

ACCESSION NR: AP4038763

Kronig fine structure. Orig.art.has: 6 formulas and 8 figures.

ASSOCIATION: Institut mineralogii, geokhimii i kristallochimii redkikh elementov
(Institute of Mineralogy, Geochemistry and Crystallochemistry of Rare Elements)

SUBMITTED: 00

DATE ACQ: 12Jun64

ENCL: 00

SUB CODE: OP

NR REF SOV: 009

OTHER: 015

Card 3/3

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data obtained from the Sc III optical spectrum. The K^+ spectrum was obtained with an undisclosed solution. The shape agreed with that obtained by S.Kiyono (Sci.Repts. Tohoku Univ., Ser.1,37, No.3, 1953) and was adequately reproduced by calculations employing the method of Nadzhakov and Barinskiy with an effective charge of 2 and an effective quantum number of 2.5. These values agree with data obtained from the Ca II optical spectrum. The field of the water molecules surrounding the doubly charged K-ionized K^+ ion was approximated by that of two charged spheres, and the Schrodinger equation for the motion of an electron in this field was solved. Three bound states were found, and the shape of the K^+ K absorption spectrum was adequately explained in terms of their influence. Thus the spectrum can be explained both with and without taking account of the water; it is concluded that experiments with the spectra of ions in solution are insufficiently sensitive to distinguish between the two interpretations discussed. The Cl^- spectra were obtained using 0.25 N, 0.5 N and 2 N HCl solutions and a 0.5 N KCl solution. The HCl spectra agreed within the experimental error, and they were accordingly averaged. The long wavelength edge of the absorption band was well represented by an inverse tangent with width equal to that of the first chlorine line in gases. The absorption band showed two maxima and a minimum. This structure could not be explained by bound states in the field of the K-ionized Cl^- ion and the surrounding water molecules, and it is ascribed to

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S/0048/64/028/005/0790/0796

AUTHOR: Barinskiy, R.L.; Malyukov, B.A.

TITLE: K Absorption spectra of calcium, potassium and chlorine ions in water [Report, Seventh Conference on X-Ray Spectroscopy held in Yerevan 23 Sep-1 Oct 1963]

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v.28, no.5, 1964, 790-796

TOPIC TAGS: x-ray absorption, x-ray spectrum, ionization phenomena, solution, calcium, potassium, chlorine, exciton theory

ABSTRACT: In continuation of a program of testing the applicability of the exciton theory in the form given by Ye.G.Nadzhakov and R.L.Barinskiy (Dokl.AN SSSR 129,1279, 1959; Izv.AN SSSR,Ser.fiz.24,407,1960) the K absorption spectra of Ca^{2+} , K^+ and Cl^- in aqueous solution were obtained and are discussed. The experimental technique is described elsewhere (R.L.Barinskiy, B.A.Malyukov,Izv.AN SSSR,Ser.fiz.28,805,1964) [see Abstract AP4038766]. The Ca^{2+} spectrum was obtained with a 0.7 N CaCl_2 solution and an absorption path of 20 microns. The shape was adequately reproduced by calculations employing the method of Nadzhakov and Barinskiy (loc.cit.) with an effective charge of 3 and an effective quantum number of 2.6. These values agree with

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Stark effect and hybridization...

S/048/63/027/003/009/025
B117/B234

of the K-absorption spectra of gas molecules and can be attributed to interaction (hybridization) between the p and d levels of the exciton. This interaction between the p and d levels of the excitons and the electrical field of the surrounding particles, as here established, can be used as a basis for explaining details of the X-ray absorption spectra qualitatively, in part also quantitatively. It should be pointed out, however, that the method based on the theory of disturbances which has been followed in the present and in the earlier paper may not always be reliable and should be replaced by a more reliable method. There are 5 figures.

ASSOCIATION: INGRE

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Stark effect and hybridization...

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B117/B234

"contradiction" can be explained by the interaction occurring between the p and d levels of the exciton in the external electrical disturbing field, which was not taken into account in the previous paper. In consequence of this, the K-electron can go over to a new level system formed from the original level of the p and d symmetry. Assuming that the p and d levels coincide when the disturbing electrical field is absent, the distance between these levels in the field of the tetrahedron was determined. The splitting was shown to be subject to the stated precondition that

$$\Delta \approx (8\sqrt{15}/21) \text{ eq } G_3 = 20 \text{ q}G_3(\text{ev}) \quad (7).$$

To calculate this amount for the anions under examination, the charges of the oxygen atoms and the multiplier G_3 have to be determined as functions of the effective quantum number of the absorbing atom. The values so determined indicated too small an amount of splitting in the first line to be noticeable, but in the second of the lines examined the splitting was greater by one order of magnitude. Finally, it was established that an additional maximum occurs between the first and second line. This maximum, which does not fit into the exciton series of absorption lines, covers about 10 % of the surface of the first line. It could be observed also in most

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S/048/63/027/003/009/025
B117/B234

AUTHORS: Barinskiy, R. L., and Malyukov, B. A.

TITLE: Stark effect and hybridization in X-ray K-absorption spectra

PERIODICALS: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27,
no. 3, 1963, 351-358

TEXT: These authors showed in their previous paper (Izv. AN SSSR, Ser. fiz. 26, no. 3, 412 (1962)) that in molecules and crystals where ionic bonding is prominent the first line in the K-spectrum is split, whereas in compounds which have a maximum covalent bond the Stark effect practically never occurs. In the present paper they show that there may be cases where the first line is not split and the Stark effect does not occur till the second line. This happens where the quantum number of the first line approximates to 1 and $\alpha > 3$, e.g. in the K-absorption spectra of chromium in K_2CrO_4 and $K_2Cr_2O_7$, and of manganese in $KMnO_4$. Examination of the fine structure of the absorption spectra of $[CrO_4]^{2-}$ and $[MnO_4]^-$ in aqueous solution showed that in crystals too the Stark effect is attributable less to the crystal lattice field than to the surrounding oxygen. This

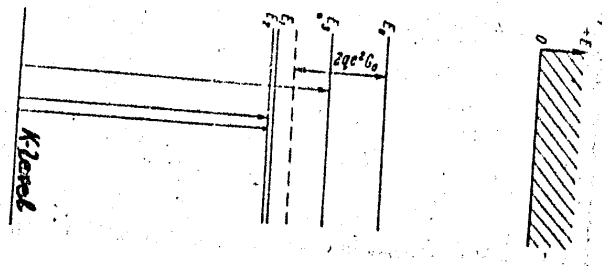
Card 1/1

Interpretation of the K absorption...

S/048/62/026/003/013/015
B102/B104

splitting was calculated to amount to $E = 1.8$ ev. The parameters of the Slater function were found to be $\eta=1.4$ and $n=1.5$. There are 5 figures and 10 references: 6 Soviet and 4 non-Soviet. The two references to English-language publications read as follows: L. G. Parratt, Rev. Mod. Phys. 31, no. 3, 616, 1959; F. A. Cotton, G. J. Ballhausen, J. Chem. Phys. 25, no. 1, 617, 1958.

Fig. 4



Interpretation of the K absorption...

S/048/62/026/003/013/015
B102/B104

should be split. This line can thus be assumed as being composed of three lines of equal intensity (1.0 ev broad), two non-split lines (0.05 ev) and a third line shifted to the shortwave side by 0.5 ev. The splitting of the exciton p-levels in H_2S is carried out with the well-known Pauling -

Van Vleck method (cf. Cotton, Ballhausen), in first perturbation-theoretical approximation. It is shown that the threefold degenerate p-levels are split into three sublevels due to the action of the electrostatic field of the H molecules: K

$$\begin{aligned} \varepsilon^{(1)} &= -2e^2qG_0 + 0,17, \\ \varepsilon^{(2)} &= -2e^2qG_0 - 0,08, \\ \varepsilon^{(3)} &= -2e^2qG_0 - 0,085. \end{aligned}$$

cf. Fig. 4. These results agree with the experimental ones. Due to its T_d symmetry, the $CaSO_4$ molecule should display no splitting of its exciton p-levels. The first line of its K-spectrum is, however, rather broad, which could be attributed to a p-level splitting caused by more distant lattice atoms (the crystal is of C_{2v} symmetry). The maximum possible

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35601
S/048/62/026/003/013/015
B102/B104

24.3600 (1035, 1138, 1147, 1385)

AUTHORS: Barinskiy, R. L., and Malyukov, B. A.

TITLE: Interpretation of the K absorption spectra of sulfur in molecules and crystals by the exciton Stark effect

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 3, 1962, 412 - 418

TEXT: In order to explain the nature of the Zeeman and Stark effects observed at the K absorption spectra, an experimental and theoretical investigation of these spectra of S in the gaseous molecules of SO₂, SOCl₂, SO₂Cl₂ and H₂S and in the CaSO₄ crystal was carried out. S was chosen because of its narrow K-band (0.35 ev). The spectra of the first three gases are very similar; the first and most intensive line is narrow (1.0 ± 0.05 ev), i.e., the first exciton level of the K-spectrum of sulfur will not exceed 0.1 ev. This first line of the H₂S spectrum is much broader and shows a structure on its shortwave side. According to calculations of the charge distribution in this molecule, the exciton p-levels

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L 26032-66

ACCESSION NR: AP5021952

5

sequent cooling in air. The results of mechanical tests and microstructural and hardness studies of specimens welded from 30KhGSA steel in annealed state in a combination with 38KhA steel, indicate that the external cooling of the welding rollers by air and circulating water during welding causes an excessive hardening of the weld, which results in a weld nugget with a transcrystallite structure and microcracks. By contrast, internal cooling of the rolls with circulating water and postheating of the center line of the weld results in a roughly uniform degree of hardness which is 1.6 times lower than in the case of external cooling, and then, moreover, the weld metal does not display any distinct transcrystallite structure. As for the isothermal annealing of entire weldments in the furnace, this reduces the hardness of the weld zones to the hardness of the base material. Thus, it is expedient to combine the seam welding of large work parts made of intensively hardening steels with the electric postheating of the welds directly in the welding machine, on using rollers with internal cooling by circulating water. Moreover, then the service life of the rollers (of MTs-4 alloy) is five to eight times longer. Orig. art. has: 1 figure, 1 table.

SUB CODE: 13, 11, 20 / SUBM DATE: None

Card 2/2

L 26032-66 EWP(m)/EWP(w)/EWA(d)/T/EWP(v)/EWP(t)/EWP(k) IJP(e) JD/HM
ACCESSION NR: AP5021952 SOURCE CODE: UR/0193/65/000/008/0020/0022

42
37
B

AUTHOR: Malyukov, A. F.

TITLE: Seam welding of hardenable steels

ORG: None

SOURCE: Byulleten' tekhniko-ekonomicheskoy informatsii, no. 8, 1965, 20-22

TOPIC TAGS: seam welding, weld heat treatment, low alloy steel, martensitic steel, annealing, hardness, brittleness, plasticity, metal rolling, steel/
30KhGSA steel, 38KhA steel
ABSTRACT: In seam welding the proper joining of low-alloy machine steels involves considerable technical difficulties owing to the possible formation of a martensitic structure with high hardness and brittleness in the presence of a high cooling rate. The adverse effect of the hardening of welds on the strength and plastic properties of the joint can be eliminated or reduced by heat-treating the welds or the entire weldment. The heat treatment of the welds consists in post-heating by means of the rollers previously used for welding; the best effect is produced on using rollers with internal cooling by circulating water. Heat treatment of the weldments consists in heating them to 670°C in a furnace for 1 hr with sub-

Card 1/2

UDC: 622.791.76:669.14

2

MALYUKOV, A.F.

Introducing a roller machine for step-by-step electrostatic
welding. Biul. tekh.-ekon. inform. Gos. nauch.-issl. inst.
nauch. i tekh. inform. 18 no.2:38-40 F '65.

(MIRA 18:5)

MALYUKOV, A.F.

Resistance seam welding of hardening steels. Biul. tekhn.-ekon.
inform. Gos. nauch.-issl. inst. nauch. i tekhn. inform. no. 8:20-22
Ag '65. (MIRA 18:12)

10176-53

DOCUMENT NO. 49507619

ENCLOSURE 1/013

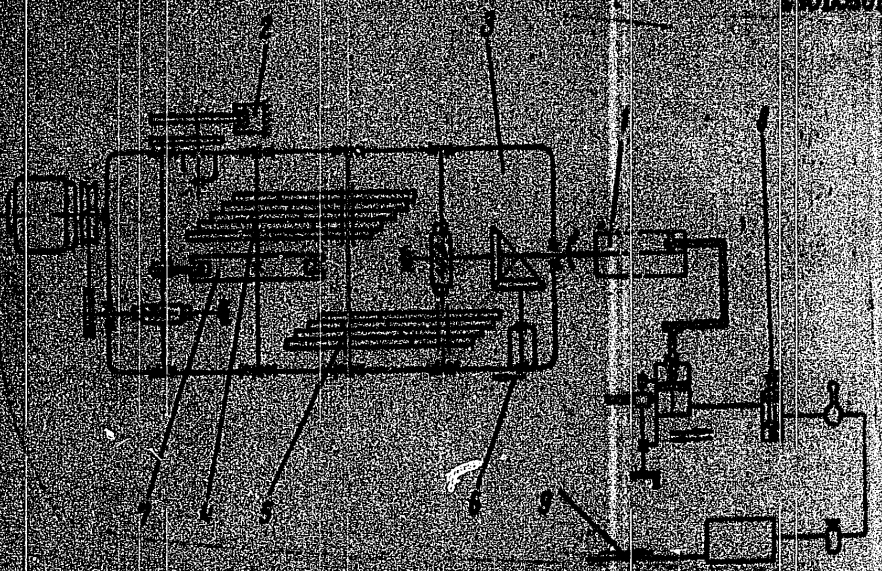


Fig. 1. Schematic of Model-2

- 1- part; 2- inductive synchronizer; 3- recorder of intermittent drive; 4- stop changer; 5- diameter changer; 6- recording apparatus; 7- mass drive; 8- electro-pneumatic valve; 9- air supply

3/3

48116-09

ACCESSION NO. AP5007649

0

clock. The minimum period changes the continuous input rotation into intermittent motion. The disk, on which the arm which periodically interrupts the magnetic path of the transducer is located, is mounted on the drive shaft of a Maltese cross (see Fig. 1 in the Appendix). Sets of five and four gear sets permit adjustments in work of 30-90 mm diameter and for steps of 0.1-1.2 mm respectively. The electrode lead is accomplished through a single-acting pneumatic cylinder, an electromechanical valve, and a pressure reducer. The apparatus has been used in a particular application has served over 9000 tubes annually. Orig. art. no. 1.2 figs.

ASSURANCE: none

UNCLASSIFIED: 00

ENCL: 01

SUB CODE: IR, 14

REF: 5076 000

OTHER: 000

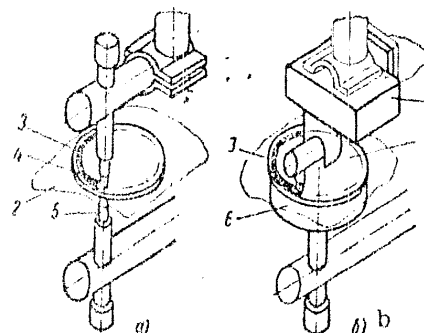
ca. 2/3

SOURCE: Technical-economic information, no. 2, 1965, 38-40
 AUTHOR: Ushakov, N. A.
 TITLE: Welding machine (MSSh-2) for intermediate
 ABSTRACT: to overcome the difficulties encountered in capacitive discharge
welding of bellows joints between thin and thick metal sections in bellows-
to continuous electrode displacement, a welding machine (MSSh-2) was
developed by A. P. Ushakov, N. A. Zaslavskaya, N. A. Gerasimov, and R. Kh.
Ushakov, Izv. vuzov, no. 10/75, 1960) which permits welding of bellows joints
of different metal thickness or metal by providing intermittent
the part and electrode with the actual welding performed during the
operation. The apparatus (see Fig. 1 on the enclosure) consists of the
mainly and a control circuit assembly which is synchronized with the
rotation of the electric motor. The latter includes a thyristor recti-
fier with a continuously variable 100-500 volts), a bank of condensers (1000
microfarads (1500 microfarads), regulated over 7-8 kV, and a synchronizing
coil.

1900. There are 5 figures.

Figure 1. Schematic diagram of spot-welding a tight circumferential joint on a conventional machine with manual displacement of the part (a), and on a machine equipped with an electrode head (b)

Legend: 1 - head; 2 - part; 3 - welded joint; 4 - upper electrode; 5 - lower electrode; 6 - lower electrode-attachment.



Card 2/2

00626
S/135/63/000/001/012/016
A006/A101

AUTHORS: Malyukov, A. F., Strafun, G. A., Engineers

TITLE: A spot welding head for circumferential joints

PERIODICAL: Svarochnoye proizvodstvo, no. 1, 1963, 37 - 38

TEXT: The authors have developed an electrode head for MTH (MTP) type machines, automating the welding of hermetic joints along a given radius at an arc length up to 360° ; the machine is automatically switched off after the desired section has been welded. The head is mounted on the machine instead of the upper holder. The part to be welded is placed on the lower fixed electrode which represents an attachment that corresponds to the design of the part (Figure 1). The head is fixed onto a slider. A spindle inside the head bears the electrode holder which can be displaced from the vertical spindle axis by 0 - 100 mm. A disk is fixed to the spindle which can be turned through a given angle. The electrode performs a stepped movement along an arc with a given radius. When joints along a 180° arc are welded, the electrode motion is reversed by a switch changing the direction of the disk. The head can be switched

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SOV/135-59-1-10/18
An Investigation of the Spot and Seam Welding of "EI703" Grade
Steel

have a considerable effect on segregation processes, which are less pronounced in the case of reduced overheat of the seam metal and of the adjant zone, and in the case of intensified heat elimination. The basic condition for a satisfactory welding of "EI703" steel is intensified heat elimination, which can be obtained by:
1) reduced welding rate; 2) higher electrode pressure; 3) larger electrode surface and mass, and an improved cooling system. The information includes technological recommendations. There are 6 sets of microphotos and 5 tables.

Card 2/2

AUTHOR: ~~Malyukov, A.F.~~, Engineer SOV/135-59-1-10/18

TITLE: An Investigation of the Spot and Seam Welding of "EI703" Grade Steel (Issledovaniye tochechnoy i rolikovoy svarki stali EI703)

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 1, pp 31-35 (USSR)

ABSTRACT: The weldability of "EI703" grade steel was investigated, and information is given on the results obtained by experiments and in practice in the seam and spot welding of this steel grade. A peculiar characteristic of "EI 703" steel in seam and spot welding is its sensitivity to the thermal cycle and proneness to segregation heterogeneity in the cast joint zone. As a result, weld joints performed with the same parameters on steel of different castings have different microstructures and mechanical properties. This appears particularly in the seam welding process. It was proved by experiments that heat conditions and the metal crystallization rate in the nucleus

Card 1/2

MALYUKOV, A.F., inzhener

Welding rolls with an internal running water cooling system. Svar.
proizv. no.7:19-20 JI '55. (MLRA 8:9)
(Electric welding)

MALYUKOV, A.F., inzhener

Spot welding of 30khGSA steel with electrothermal spot treatment between machine electrodes. Svar. proizv. no.4:22-25 Ap '55. (MIRA 8:9)
(Steel--Welding)

BUKHARIN, N.A.; doktor tekhn.nauk; MALYUKOV, A.A.

Investigating a differential with liquid friction. Art.prom, 29 no.3:
18-20 Mr '63. (MIRA 16:3)

(Motor vehicles--Transmission devices)

MALYUKINA, G.A.

Role of chemical sensitivity in the schooling behavior of Phoxinus
phoxinus L. *Biul.MOIP.Otd.biol.* 67 no.3:148 My-Je '62.

(MIRA 15:11)

(Sense organs--Fishes)

MALYUKINA, G. A.; ALEKSANDRYUK, S. P.; SHTEFANESKU, M.

Role of sight in the schooling behavior of *Phoxinus phoxinus* L.
and *Carassius carassius* L. Vop. ikht. 2 no.3:511-516 '62.
(MIRA 15:10)

1. Moskovskiy gosudarstvennyy universitet, kafedra fiziologii
zhivotnykh.

(Carp) Vision) (Fishes--Behavior)

KOSHTOYANTS, Kh.S.; MALYUKINA, G.A.; ALEKSANDRYUK, S.P.

Role of the forebrain in the manifestation of the "group effect"
in fishes. Fiziol. zhur. SSSR 46 no. 9:1038-1043 S '60,
(MIRA 13:10)

1. From the Chair of Animal Physiology, Lomonosov State
University, Moscow.
(BRAIN) (FISHES--PHYSIOLOGY) (RESPIRATION)

MALYUKINA, G.A.; FLEROVA, G.N.

Recent data on functions of the forebrain in bony fishes. Zhur.
ob. biol. 21 no.5:381-382 S-0 '60. (MIRA 13:9)

1. Chair of Animal Physiology, the State University, Moscow.
(NERVOUS SYSTEM--FISHES) (BRAIN)

MALYUKINA, G.A.

Hearing in some fishes of the Black Sea as related to ecological conditions and structural characteristics of the auditory apparatus. Zhur. ob. biol. 21 no.3:198-205 My-Je '60. (MIRA 13:7)

1. Chair of Physiology, Moscow State University.
(SENSE ORGANS—FISHES) (HEARING)

MALYUKINA, G.A.; PROTASOV, V.R. (Moskva)

Hearing, "voice," and reaction of fishes to sounds. Usp. soor.
biol. no.2:229-242 S-0 '60. (MIRA 13:11)
(HEARING) (SENSE ORGANS--FISHES)
(SOUND PRODUCTION BY ANIMALS)

MALYUKINA, G.A.

The central link of the analyzer of the lateral line in fish
[with summary in English]. Zhur.vys.nevr. deiat. 8 no.6:937-941
N-D '58 (MIRA 12:1)

1. Chair of Animal Physiology, Moscow University.
(REFLEX, CONDITIONED,
central link of analyzer of lateral line in fish (Rus))
(FISHES,
central link of analyzer of lateral line (Rus))

MALYUKINA, G.A., kand.biol.nauk

Some problems in the physiology of the auditory organ and lateral line in fishes. Trudy sov.Ikht.kom. no.8:77-81 ' 58.

(MIRA 11:11)

1. Kafedra fiziologii zhivotnykh Moskovskogo gosudarstvennogo universiteta imeni M.V. Lomonosova.
(Sense organs--Fishes)

MALYUKINA, G. A.

KOSHTOYANTS, Khachatur Sergeyevich; TSUZMER, T.S., red.; MALYUKINA, G.A.,
red.; KISHLEVA, A.A., tekhn.red.

[Principles of comparative physiology] Osnovy sravnitel'noi
fiziologii. Moskva, Izd-vo Akad.nauk SSSR. Vol. 2. [Comparative
physiology of the nervous system] Sravnitel'naiia fiziologiya nervnoi
sistemy. 1957. 634 p. (MIRA 11:1)

(NERVOUS SYSTEM)

SERBENYUK, TS.V.; MALYUKINA, G.A.

All-Union conference on the physiology of fishes. Zool.zhur.
35 no.6:949-952 Je '56. (MLRA 9:10)

(Fishes--Physiology)

MALYUKINA, G.A.

Result of studying the physiology of the lateral line analyzer in fish by conditioned reflexes. Zhur.vys.nerv.deiat.5 no.3:426-429 My-Je '55. (MLRA 8:10)

1. Kafedra fiziologii zhivotnykh Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.

(VIBRATION, effects,

on fish, determ. of physiol. of lateral line analyzer with conditioned reflex)

(FISH,

eff. of vibrations on lateral line, determ. with conditioned reflex)

(REFLEX, CONDITIONED,

determ. of physiol. of lateral line in fish in response to vibrations)

MALYUKINA, G.A.

The lateral line analyser in fishes. Vop. ikht. no. 5:3-20 '55.
(MIRA 9:5)

1. Moskovskiy universitet imeni M.V. Lomonosova, Laboratoriya
fiziologii zhyvotnykh.
(Nerous system--Fishes)

MAIYUKINA, G. A.

"Materials and Physiology of an Analyser of the Lateral-Line Organs of Fish." Cand Biol Sci, Moscow Order of Lenin State U Imeni M. V. Lomonosov, 17 Sep 54. (VM, 7 Sep 54)

SO: Sun 432, 29 Mar 55

MALYUKHA, L.S.

Socialist competition and incentive methods. Khim. volok.
no.2:67-68 '65. (MIRA 18:6)

1. Klinский kombinat.

RETSEPTOR, Ya. (g.Moskva); SHAKIROV, O.; NOAK, A.; SEREBRYANIKOV, G.,
ekonomist; KHAIT, M.; FILIPPENKO, A.; SULLEYMANOV, A. (Dagestan-
skaya ASSR); GRIGOR'YEV, A.; DZHURINSKIY, N. (g.Kishinev);
MALYUKHA, L. (g.Klin); POLISHCHUK, I. (g.Pervoural'sk,
Sverdlovskoy obl.); GRIZODUB, Yu. (g.Frunze); CHIGAREV, A.

Letters to the editors. Sots. trud 6 no. 1:136-141 Ja '61.
(MIRA 14:1)

1. Glavnyy inzh.shakhty No. 31 tresta Kirovugol', g.Karaganda
(for Shakirov).
 2. Nachal'nik planovogo otdela shakhty No. 31
tresta Kirovugol', g. Karaganda (for Noak).
 3. Glavnyy bukhgalter
stroitel'nogo upravleniya "Tyazhmashstroy", g.Kramatorsk, Sta-
linskoy obl. (for Khait).
 4. Nachal'nik otdela truda i
zarabotnoy platy vol'skogo zavoda "Metallist" (for Filippenko).
 5. Nachal'nik otdela truda i zarabotnoy platy leningradskogo
zavoda "Kinap" (for Grigor'yev).
 6. Pavinskiy l'nozavod
Kostromskoy oblasti (for Chigorev).
- (Wage payment systems) (Industrial management)

GAPCHENKO, P.K.; MALYUKH, Z.M.; PLATONOV, M.I.; ORNL-KRAYUSHKIN, V.S.;
PUNTIKOVA, K.P.; KRIVKOV, V.L., redaktor; PAVLOVA, M.M., tekhnicheskiy redaktor

["Collective farm building" pavilion; a guidebook] Pavil'on "Postroyki kolkhoznogo sela"; putevoditel'. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 26 p. (MLBA 9:10)

1. Moscow. Vsesoyuznaya sel'skokhozyaystvennaya vystavka, 1954-
2. Direktor pavil'onov (for Platonov)
(Moscow--Farm buildings--Exhibitions)

ACCESSION NO: AFD01837
ASSOCIATION: Board of Regio-1 Massachusetts AN BOSH, Mink (Institute of Heat and Mass Transfer, AN BOSH)
SUBMITTED: 15 April 1954
NO. REF. SOU: 005
ENCH: 00
OTHER: 003
SUB CODE: TD, ME
JERS

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CLASSIFICATION: TOP SECRET (S) / REF ID: A66402 / TRS/T/SPA(US) 4/308(1) Pr-4/Pa-4/Pa-4
EXEMPT FROM AUTOMATIC DOWNGRADING AND DECLASSIFICATION
ACQUISITION DATE: 12/01/57 S/O170/04/001/009/0058/1443

AUTHOR: W. C. Coker, Jr., et al.

8

TITLE: Heat transfer between a moving disperse medium and a pipe wall

SOURCE: Mechanical Engineering Journal, no. 9, 1964, 38-43

APPROXIMATE SUBJECTS: heat transfer, heat exchange, heat stratification, Fourier number, Biot number, dispersed medium

ABSTRACT: A theoretical relationship between the Nusselt number and modified Fourier number was found for the heat transfer between the wall and a packed bed of liquid disperse medium in vertical or horizontal pipes. Beyond a certain value of the Fourier number a self-modifying zone is formed in which the local Nusselt number, based on the average temperature in the region for which the length is infinite, reaches a limiting value of 3.78. With an increase in the degree of approximation and the pipe diameter, the characteristic dimension, the beginning of a length of thermal stratification can be established. Experimental data agree with theory to within 2 figures and 12 equations.

Part 1/2

BORISEVICH, V.A.; MALYUKEVICH, V.I.

Investigation of the thermal coefficients of quartz sand as a
function of temperature and porosity. Inzh.fiz.zhur. 4 no.7:
60-63 J1 '61. (MIRA 14:8)

1. Institut energetiki AN BSSR, Minsk.
(Quartz--Thermal properties)

DRUCHENKO, V.A.; MALYUK, Yu.I.; KATSYUBA, E.N.

Stress testing device for electroplating. Mashinostroitel'
no.9:28 S '64. (MIRA 17:10)

MALYUK, Vasilii Yefremovich, lektor; KHANIAS-NIBO, Nikolay Yakovlevich, nauchnyy sotr.; CHUMACHENKO, Vasilii Petrovich, nauchnyy sotr.; DEMERDZHI, D.L., red.; GLUSHKO, G.I.[Hlushko, H.I.], tekhn. red.

[Dneprodzerzhinsk; reference and guidebook] Dniprodzerzhinsk; dovidnyk-putivnyk. Dnipropetrovsk, Dalnipropeetrovs'ke knyzhkove vyd-vo, 1960. 165 p. (MIRA 15:1)

1. Dneprodzerzhisnkiy gorodskoy komitet Kommunisticheskoy partii Ukrainy (for Malyuk). 2. Dnepropetrovskiy gosudarstvennyy istoricheskiy muzey (for Khanias-Nibo, Chumachenko). (Dneprodzerzhinsk--Guidebooks)

MALYUK, VI.I. [Maluk, Vol.I.]

Cytochrome oxidase activity in the organs of guinea pig in anoxia.
Ukr. biokhim. zhur. 37 no.3:405-409 '65. (MIRA 18:7)

1. Kafedra laboratornoy diagnostiki Kiyevskogo institut usovershenstvovaniya vrachey.

MALYUK, V.I.

Content of glutathione, lactic acid and sugar in the blood of
bronchial asthma patients. Sov. med. 28 no.9:45-48 S 165.
(MIRA 18:9)

1. Kafedra laboratornoy diagnostiki (zav. - prof. I.I.Fedorov)
Kiyevskogo instituta usovershenstvovaniya vrachey.

MALYUK, V.I.

Determination of cytochrome c oxydase in mitochondria of
animal tissues. Vop. med. khim. 11 no.4:88-91 J1-Ag '65.
(MIRA 18:8)

1. Kafedra laboratornoy diagnostiki Kiyevskogo instituta
usovershenstvovaniya vrachey.

MALYUK, V.I.; KIVA, I.V.

Skin graft for the intravital microscopy of the blood vessels in a rabbit ear. Dop. AN URSSR no.1:117-119 '65. (MIRA 18:2)

1. L'vovskiy meditsinskiy institut. Predstavleno akademikom AN UkrSSR V.G. Kas'yanenko [Kas'ianenko, V.H.].

OTENKO, I.V.; MALYUK, V.I.

Treatment of peptic ulcers. Vrach.delo no.11:130-131 N '62.
(MIRA 16:2)

1. Busskaya rayonnaya bol'nitsa L'vovskoy oblasti.
(PEPTIC ULCER)

GONCHARENKO, Ye. I.; GUKEVICH, Ye. V.; MALYUK, V. I.

Arteriocentgenography of the hip following occlusion of the
right common iliac artery. Vrach. delo no.3:141-143 Mr '62.
(MIRA 15:7)

1. Kafedra anatomii (zav. - prof. A. P. Lyubomudrov) L'vovskogo
meditsinskogo instituta i Vinnikovskaya rayonnaya bol'nitsa
L'vovskoy oblasti.

(ILIAC ARTERY) (ANGIOGRAPHY)

MALYUK, V.I. (L'vov, ul. Gertsena, 6, kv.5)

Sources of the arterial blood supply of the human thoracic duct.
Arkh. anat. gist. i embr. 41 no.9:103-110 9 '61. (MIKA 15:1)

1. Kafedra normal'noy anatomii (zav. - prof. A.P.Lyubomudrov)
L'vovskogo meditsinskogo instituta.
(THORACIC DUCT...BLOOD SUPPLY)

MALYUK, V.I.

USSR / Human and Animal Morphology. (Normal and Pathological). 3
Cardiovascular System.

Abs Jour : Ref Zhür - Biol., No 21, 1958, No 97093

Author : Malyuk, V.I.

Inst : Lvov Oblast Scientific Society of Anatomists, Histologists
and Embryologists

Title : On the Morphology of the Intramural Vessels of the Thoracic
Duct of the Dog.

Orig Pub : Sb nauchn. robot, L'vovsk. obl. nauchn. o-vo anatomov,
gistol. i embriol., 1958, vyp.1, 57-60

Abstract : It was shown on 5 dogs, after a dilute supravital injection
of the arterial system, that the blood vessels of the
thoracic duct (TD), in the form of a double-layered network,
are distributed mostly in its adventitia. In smaller numbers,
they plunge into the external layers of muscular mucosa of
TD, where a third vessel layer is formed. The intima has
no vessels. According to the nature of the intramural vessel

Card 1/2

MALYUK, V. I.: Master Med Sci (diss) -- "The arterial blood supply of the thoracic duct". L'vov, 1958. 20 pp (L'vov State Med Inst), 200 copies (KL, No 4, 1959, 131)

MALYUK, V.I.; SHESHENIN, N.I.

Attachement for taking photographs by means of MBS-1 and MBS-2
microscopes. Vrach. delo no. 1:119-120 '61. (MIRA 14:4)

1. Kafedra anatomii (zav. - prof. A.P. Lyubomudrov) L'vovskogo
meditsinskogo instituta.

(PHOTOMICROGRAPHY)

ACC NR: AP6033585

measurements were made in vacuum of 10^{-5} mm Hg at room temperature. The value of $3E_g$ ($E_g = 7.5 \pm 0.8$ ev is obtained in this manner for ϵ , which is found to be equal also to the forbidden band width). The same ratio of ϵ to E_g was obtained by others for a number of semiconductors and agrees with the approximate theoretical model proposed by W. Shockley. Orig. art. has: 1 figure and 1 formula.

SUB CODE: 20/ SUBM DATE: 19May66/ ORIG REF: 005/ OTH REF: 008

Card 2/2

ACC NR: AP6033585

SOURCE CODE: UR/0181/66/008/010/3133/3135

AUTHOR: Malyuk, N. F.; Fedorus, G. A.; Fursenko, V. D.; Shakh-Melikova, I. A.;
Sheynkman, M. K.

ORG: Institute of Semiconductors AN UkrSSR (Institut poluprovodnikov AN UkrSSR)
Kiev

TITLE: Determination of the energy required to separate an electron-hole pair in CdS
single crystals irradiated with electrons of energy 5 - 50 keV (

SOURCE: Fizika tverdogo tela, v. 8, no. 10, 1966, 3133-3135

TOPIC TAGS: electron hole, electron energy, stimulated emission, electron bombardment,
photoconductivity, electric conductivity, forbidden band

ABSTRACT: In view of the fact that earlier investigations have neglected the question
of the energies required to produce or separate electron-holes, and knowledge of these
energies is important in connection with the use of electron beams to produce
stimulated emission in semiconductors, the authors have determined the electron-hole
separation energy ϵ in single-crystal CdS bombarded with electrons of 5 - 50 keV energy.
They were able to measure ϵ with sufficient accuracy only by using single crystals with
a specific nonselective spectral photoconductivity characteristic obtained through
special heat treatment. The method of determining ϵ is based on comparison of the
stationary values of the photo- and electron-conductivity in the same crystal. The

Card 1/2

~~MALYUK N. P.~~

An important factor in lowering the cost of sugar. Sakh.prom. 31
no.7:43-44 J1 '57. (MLRA 10:8)

L.L'vovskiy sakhsveklotrest.
(Sugar industry--Cost)

MALYUK, N.F.

Eliminate errors in planning. Sakh. prom. 31 no.1:40-41 no.1:40-41
Ja '57. (MIRA 10:4)

1. L'vovskiy saksveklotrest.
(Sugar industry)

MALYUK, N.F.

Outcome of the campaign and contest for inventions and efficiency
promotions. Sakh'prom. 30 no.12:3-8 D '56. (MIRA 10:1)

1. L'vovskiy sakh'veklotrest.
(Sugar industry)

MALYUK, N.F.

Innevators of the L'vov enterprises of sugar-beet trusts. Sakh.prom.30
no.5:44-47 My '56. (MLRA 9:9)

I.L.'vovskiy sakhsveketrest.
(L'vov--Sugar machinery)

MALYUK, N.F.

Platform trailer for transporting heavy loads. Sakh.prom. 29
no.7:35 '55. (MLRA 9:1)

l.L'vovskiy sakhsveklotrest.
(Truck trailers)

TSVETKOV, P.K. [TSvietkov, P.A.]; MALYKH, M.V.; MIYENKO, S.T. [Milenko, H.T.]

Study of the collection of ionoelectric power stations on aerodynamic models. Visti Inzh. Akadrii, 1 bldg. AN USSR 25:3-14 '63.
(MIRA 17:12)

KOZLOVSKIY, M.T.; BUKHMAN, S.P.; MALYUK, A.T.

Cementation as means for metal separation. Trudy Kom. anal. khim. 4:
263-273 '52. (MIRA 11:6)

(Electrochemical analysis)
(Nonferrous metals)

BAYANDINA, S.A.; ISAYEVA, L.A.; TALALAYEVA, A.V.; MALYUGINA, Z.N.;
KONOPIEVA, A.V.

Clinical picture and outcome of acute disseminated lupus erythematosus.
Pediatria 37 no.1:76-83 Ja '59. (MIRA 12:1)

1. Iz kliniki detskikh bolezney (dir. - deystvitel'nyy chlen AMN
SSSR prof. Yu.F. Domborvskaya) i kafedry patologicheskoy anatomii
(zav. - chlen-korrespondent AMN SSSR prof. A.I. Strukov) I Moskov-
skogo ordena Lenina meditsinskogo instituta.

(LUPUS ERYTHEMATOSUS, DISSEMINATED, in inf. & child
acute, clin. picture & outcome (Rus))

SOKOLOV, N.K.; KAPKO, P.S., kand.sel'skokhozyaystvennykh nauk;
MALYUGINA, Ye.A., nauchnyy sotrudnik

Valuable mineral feed for swine. Svinovodstvo 13 no.11:26-28
N '59. (MIRA 13:2)

1. Glavnyy zootekhnik Krasnodarskogo plodoovoshchnogo sovkhoza No.2 (for Sokolov). 2. Krasnodarskiy nauchno-issledovatel'skiy institut sel'skogo khozyaystva.
(Swine--Feeding and feeds) (Minerals in food)
(Sugar industry--By-products)

USSR/Farm Animals. The Swine

Q-4

Abs Jour : Ref Zhur - Biol., No 11, 1958, No 50057

Author : Viktorov P.I., Kapko, F.S., Malyugin, Ye.A.
Inst : Krasnodar Scientific Research Institute of Farming
Title : Experimental Fattening of Swine Employing Corn Ear Silage.

Orig Pub : Byul. nauchno-tekhn. inform. Krasnodarsk. n.-i. in-ta s. kh.,
1957, vyp. 1, 52-53

Abstract : During a 3 month fattening period 3 groups of swine were fed with the following monthly rations of corn ear silage (in addition to other feeds): the 1st group received 3.5-4.5-6.5 kg of ear silage, the 2nd group received 1-1.5-2 kg, and the 3rd group received 2-3-4 kg. The silage contained 1.64 percent of lactic acid, 0.55 percent of free acetic acid, and 0.09 percent of butyric acid. According to feeding, the average daily weight gains amounted to 670-750-765 kg for each group. The expenditure per eachkg of weight increase amounted to 5.3-4.9-4.5 feed units. It is recommended that silage ears be fed in proportions of not more than 35 percent of the nutritional value of given rations.

Card : 1/1

MALYUGINA, T.A., kand. med. nauk

Treatment of acute biliary peritonitis in aged persons. Trudy
Inst. im. N.V. Sklif. 9:78-81 '63. (MIRA 18:6)

1. Moskovskiy gorodskoy nauchno-issledovatel'skiy institut skoroy
pomoshchi imeni Sklifosovskogo.

MALYUGINA, T.A., starshiy nauchnyy sotrudnik

Diagnosis of biliary peritonitis. Vest.khir. no.10:118-122
'61.

(MIRA 14:10)

1. Iz 1-y khirurgicheskoy kliniki (rukov. - prof. D.A. Arapov)
Moskovskogo gorodskogo ordena Trudovogo Krasnogo Znameni nauchno-
issledovatel'skogo instituta skoroy pomoshchi im. N.V. Sklifos-
ofskogo (dir. - zasluzh. vrach USSR M.M. Tarasov)
(PERITONITIS) (BILIARY TRACT--DISEASES)

MALYUGINA, T.A.

Causes of late mortality following radical surgery in stomach cancer.
Vest. khir. 84 no. 2:30-38 F '60. (MIRA 14:1)
(STOMACH---SURGERY)

MALYUGINA, T.A.

late results in treatment of cancer of the stomach. Khirurgia
36 no.4:21-28 Ap '60. (MIRA 13:12)
(STOMACH—CANCER)

MALYUGINA, T.A. (Moskva)

On the role of the vagus nerves in the development of perforating
biliary peritonitis. Eksper.khir. 4 no.4:45-46 J1-Ag '59.

(MIRA 12:11)

(CHYLEPERITONEUM exper)
(VAGOTOMY exper.)

MALYUGINA, T.A.

~~MALYUGINA, T.A.~~

Late results of surgery for peptic ulcer among railroad workers.
Trudy ISGMI 20:189-202 '54. (MLRA 10:8)

1. Gosptal'naya khirurgicheskaya klinika Leningradskogo sanitarno-gigiyenicheskogo meditsinskogo instituta, zav. klinikoy - zasl. deyatel' nauki, prof. A.V.Smirnov i khirurgicheskoye otdeleniye uzlovoy zheleznodorozhnoy bol'nitsy, nachal'nik otdeleniya - P.L.Filippov

(PEPTIC ULCER, surgery,
results in workers)

MALYUGINA, T.A., kandidat meditsinskikh nauk

Treatment of biliary peritonitis under experimental conditions.
Khirurgiia no.7:41-46 J1 '54. (MLRA 7:10)

1. Iz Leningradskogo nauchno-issledovatel'skogo instituta skoroy
pomoshchi imeni Yu.Yu.Dzhanelidze (dir. Ye.P.Glinskaya, nauchnyy
rukovoditel' prof. F.G.Uglov)
(PERITONITIS,
biliary, exper., ther.)

KORSHUNOV, I.A.; MALYUGINA, N.I.

Polarographic behavior of bis-cyclopentadionyltitanium dichloride.
Zhur. ob. khim. 34 no. 3:734-738 Mr '64. (MIRA 17:6)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom
gosudarstvennom universitete imeni N.A.Lobachevskogo.

KORSHUNOV, I.A.; MALYUGINA, N.I.

Polarographic reduction of triethyllead hydroxide. Zhur. ob.
khim. 31 no.4:1062-1067 Ap '61. (MIRA 14:4)

1. Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom
gosudarstvennom universitet imeni N. I. Lobachevskogo.
(Lead compounds)
(Reduction, Electrolytic)

The Polarographic Behavior of Zirconium in Aqueous Solution SOV/78-4-5-22/46

conium complexes with the sulphate ion. The formation of complexes of the zirconyl-ion with citric acid, acetic acid, potassium oxalate, ammonium thiocyanate, and solutions of mono- and triethanolamine and trilon B were investigated. With complex partners the zirconyl-ion forms no reduction wave. By complex-ion zirconyl-complex is bound, so that the catalytic effect upon the wave of the hydrogen ion is compensated. There are 2 figures, 4 tables, and 7 references, 4 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy institut khimii pri Gor'kovskom universitete im. N. I. Lobachevskogo
(Scientific Research Institute for Chemistry at Gor'kiy University imeni N. I. Lobachevskiy)

SUBMITTED: January 30, 1958

Card 2/2

SOV/78-4-5-22/46

5(4)
 AUTHORS: Korshunov, I. A., Malyugina, N. I.

TITLE: The Polarographic Behavior of Zirconium in Aqueous Solution
 (Polyarograficheskoye povedeniye tsirkoniya v vodnykh
 rastvorakh)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 5,
 PP 1077-1080 (USSR)

ABSTRACT: The behavior of zirconium on the mercury drop electrode in
 solutions of acids and simple salts in the presence of various
 complex formers was investigated. As initial solution zirconium
 nitrate (pH ~ 2.5) in which zirconium is present as zirconyl
 ion, was used. The dependence $E_{1/2}$ and i on the concentration
 SO_4 and the chlorine ions was investigated and results are
 given in tables 1 and 2. With an increase of the zirconyl-ion
 concentration the marginal current and the potential of the
 semiwave shift towards positive values. It is assumed that
 the zirconium salts exercise a catalytic influence upon the
 reduction of the hydrogen ions. With an increase of the sul-
 phuric acid concentration the potential of the hydrogen semi-
 wave shifts towards a negative value with formation of zir-

Card 1/2

MUKHIN, G.A.; MALYUGINA, N.I.; USPENSKAYA, T.S.

Burning out chromium in the synthetic manufacture of rubies.
Zhur. prikl. khim. 31 no.8:1160-1163 Ag '58. (MIRA 11:10)
(Rubies)

Reduction of Nitrophenols on a Multidrop Mercury Cathode

79-2-3/64

ASSOCIATION: State University, Gor'kiy
(Gor'kovskiy gosudarstvennyy universitet)

SUBMITTED: February 26, 1957

AVAILABLE: Library of Congress

Card 3/3

79-2-3/54

Reduction of Nitrophenols on a Multidrop Mercury Cathode

solutions with pH from 2 to 2,5 the nitrophenols are mainly reduced to o- and p-aminophenols. p- and o-imino-quinone in small amounts form as intermediate products. In the case of m-nitrophenol the hydroxylamine derivative of m-nitrophenol and the m-aminophenol occur as reduction products. They almost form in equal amounts.

2) The yield of the reduction products on the multidrop mercury cathode is in the case of p- and m-nitrophenols in aqueous alcohol solutions smaller than in water solutions. The small yield, observed in these tests, of reduction products of p- and m-nitrophenols in aqueous alcohol solutions may probably be explained by the formation of an intermolecular hydrogen bond. This develops in the aqueous alcohol solutions with the aid of alcohol molecules, is more stable than in water solutions and obstructs the reduction (reference 20). o-nitrophenol forms an innermolecular hydrogen bond, which, as is already known (references 1 and 20) influences the reduction of the nitrogroup as well in water - as in aqueous alcohol solutions. The authors thank I. A. Korshunov for valuable advice in the performance of the work. There are 1 table, and 20 references, 11 of which are Slavic.

Card 2/3

MALYUGINA, N. I.

79-2-3/64

AUTHORS: Vertyulina, L. M. , Malyugina, N. I.

TITLE: Reduction of Nitrophenols on a Multidrop Mercury Cathode (Vosstanovleniye nitrofenolov na mnogokapel'nom rtutnom katode)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 2, pp. 304 - 308 (USSR)

ABSTRACT: The reduction on a mercury droplet electrode was by many authors investigated for the purpose of the determination of quantity and of the reduction mechanism (reference 1 - 9). The authors used the apparatus with a multidrop mercury cathode described by Heyman et al. (reference 13), where some modifications necessary for the investigation were made. For comparing the results of the electroreduction of nitrophenols in water- and aqueous alcohol solutions the conditions of the electrolysis were left unchanged. The electrolysis was performed at a higher potential than that of the saturation current, in the case of p-nitrophenol with 2,2 V and in m- and o-nitrophenol with 1,8 V. The percentage of the reduction products represents the mean value from several experiments. The accuracy in the determination of the reduction products amounted to 5 - 6 % (relatively). Conclusions: 1) As a result of the study of the reduction of o-, m- and p-nitrophenols on a multidrop mercury cathode it was determined that in water- and aqueous alcohol

Card 1/3

Polarographic Determination of Ethyl-Mercuric-Chloride in
Granosan

75-13-2-18/27

mercury chloride can be present only in small quantities, the joint determination of ethyl mercury chloride and mercury chloride can be performed without errors. Granosane is a finely pulverized mixture of talcum and ethyl mercury chloride. The latter is extracted from granosane for its determination by ethyl alcohol. The present mercury chloride can simultaneously be determined with the ethyl mercury chloride. In polarographing the solutions, which were obtained by extraction of granosan, the wave of mercury chloride did not occur.

The experimental performance of the determination of ethyl mercury chloride according to this method is given in detail. There are 3 figures, 2 tables and 4 references, 2 of which are Soviet

ASSOCIATION: Gor'kovskiy gosudarstvennyy universitet
(Gor'kiy State University)

SUBMITTED: November 26, 1956

Card 3/3

1. Metalorganic compounds--Reduction 2. Mercury electrodes--Applica-
tions 3. Mercury chloride--Determination

Polarographic Determination of Ethyl-Mercuric-Chloride in
Granosan

75-13-2-18/27

saturated calomel electrode. To obtain a quantitative characteristic of the reduction a calibration line for the reduction in 0.2 normal hydrochloric acid was taken, which is given in the paper. Technical ethyl mercury chloride can contain small quantities of mercury chloride. In the reduction of such an ethyl mercury chloride 2 separate, well expressed waves are obtained, the one of which corresponds to the reduction of mercury chloride and the other with the reduction of the ethyl mercury chloride. In case of percentages of mercury chloride, which are by 10 to 100 times less than the quantity of the ethyl mercury chloride, the diffusion current of the latter is independent of the concentration of mercuric chloride. In case of equal percentage of both components in the solution or even in the case of a surplus of mercuric chloride the diffusion flow of the ethyl mercury chloride increases much with increasing concentration of the mercury chloride. On the other hand, however, ethyl mercury chloride has no influence upon the diffusion flow of mercury chloride. Because in granosan

Card 2/3

AUTHORS: Malyugina, N. I., Kresnyakova, Z. V. 75-13-2-18/27

TITLE: Polarographic Determination of Ethyl-Mercuric-Chloride in Granosan (Polyarograficheskoye opredeleniye etilmerkurkhlorida v granozane)

PERIODICAL: Zhurnal Analiticheskoy Khimii, 1958, Vol. 13, Nr 2, pp. 250-252 (USSR)

ABSTRACT: The possibility of the reduction of some organo metallic compounds at a mercury- drop electrode has been investigated already for several times (refs 1-3). In this paper the authors investigated the reduction of ethyl mercury chloride (C_2H_5HgCl) at a mercury - drop electrode, to build up upon this a quantitative determination method for this compound in the preparation granosan. The corresponding measurements were performed on a visual polarograph. The reduction was investigated in the following media: HNO_3 , HCl , KCl , KNO_3 , $LiCl$. Thereby it appeared that an 0.2 normal hydrochloric acid solution is suited best for the determination. In this medium ethyl mercury chloride gives clear, well expressed waves at a half wave potential of -4 V with regard to a

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O. A. Koshchikov

the value of 0.4×10^{-4} sq. cm./sec., which agree with the values for similar org. mole. Electrocapillary curves of Hg at pH 4.1 in the presence of I were shown; the influence of I was apparent in the ascending branch of the curve at not too great neg. potentials of the electrode. For exp. of I, the use of KOH was recommended; with 5% KOH the diffusion waves occurred at a potential near -1.8 to 0.9 v. The resulting amino acids did not interfere. Accuracy of some 5% was possible. Also in *J. Gen. Chem. (U.S.S.R.)* 25, 245-8 (1955) (Rusl. translation). G. M. Kosoboff

MINYIN-109, N.I.

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USSR

Reduction of *m*-nitrobenzenesulfonic acid on a dropping mercury cathode. I. S. Kovalunov, L. N. Verzhulina, and N. I. Mal'gina. (Soviet Union) *Zh. Fiz. Khim.* 1955, 29, 1055. Polarographic reduction of *m*- $\text{O}_2\text{NC}_6\text{H}_4\text{SO}_3\text{H}$ (I) was studied from 0.4×10^{-4} to 1.18×10^{-2} M concn. in buffers with pH from 2.0 to 13.0, at 20°C; the potentials were held, with a satd. calomel electrode as the anode, the potential of this being assumed to be zero for reference. In solns. from acidic to those with pH 8, only 1 diffusion wave was observed, while from pH 8 to 13, 2 waves appeared. In the latter case, from pH 8 to 9.4, the 2nd wave had $2/3$ the height of the total wave, while at pH 9.7-13.0 it was 0.5 of the total wave. Diffusion current was linear in respect to concn. in all cases. In neutral or weakly acidic solns. the diffusion current passed through a min. at pH 4.0; at higher pH values (weakly basic soln.) diffusion current of the 1st wave had a min. at pH 9 while the diffusion current of the 2nd wave passed through a max. at this pH; the max. of the diffusion current of the 1st wave had a max. at pH 10. These results indicated adsorption phenomena. The half-wave potential up to pH 8.5-9 rose linearly with pH: $E_{1/2} = -0.04 + 0.069 \text{ pH}$; in more basic solns. the half-wave potential of the first wave was relatively const. at about 0.05 v., while the 2nd wave followed the relation $E_{1/2} = -1.36 + 0.1 \text{ pH}$. The 2 values thus merged at about pH 12. The no. of electrons involved calcd. from the Heyrovsky-Neyk's equation was 1 for the 1st wave and 0.4 for the 2nd, indicating possible irreversibility of the electrode reaction. If the reduction actually required 0 electrons, as indicated by many polarographic studies, the calcn. of a diffusion coeff. at pH 9 gave

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Apr 51

USSR/Chemistry - Cadmium Compounds

"Polarographic Investigation of Complexes of Cadmium with Certain Monovalent Anions," I. A. Korshunov, N. I. Malyugina, O. M. Balabanova, Sci Res Inst of Chem Gov'kiy State U

"Zhur Obshch Khim" Vol XXI, No 4, pp 620-625

Studies reduction of Cd⁺⁺ ions on Hg drop electrode in solns contg alk halides, free Hal acids, NH₄CNS at different concns. From displacement of Cd 1/2-wave potential, finds coordination no and "const of instability" of complex ions formed. Compn of

182714

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USSR/Chemistry - Cadmium Compounds (Contd)

complexes depends on concn of salts or free acids. Their stability depends on chem compn and coordination no.

182714

MALYUGINA, N. I.

CA

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The complex of univalent copper with thiocyanate. I. A. Korshunov and N. I. Malyugina (Gorkii State Univ.). *J. Gen. Chem. U.S.S.R.* 20, 1355-9 (1950) (Engl. translation).—See *C.A.* 45, 1486d. R. M. S.

CA

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The thiocyanate complex of univalent copper. I. A. Krasunov and N. I. Malynkina (Gorki State Univ.), *Zhur. Obshch. Khim. (J. Gen. Chem.)* 20, 1390-1401 (1950). - In polarography of $\text{Cu}(\text{NO}_3)_2$ in KNO_3 soln., addn. of a small amt. of NH_4CNS gives rise to 3 waves, with the half-wave potentials (relative to satd. calomel) -0.02 and -0.4 v., attributed to $\text{Cu}^{2+} + e \rightarrow \text{Cu}^+$ and $\text{Cu}^+ + e \rightarrow \text{Cu}$, resp. There appears a white ppt., taken to be CuCNS , which dissolves in excess NH_4CNS . Under certain conditions, e.g. with $\text{Cu}(\text{NO}_3)_2$ 0.033 M, NH_4CNS 1-6 N, the polarograms show only one wave, the half-wave potential, ϵ , of which varies with the concn. c of NH_4CNS ; at $c = 1, 2, 3, 4, 5, 6$ N, $\epsilon = -0.62, -0.59, -0.61, -0.67, -0.70, -0.72$ v. At const. c , ϵ remains independent of the temp. between 15 and 42°, whereas the diffusion current increases with the temp. That the reaction between $\text{Cu}(\text{NO}_3)_2$ and NH_4CNS , in the presence of an excess of the latter, actually consists in a reduction of Cu^{2+} to Cu^+ , is borne out by the identity of the polarogram with that obtained in a soln. of CuCl in HCl in the presence of NH_4CNS . A further confirmation is provided by the application of Ilkovich' formula. From the linear graph of ϵ against c , the coordination no. is $n = 4$, i.e. the complex has the compn. $\text{Cu}(\text{CNS})_4$, and a dissoc. const. K of 7×10^{-16} . From the fact that ϵ , and $\log K$, are independent of temp., it follows that the heat of formation of the complex from its ions is close to zero.

N. Thou

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Polarographic investigation of complexes of copper with pyridine. I. A. Korshunov and N. I. Mal'uginina (State Univ., Gorki). *Zhur. Obshchei Khim.* (J. Gen. Chem.) **20**, 402-6(1950).—Polarographic curves are shown for Cu in its 0.001 *N* nitrate soln. with 0.01 *N* KNO₃ and contg. pyridine from 0.005 to 2.00 *M*, at 25°. Air was forced out by H from electrolysis. Half-wave potentials for the cupric ion are const. at +0.04 v. until the pyridine concn. is about 0.5 *M*, then decrease very rapidly to -0.20 v. This shows the formation of Cu(C₅H₅N)₆²⁺. As the concn. of pyridine increases from 0.005 to 2 *M*, a second

wave, corresponding to the cuprous ion, appears and becomes more prominent in the polarographic curve. The cuprous ion half-wave potentials decrease steadily with addn. of pyridine, from about -0.1 to -0.47 v. Complexes of Cu⁺ with 2, 3, 4, and 6 moles. of pyridine are formed. Dissocn. consts. for these are, resp., 40, 3.1, 0.30, and 0.013, each × 10⁻⁴. The const. for the cupric hexapyridine complex is 0.1; this larger value shows why there are not lower complexes of cupric ion with pyridine.

Worden Waring

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

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radiographic determination of Zinc in [Aluminium] Piston Alloy. I. A. Korshunov and N. I. Malyugina (*Zavod. Lab.*, 1948, 14, (5), 622).—[In Russian]. 0.2-0.3 g. of the alloy is carefully dissolved in the minimum quantity of 0N-NaOH, added drop by drop, and additional NaOH solution is then run in in such quantity that when the measuring flask is made up to the mark with distilled water the final concentration of NaOH is approx. 2N. 5 ml. of the alkaline solution is transferred to an electrolyser, some crystals of sulphite added, and potentiography carried out. The Zn content is estimated from a standard curve based on the analysis of alloys containing known amounts of Zn. The error does not exceed $\pm 7\%$, and the procedure is 3-4 times more rapid than the gravimetric method.—N. B. V.

Inst.-Chem., Gorkiy State U.

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA AB AC AD AE AF AG AH AI AJ AK AL AM AN AO AP AQ AR AS AT AU AV AW AX AY AZ BA BB BC BD BE BF BG BH BI BJ BK BL BM BN BO BP BQ BR BS BT BU BV BW BX BY BZ CA CB CC CD CE CF CG CH CI CJ CK CL CM CN CO CP CQ CR CS CT CU CV CW CX CY CZ DA DB DC DD DE DF DG DH DI DJ DK DL DM DN DO DP DQ DR DS DT DU DV DW DX DY DZ EA EB EC ED EE EF EG EH EI EJ EK EL EM EN EO EP EQ ER ES ET EU EV EW EX EY EZ FA FB FC FD FE FF FG FH FI FJ FK FL FM FN FO FP FQ FR FS FT FU FV FW FX FY FZ GA GB GC GD GE GF GG GH GI GJ GK GL GM GN GO GP GQ GR GS GT GU GV GW GX GY GZ HA HB HC HD HE HF HG HH HI HJ HK HL HM HN HO HP HQ HR HS HT HU HV HW HX HY HZ IA IB IC ID IE IF IG IH II IJ IK IL IM IN IO IP IQ IR IS IT IU IV IW IX IY IZ JA JB JC JD JE JF JG JH JI JJ JK JL JM JN JO JP JQ JR JS JT JU JV JW JX JY JZ KA KB KC KD KE KF KG KH KI KJ KL KM KN KO KP KQ KR KS KT KU KV KW KX KY KZ LA LB LC LD LE LF LG LH LI LJ LM LN LO LP LQ LR LS LT LU LV LW LX LY LZ MA MB MC MD ME MF MG MH MI MJ MK ML MN MO MP MQ MR MS MT MU MV MW MX MY MZ NA NB NC ND NE NF NG NH NI NJ NK NL NM NO NP NQ NR NS NT NU NV NW NX NY NZ OA OB OC OD OE OF OG OH OI OJ OK OL OM ON OO OP OQ OR OS OT OU OV OW OX OY OZ PA PB PC PD PE PF PG PH PI PJ PK PL PM PN PO PP PQ PR PS PT PU PV PW PX PY PZ QA QB QC QD QE QF QG QH QI QJ QK QL QM QN QO QP QQ QR QS QT QU QV QW QX QY QZ RA RB RC RD RE RF RG RH RI RJ RK RL RM RN RO RP RQ RR RS RT RU RV RW RX RY RZ SA SB SC SD SE SF SG SH SI SJ SK SL SM SN SO SP SQ SR SS ST SU SV SW SX SY SZ TA TB TC TD TE TF TG TH TI TJ TK TL TM TN TO TP TQ TR TS TT TU TV TW TX TY TZ UA UB UC UD UE UF UG UH UI UJ UK UL UM UN UO UP UQ UR US UT UY UZ VA VB VC VD VE VF VG VH VI VJ VK VL VM VN VO VP VQ VR VS VT VY VZ WA WB WC WD WE WF WG WH WI WJ WK WL WM WN WO WP WQ WR WS WT WY WZ XA XB XC XD XE XF XG XH XI XJ XK XL XM XN XO XP XQ XR XS XT XU XV XW XX XY XZ YA YB YC YD YE YF YG YH YI YJ YK YL YM YN YO YP YQ YR YS YT YU YV YW YX YZ ZA ZB ZC ZD ZE ZF ZG ZH ZI ZJ ZK ZL ZM ZN ZO ZP ZQ ZR ZS ZT ZU ZV ZW ZX ZY ZZ

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Polarographic Determination of Furfural. (In Russian.)
N. I. Malyugina and I. A. Korshunov. *Zhurnal Analiticheskoi Khimii* (Journal of Analytical Chemistry), v. 2, Nov.-Dec. 1947, p. 341-344.

Describes method developed for above determination in solutions and in furfural-formaldehyde resins. Accuracy was ±3.0%. Considerable time saving in comparison with other methods is claimed.

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6

Reduction of complex iodides of lead and of mercury on the dropping mercury cathode. N. I. Malynina, M. K. Shehenikova, and I. A. Korshunov (Gorky State Univ.). *J. Gen. Chem. (U.S.S.R.)* 10, 1573-6(1946) (in Russian). --With the concn. of KI in soln. rising from 0.8 to 2.0 N, the half-wave potential ϵ of Pb^{2+} changes from -0.50 to -0.638 v.; for Hg^{2+} , with KI from 0.05 to 1.0 N, ϵ shifts from -0.29 to -0.45. From the slopes of the straight lines ϵ vs. log concn., the coordination no. of the complexes, in both cases, is 4. Taking for the ϵ values of the simple hydrated Pb^{2+} and Hg^{2+} ions, -0.388 and +0.355 v., resp., one finds for the instability const. of the complex iodides: $Pb^{2+} 10^{-1}$, $Hg^{2+} 10^{-1}$.
N. Thom

Sci. Res. Inst. Chem., Gorky State U.

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(MIRA 17:8)

1. Iz laboratorii eksperimental'noy onkologii (zav. - zaslu-
zhennyi deyatel' nauki prof. N.V. Lazarev) Instituta onkologii
AMN SSSR (dir. - deystvitel'nyy chlen AMN SSSR prof. A.I.
Serebrov). Adres avtorov: Leningrad, P-129, 2-ya Berezhovaya
alleya, d.3, Institut onkologii AMN SSSR.

MALYUGINA, L.I.; MIRONOVA, A.I.; FEDOROV, Vikt. K.; SHABAD, L.M.

Significance of typological characteristics of higher nervous activity in the genesis of tumors caused by cancerogenic substances. Zhur. bys. nerv. deiat. 13 no.6:1097-1100 M-D '63.

1. Laboratoriya genetiki vyshey nervnoy deyatel'nosti Instituta fiziologii imeni Pavlova AN SSSR i laboratoriya eksperimental'noy onkologii Instituta onkologii AMN SSSR.

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no. 2, 305-308. 165. (M200140)

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KHOLDIN, S.A., prof.; MALYUGINA, L.L., kand. med. nauk

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(MIRA 10702)

MALYUGINA, L. L.

Preneoplastic changes produced in the rat liver with 2-acetylaminofluorene (2AAF). Vop. onk. 8 no.5:6-13 '62.

(MIRA 15:7)

1. Iz laboratorii eksperimental'noy onkologii (zav. - chl.-korr. AMN SSSR, prof. L. M. Shabad) Instituta onkologii AMN SSSR (dir. - deystv. chl. AMN SSSR, prof. A. I. Serebrev)

(FLUORENAMINE) (LIVER--TUMORS)