ACC NR: AP6028298

3

range of 45-75 mole % Ga_2Te_3 (including the compound $AgGaTe_2$), the fusion proceeds via a peritectic reaction at 727°C. In the vicinity of the composition $AgGaTe_2$ there is a low-temperature region of β solid solutions. On cooling, the β solid solution decomposes, and all alloys containing less than 85 mole % Ga_2Te_3 consist of two phases ($AgGaTe_2$ + γ') at room temperature. Alloys in the range of 0-50 mole % Ga_2Te_3 consist of a mixture of two phases, Ag_2Te and $AgGaTe_2$. They form a eutectic at a composition of about 25 mole % Ga_2Te_3. Authors are grateful to L. I. Berger for his suggestions on the problem of the technique for purifying tellurium and to N. M. Panasenko for plotting the thermograms. Orig. art. has: 5 figures and 2 tables.

SUB CODE: 11,20/SUBM DATE: 09Aug65/ ORIG REF: 005/ OTH REF: 003

Card 2/2

BELOVA, Ye. M.

BELOVA, Ye. M.: "Possible supplementary reservoirs of the incitant and carrier of Borovskiy's disease". Ashkhabad, 1955. Turkmen Medical Inst imeni I. V. Stalin. (Dissertation for the Candidate of Science of Medical Sciences)

SO: Knizhnaya Letopis', No. 41, 8 Oct 55

BELOVA, Ye.M.

Study of the virulence of various strains of the agent of zoonotic cutaneous leishmaniasis. Med. paraz. i paraz. bol. 33 no.6:666-670 N-D '64. (MIRA 18:6)

1. Ashkhabadskiy institut epidemiologii i gigiyeny.

GIEYBERMAN, S.Ye.; BELOVA, Ye.M.

General morphology of the cytopathogenic effect of Leishmania in tissue cultures. Med. paraz. i paraz. bol. 33 no.6:650-654 N-D '64. (MIRA 18:6)

1. Ashkhabadskiy institut epidemiologii i gigiyeny.

KORNIYENKO, Z.P. (Koneva); BELOVA, Ye.M.; KARIMOV, Sh.M.; ANNAVELIYEV, O.A.

On visceral leishmaniasis in dogs in Ashkhabad. Med.paraz.i paraz. bol. 37 no.5:609 S-O '59. (MIRA 13:4)

1. Iz Turkmenskogo sel'skokhozyaystvennogo instituta imeni M.I. Kalinina, Ashkhabadskogo instituta epidemiologii i gigiyeny Turkmenskogo meditsinskogo instituta imeni I.V. Stalina.
(LEISHMANIASIS VISCERAL epidemiol.)

BELOVA, Ye.M.; DEL' MORAL', L.V.

Carriers and reservoirs of cutaneous leishmaniasis in the Kara Kum Canal region. Vop.kraev.paraz.Turk.SSR 3:77-80 '62.
(MIRA 16:4)

1. Institut epidemiologii i gigiyeny, Ashkhabad.
(KARA KUM CANAL REGION--SAND FLIES AS CARRIERS OF DISEASE)
(KARA KUM CANAL REGION--DELHI BOIL)

BELOVA, Ye.M.

Susceptibility of some wild animals to the agent of cutaneous leishmaniasis. Vop.kraev.paraz.Turk.SSR 3:103-115 '62. (MIRA 16:4)

1. Institut epidemiologii i gigiyeny, Ashkhabad.
(TURKMENISTAN--DELHI BOIL)
(TURKMENISTAN--HEDGEHOGS AS CARRIERS OF DISEASE)
(TURKMENISTAN--RODENTS AS CARRIERS OF DISEASE)

BELOVA, Ye.M.

Carriers of cutaneous leishmaniasis of the desert and the urban types. Vop.kraev.paraz.Turk.SSR 3:117-121 '62. (MIRA 16:4)

1. Institut epidemiologii i gigiyeny, Ashkhabad.
(DELHI BOIL) (SAND FLIES AS CARRIERS OF DISEASE)

PETRISHCHEVA, P.A.; BELOVA, Ye.M.

Triple infection of the hedgehog Hemiechinus albulus major Ognev with cutaneous leishmaniasis. Vop.kraev.paraz.Turk. SSR 3:123-125 '62. (MIRA 16:4)

1. Institut epidemiologii i mikrobiologii imeni N.F.Gamaleya AMN SSSR, Moskva i Institut epidemiologii i gigiyeny, Ashkhabad.
(HEDGEHOGS--DISEASES AND PESTS) (DELHI BOIL)

PETRISHCHEVA, P.A.; BELOVA, Ye.M.

Susceptibility of house mice to cutaneous leishmaniasis.
Vop.kraev.paraz.Turk.SSR 3:127-132 '62. (MIRA 16:4)

1. Institut epidemiologii i mikrobiologii imeni N.F.Gamaleya AMN SSSR, Moskva i Institut epidemiologii i gigiyeny, Ashkhabad.
(MICE--DISEASES AND PESTS) (DELHI BOIL)

PETRISHCHEVA, P.A.; BELOVA, Ye.M.

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