"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

MAL'TSEV, M.V.; NIKOLAYEV, A.N.; KHROMOV, V.G.

Determining the boundary angle of feed during the rolling of metal powders. Porosh. met. 5 no.5:17-19 My '65. (MIRA 18:5)

1. Gor'kovskiy politekhnicheskiy institut imeni Zhdanova.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

L 2850-66 EWT(m)/EWP(t)/EWP(k)/EWP(b)/EWA(c) LJP(c) JD/HW

ACCESSION NR: AT5022889 UR/2776/65/000/043/0060/0068

AUTHOR: Malin, A. P.; Khromov, V. G.; Tikhonov, G. F.; Suchkov, A. B.

TITLE: Production of high-purity sheets and strips by means of the direct rolling of electrolytic titanium powder

SOURCE: Moscow. Tsentral'nyy nauchno-issledovatel'skiy institut chernoy metallurgii. Sbornik trudov, no. 43, 1965. Poroshkovaya metallurgiya (Powder metallurgy), 60-68

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

L 2850-66

ACCESSION NR: AT5022889

at 900°C for 2 hr; 6. Cold rolling to 0.4 mm (6 passes); 7. Vacuum annealing at 700°C for 2 hr (in coil); 8. Cold rolling to 0.2 mm; 9. Vacuum annealing at 700°C for 2 hr (in coil); 10. Cold rolling to 0.1 mm; 11. Vacuum annealing at 700°C for 2 hr (in coil); 12. Cold rolling to 0.05 mm; 13. Vacuum annealing at 700°C for 2 hr (in coil). The thus obtained strip has a polyhedral structure. Orig. art. has: 6 figures, 3 tables.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

BOROK, B.A.; MALIN, A.P.; MARKELOV, V.V.; ANDREYEV, P.S.; KUTYRINA, V.M.; LOGINOV, A.A.; GROSVAL'D, V.G.; AKSENOV, G.I.; KHROMOV, V.G.; TIKHONOV, G.F.

Experimental powder rolling on an industrial-type mill. Sbor. trud. TSNIICHM no.43:53-59 '65. (MIRA 18:10)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

MALIN, A.P.; KHROMOV, V.G.; TIKHONOV, G.F.; SUCHKOV, A.B.

Producing high purity sheet and strip by means of the direct rolling of an electrolytic titanium powder. Sbor. trud. TsNIICHM no.43:60-68 '65. (MIRA 18:10)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

L 46975-66 EWP(k)/EWT(d)/EWT(m)/EWP(h)/T/EWP(l)/EWP(e)/EWP(w)/EWP(v)/EWP(t)/ETI

ACC NR: AT6024938 IJP(c) (A,N) JH/JD/HW SOURCE CODE: UR/2981/66/000/004/0259/0263

AUTHOR: Bokova, L. S.; Onopriyenko, V. A.; Tikhonov, G. F.; Khromov, V. G. 50 B+1

ORG: none

TITLE: Rolling of aluminum powder into coiled bands with a compact edge

SOURCE: Alyuminiyevyye splavy, no. 4, 1966. Zharoprochnyye i vysokoprochnyye splavy (Heat resistant and high-strength alloys), 259-263

TOPIC TAGS: aluminum powder, powder metal compaction, metal rolling

ABSTRACT: The study had two objectives: (1) preparation of band billets no less than

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L 26975-66

ACC NR: AT6024938

bands 0.1 mm thick do not depend on the initial thickness of the band billet in the 1.9-0.8 mm range. Hot rolling of the band billet with a total reduction of no less than 50% is necessary prior to the cold rolling of the band. Orig. art. has: 5 figures and 1 table.

SUB CODE: 11/ SUBM DATE: none

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

PHASE I BOOK EXPLOITATION 696

Shatsov, Nakhman Isaakovich and Khromov, Viktor Timofeyevich

Metodika obobshcheniya peredovogo opyta burovykh brigad; na primere kontory bureniya No. 4 tresta Tatburneft' (Method for a General Application of Advanced Practices of No. 4 Drilling Crew of the Tatburneft' Trust) Moscow, Gostoptekhizdat, 1958, 129 p. (Series: Opyt novatorov neftyanikov) 1,650 copies printed.

Ed.: Nurshanov, V.A.; Executive Ed.: Dubrovina, N.D.; Tech. Ed.: Polosina, A.S.

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

are disclosed on the basis of an analysis of the principal production processes. A description is given of the progress achieved at the Tatneft' trust since 1950, and 1955 is singled out as the year the complex mechanization and automation of drilling began. Commercial drilling speed increased from 285 meters per rig per month in 1950 to 830 meters per rig per month in 1956, while per bit footage rose for the same period from 1.85 to 14.22 meters per hour. V.T. Khromov and V.Ya. Semashko, graduate students of the Moskovskiy neftyanoy institut im. akad. I.M. Gubkina (Moscow Petroleum Institute im. acad. I.M. Gubkin) contributed to the book their data for 1951 - 1955 and 1956 respec-

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

Method for a General Application (Cont.) 696

Trust Drilling Crew No. 4 7

Operations of Tatburneft' Trust Drilling Crew No. 4 for 1955 - 1956 23

Operations of M. Gimazov's and G. Gayfrellin's Advanced Drilling Crews for 1951 - 1956 35

Basic technical and economic indices 35
Mechanical drilling 56
Lowering and lifting operations 65

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

SADREYEV, A.M.; KHROMOV, V.T.

Experience in layer by layer correlation of the rhythmic sections of the Middle Miocene sediments in the Kronotskiy Isthmus (eastern Kamchatka). Biul. MOIP. Otd. geol. 38 no.6: 106-113 N-D '63. (MIRA 17:8)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

YUROVA, L.N.; KHROMOV, V.V.; MYRTSYMOVA, L.A.; POLYAKOV, A.A.; PETROVA, T.Ye.

Investigation of the performance of a proportional neutron counter filled with boron trifluoride. Nek.vop.insh.fiz. no.3:65-73 '58. (MIRA 12:5)
(Neutrons--Measurement) (Nuclear counters)

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

35500
S/089/62/012/004/009/014
B163/B102

21.2243

AUTHOR: Khromov, V. V.

TITLE: The effective boundary condition on the surface of a plane periodical grating

PERIODICAL: Atomnaya energiya, v. 12, no. 4, 1962, 329-331

TEXT: The transport equation for monochromatic neutrons is solved for a system consisting of a periodical plane grating of completely black parallel

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

length q is derived. The q-values are tabled $0 \leq T \leq 6.0$ and were calculated for $0.1 \leq Co \leq 0.9$ to an accuracy of 4 places. T is the periodicity of the grating, expressed in units of the mean free path, and C_o is the geometrical transparency of the grating, i.e. the ratio of the gap widths between the black bands and the period T. If $T \leqslant 2\pi$, it is sufficient to take account of the first member of the above Fourier series, and a simple formula for $q(C_o) = \frac{2}{3}\frac{C_o}{1 - C_o} + \sqrt{\frac{4}{9}\frac{C_o}{(1 - C_o)^2} + \frac{C_o}{1 - C_o} + \frac{1}{2}}$ is obtained.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

ACCESSION NR: AT4016975 S/3064/63/000/004/0034/0042

AUTHOR: Khromov, V. V.

TITLE: The effective limiting condition over the surface of a flat periodic grating

SOURCE: Moscow. Inzh.-fiz. institut. Nekotory*ye voproxy* inzhenernoy fiziki (Some problems in engineering physics), no. 4, 1963, 34-42

TOPIC TAGS: nuclear reactor, neutron stream, periodic grating, grating, absorbing rod

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

ACCESSION NR: AT4018975

present article, this problem is solved for a limitless periodic flat grating, consisting of absorbing plates of infinite length (See Figure 1 in the Enclosure). An equation is derived

$$\times \frac{\exp\left[-\sqrt{(x+x^1)^2+(y-y^1)^2+z^2}\right]}{(x+x^1)^2+(y-y^1)^2+z^2}\Bigg\}, \quad (1)$$

which may be written in the following shortened operator form

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

ACCESSION NR: AT4018975

has a minimum value if $\tilde{\varphi}$ is the solution of Eq. 1. Meanwhile

$$\mathrm{Min}\, I[\tilde{\varphi}] = I[\varphi] = h. \tag{3}$$

This variational principle is then used to solve the problem posed in two cases: the medium absorbs the neutrons ($h < 1$) and the medium does not absorb the neutrons ($h = 1$). "The author thanks Prof. S. M. Feynberg for his statement of the question and for his useful advice." Orig. art. has: 1 figure, 20 formulas and 1 table.

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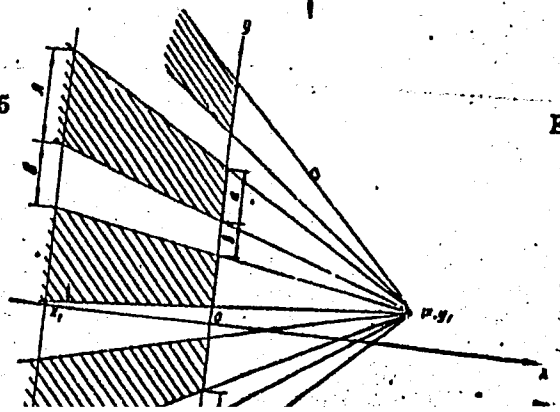
"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

ACCESSION NR: AT4018975

ENCLOSURE: 01



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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

L 17636-65 EWT(m)/EPF(c)/EPF(n)-2/EPR Pr-4/Ps-4/Pu-4 IFWL/SSD

ACCESSION NR: AP4045332 S/0089/64/017/003/0199/0201

[illegible]romov, V. V.; Shikhov, S. B.; Kuz'min, A. M.; Shmelev, A. N.

TITLE: Effect of flattening on certain thermal and physical characteristics of cylindrical fast reactors

SOURCE: Atomnaya energiya, v. 17, no. 3, 1964, 199-201

TOPIC TAGS: fast reactor, flattened core, power reactor, reactor

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

L 17636-65
ACCESSION NR: AP4045332

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power, core volume, and increase in temperature rise of the coolant, [illegible] portions of the fuel and fuel [illegible] material in- [illegible] that of the coolant decreases. [illegible] increases from 1.0 to 0.1, the total breeding ratio increases. An increase in flat- [illegible] and a constant degree of of fuel burn-up increase reactor- [illegible]

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SUBMITTED: 04Nov63 ENCL: 00 SUB CODE: NP

NO REF SOV: 003 OTHER: 001

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

L 25438-66 EPF(n)-2/EWT(m)/ETC(f)/EWG(m) WW/GS

ACC NR: AT6005814 SOURCE CODE: UR/0000/65/000/000/0051/0069

AUTHORS: Khromov, V. V.; Slesarev, I. S.; Shmelev, A. N.; Kuz'min, A. M. 59 57 B+1

ORG:

TITLE: Effective method of calculating two dimensional and three dimensional reactors 19

SOURCE: Moscow Inzhenerno-fizicheskiy institut. Nekotorye

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

L 25438/66
ACC NR: AT6005814

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the spatial components of the neutron field can be separated in each zone. The purpose of the investigation was to develop a simple and reliable algorithm, which would make possible to perform with sufficient accuracy a whole series of different variants of calculations without requiring an excessive volume of computer memory. The formalism of separating the variables is used not for a detailed description of the neutron field in different parts of the reactor, but to obtain integral characteristics of the field along selected layers of the system. This simplifies the equations, yet makes it possible to carry out detailed calculations of the neutron distribution along any

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L 25438-66
ACC NR: AP6005814

2

with several reactor variants and provided good accuracy within 10 -- 20 iterations, using 15 to 20 minutes of the M-20 computer time. The authors thank S. B. Shikhov and L. N. Yurova for useful discussions during the development of the method. Orig. art. has: 4 figures, 39 formulas, and 6 tables.

SUB CODE:18,09/ SUBM DATE: 05Jun65/ ORIG REF: 002/ OTH REF: 003

APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1"

"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

L 25430-66 EPF(n)-2/EWT(m)/ETC(f)/EWG(m) WW/GS
ACC NR: AT6005815 SOURCE CODE: UR/0000/65/000/000/0070/0077

AUTHORS: Slesarev, I. S.; Shikhov, S. B.; Khromov, V. V.; Shmelev, A. N.; Kuz'min, A. M.; Shishkov, L. K.

65
B+1

ORG: none

TITLE: Design of fast reactor using electronic computers

79

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Nekotoryye voprosy fiziki i tekhniki yadernykh reaktorov (Some problems in the physics and engineering of nuclear reactors). Moscow, Atomizdat

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

L 25430-66

ACC NR: AT6005815

intended for the M-20 computer is described. This program, which is based on a single-group method proposed by one of the authors. (Shikhov, with A. I. Novozhilor, Atomnaya energiya v. 8, 209, 1960) in conjunction with the method of conditional separation of variables, makes it possible to determine the critical load for established dimensions of the reactor, to determine the reflector saving, and to evaluate the integral of many-group fluxes and the neutron importance in all the zones of the reactor. The program also includes thermal calculations which yield the diameter of the fuel elements, the heat flux to the surface, and the main heat exchange parameters and the

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L 25430-66
ACC NR: AT6005815

program. Mention is also made of a program developed under the leadership of G. I. Marchuk to solve the cylindrical problem by conditional separation of variables with a single reflector saving for all groups. This should lead to a more accurate allowance for the edge effects in the lower part of the neutron spectrum. Orig. art. has: 7 formulas and 1 table.

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

L 13822-66 EWT(m)/EPF(n)-2/EWA(h) DM

ACC NR: AP6001801 SOURCE CODE: UR/0089/65/019/006/0540/0542

AUTHOR: Khromov, V. V.; Glesarev, I. S.

ORG: none

TITLE: The conditional separation of spatial and angular variables in the solution of the neutron transfer equation 19,44,55

SOURCE: Atomnaya energiya, v. 19, no. 6, 1965, 540-542

TOPIC TAGS: nuclear reactor technology, approximate solution, neutron

ABSTRACT: The conditional separation of variables was

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

L 13822-66

ACC NR: AP6001801

for reactor calculations in the diffusion approximation. Orig. art. has: 10 formulas, 1 figure, and 1 table.

SUB CODE: 18, 20 / SUBM DATE: 17Mar65 / ORIG REF: 002 / OTH REF: 001

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

L 25441-66 EPF(n)-2/EWA(h)/EWT(m)/ETC(f)/EWG(m)/EWP(t) WW/JD/JG/GS
ACC NR: AT6005818 SOURCE CODE: UR/0000/65/000/000/0105/0111

AUTHORS: Yurova, L. N. (Candidate of physico-mathematical sciences); Klimov, A. N.; Anikeyev, V. D.; Rorodanov, V. L.; Polyakov, A. A.; Khromov, V. V. 46 B+1

ORG: none

TITLE: Subcritical uranium-water assembly M as a tool for physical research

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Nekotoryye voprosy fiziki i tekhniki yadernykh reaktorov (Some problems in the

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L 25441-66

ACC NR: AT6005818

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stitute the fuel zone. The fuel assembly constitutes a hexagonal lattice whose pitch can be varied from 45 to 60 mm and in steps of 5 mm with accuracy ± 0.05 mm. The flux of thermal neutrons in the subcritical system and the cadmium ratio are calculated. The assembly can be used for research on different multiplying media for use as nuclear fuel, to measure the temperature of the neutron gas a function of the concentration of uranium in a system, to determine the age of the neutrons from the source in water and in other media, to determine the diffusion length of thermal neutrons in water, and to measure the efficiency of control rods. It can be also used to set up experiments

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

ACC NR: AT7005803 (A,N) SOURCE CODE: UR/0000/66/000/000/0033/0052

AUTHORS: Kuz'min, A. M.; Khromov, V. V.

ORG: none

TITLE: A few-group method of designing multi-region reactors

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Inzhenerno-fizicheskiye voprosy yadernykh reaktorov (Problems of nuclear reactor engineering and physics); sbornik statey. Moscow, Atomizdat, 1966, 33-52

TOPIC TAGS: NUCLEAR REACTOR DESIGN, nuclear reactor, approximation method, boundary value problem, differential equation, neutron diffusion, mathematic matrix, gas kinetics, neutron distribution

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

ACC NR: AT7005803

This system is reduced to the following system of differential equations for $f_\alpha(r)$:

$$-\langle D_\alpha\rangle \Delta f_\alpha(r) + \langle \Sigma'_\alpha\rangle f_\alpha(r) - \sum_{i=1}^{\alpha-1} \langle \Sigma_{i\alpha}\rangle f_i(r) =$$

$$= \frac{1}{K} \langle \chi_\alpha\rangle \cdot \sum_{j=1}^{m} \langle \nu\Sigma'_j\rangle f_j(r).$$

Equations for integral fluxes are derived. Analysis of the obtained equations shows that they form a closed homogeneous system of equations for a few-group method of designing a multi-region reactor. The method is extended to the case of the multi-group kinetic equation of neutron transport. A check of the method in calculating the critical parameters of one- and two-meter cylindrical reactors showed good results. An 18-group system of constants was used, and the maximum number of small groups was 4. The authors thank A. N. [illegible]

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

ACC NR: AT7005804 (A,N) SOURCE CODE: UR/0000/66/000/000/0053/0066

AUTHORS: Slesarev, I. S.; Khromov, V. V.

ORG: none

TITLE: Calculation of the spatial-angular distribution of neutrons in plane multilayer systems

SOURCE: Moscow. Inzhenerno-fizicheskiy institut. Inzhenerno-fizicheskiye voprosy yadernykh reaktorov (Problems of nuclear reactor engineering and physics); sbornik statey. Moscow, Atomizdat, 1966, 53-66

TOPIC TAGS: neutron distribution, nuclear reactor, iteration, successive approximation, neutron scattering, boundary value problem, ANGULAR DISTRIBUTION

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

ACC NR: AP7000802 (A,N) SOURCE CODE: UR/0089/66/021/005/0406/0408

AUTHOR: Khromov, V. V.; Kuz'min, A. M.

ORG: none

TITLE: Effective method of multigroup reactor design

SOURCE: Atomnaya energiya, v. 21, no. 5, 1966, 406-408

TOPIC TAGS: nuclear reactor characteristic, neutron diffusion, fast neutron, fast reactor, approximate solution, iteration, computer calculation, nuclear reactor design

ABSTRACT: With an aim at simplifying the calculations for reactor design, the authors consider in the diffusion approximation a one-dimensional multizone quasicritical cylindrical reactor with axial symmetry, writing the multigroup equations in vector-matrix form. The energy interval is broken up into m bands, each of which includes

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L 3665-66 EWT(1) IJP(c)

ACCESSION NR: AP5011108 UR/0051/65/018/004/0545/0551
539.184.27: 546.48

37
22
B

AUTHOR: Aleksandrov, Ye. B.; Khromov, V. V.
44,55 44,55

TITLE: Use of the method of beats to measure the Stark splitting of the cadmium 5^3P_1 level

SOURCE: Optika i spektroskopiya, v. 18, no. 4, 1965, 545-551

TOPIC TAGS: Stark splitting, cadmium, resonance, luminescence, beat method, light modulation, splitting constant

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

L 3665-66 /2

ACCESSION NR: AP5011108

beat method is presented, applicable for a system of sublevels of arbitrary origin. The experimental equipment and procedure are briefly described, and the results are in satisfactory agreement with the developed theory. It is confirmed that the Stark effect is quadratic in weak fields (up to 15 kV/cm), and the splitting constant is found to be $(6.8 \pm 0.4) \times 10^{-8}$ cm/kV^2. "We thank V. A. Budnikov for much help with the work, and P. P. Feofilov, O. V. Konstantinov, and V. I. Perel' for advice and valuable criticism." Orig. art. has: 5 figures and 6 formulas.

ASSOCIATION: None

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

KHROMOV, VASILIY VASIL'YEVICH

LIPATENKOV, Ivan Vasil'yevich; KAPRALOV, Mikhail Karpovich; BITUNOV, Yevgeniy Ivanovich; VAKUROV, Konstantin Viktorovich; KUZOVSKIN, Konstantin Sergeyevich; PAVLOV, Leonid Vasil'yevich; KLOCHKOV, Ivan Nikitich; ZHITS, Margoliya Isayevna; KHROMOV, Vasiliy Vasil'yevich; LIPSHITS, N.V., redaktor; KOPELEVICH, Ye.I., redaktor; DMITRIYEVA, N.I., tekhnicheskiy redaktor

[Assembling and adjusting mechinery of looms with picker sticks; work practices of foremen and assistants in the Monin worsted mills] Ustanovka i naladka mekhanizmov tkatskikh stankov s verkhnim boem; obobshchennyi opyt raboty masterov i pomoshchnikov mastera Moninskogo kamvol'nogo kombinata. Pod red. N.V.Lipshitsa. Moskva, Gos.nauchno-tekhn.izd-vo M-va legkoi promyshl.SSSR, 1957. 109 p. (MLRA 10:9)
(Looms)

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KHROMOV, V. Ye.

122-2-19/33

AUTHORS: Timerbulatov, M.G., Candidate of Technical Sciences, and Khromov, V.Ye., Engineer.

TITLE: The Resistance of Electrolytic Chromium Deposits against Failure by Cavitation (Soprotivlyayemost' elektroliticheskikh osadkov khroma kavitatsionnomu razrushheniyu)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, 38, No.2, pp.56-58 (USSR)

ABSTRACT: The results of tests designed to study the cavitation resistance of chromium deposits as a function of the deposition procedure and of the hardness of the deposited layer are reported. The plating was carried out from a solution of 200-250 gram per litre CrO_3 and 1.8 - 2 g/litre H_2SO_4. The

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The Resistance of Electrolytic Chromium Deposits against Failure by Cavitation 122-2-19/33

steel underneath the deposit is almost immaterial. The presence of a bright deposit underneath the matt has no effect. Annealing the deposit at 550 °C for two hours reduces the cavitation resistance. Protection against cavitation is achieved initially with a layer of 60 μ. Greater thicknesses are required in accordance with the life expected. There are 6 figures, 1 table and 6 Russian references.

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RYABCHENKOV, A.V., prof., doktor khim.nauk; KHROMOV, V.Ye., inzh.;
RYKOVA, A.V., kand.tekhn.nauk

Procedures for chromium plating of cylindrical worm shafts.
Vest. mash. 38; no.9:56-58 S '58. (MIRA 11:10)
(Chromium plating) (Gearing, Worm)

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KHROMOV, V.Ye.; ZAMOTAYEV, G.I.

Using wear-resistant chromium plating in worm gears. Mashinostroitel' no.10:18-19 O '59. (MIRA 13:2)
(Chromium plating) (Gearing, Worm)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

AUTHOR: Khromov, V.E. (Engineer) SOV/122-59-3-23/42

TITLE: Finishing Cylindrical Worm Shafts by Chromium Plating (Razmernoye khromirovaniye tsilindricheskikh chervyachnykh valov)

PERIODICAL: Vestnik Mashinostroyeniya, 1959, Nr 3, pp 71-72 (USSR)

ABSTRACT: Worm and worm wheel pairs are usually manufactured from steel and brass or bronze respectively. In order to reduce consumption of expensive non-ferrous metal, TsNIITMASh have worked out a process of plating the threads of worms turned from 0.45 carbon steel which can be used in conjunction with worm wheels made from grey

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SOV/122-59-3-23/42

Finishing Cylindrical Worm Shafts by Chromium Plating

in ordinary plating work. For single start worms with a 20° profile angle the anode to cathode gap is calculated from the formula: gap = 0.375 x module. Under these conditions the cathode current density should be about 30 A/dm^2 using a solution of 180 to 200 g/l of chromic anhydride to 1.7 to 1.9 g/l of sulphuric acid. The worms, illustrated, were plated in 40 to [illegible] minutes to an optimum thickness of 80 to 90 microns. A plot of thickness along the worm shown in Fig 4 indicates good uniformity of plating thickness with both 3 mm and 2 mm spacing between

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KHROMOV, V. Ye.

I BOOK EXPLOITATION SOV/2296

el'skiy institut tekhnologii i mashinostroyeniya

v mashinostroyenii (Corrosion and Protection
lding Industry) Moscow, Mashgiz, 1959. 347 p.
92) 3,500 copies printed.

of Chemical Sciences, Professor; Ed. of Publish-
gineer; Tech. Ed.: B. I. Model'; Managing Ed. for
Building (Mashgiz): S. Ya. Golovin, Engineer.

ticles is intended for designers, technologists,
workers concerned with corrosion and corrosion

rticles deals with problems of corrosion and metal
n at TsNIITMASh during the past two years. The
sion, intergranular corrosion, scale and heat
ls in gaseous media, protective coating, fret-
e of metals to cavitation. No personalities are
each article.

[Candidate of Physical and Mathematical
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on the wear resistance of the deposit

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

25407 S/122/60/000/012/005/018
A161/A130

1.1800

AUTHORS: Ryabchenkov, A. V., Professor Doctor of Chemistry, and Khromov, V. Ye., Engineer

TITLE: Wear-resistant chromium plating of cylindrical worm wheels and tests of plated worm wheels in transmissions with cast iron gears

PERIODICAL: Vestnik mashinostroyeniya, no. 12, 1960, 21 - 26

The article presents details of Engineer V. Ye. Khromov's plating [illegible] shafts (Author's Certif[illegible] no. 127120), and [illegible] with cast iron worm gear

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25407 S/122/60/000/012/005/018
A161/A130

Wear-resistant chromium plating of cylindrical...

with nickel. The module, profile angle, pitch diameter and thread lead angle of the anode coil are matching the worm. The anode coil groove width in normal cross section on the pitch cylinder (δ_{n_1}) is determined by the equation

$$\delta_{n_1} = \frac{2n}{\cos\alpha} + \delta_n,$$

where α is the profile angle in normal cross section; δ_n - the thread thickness on the worm in normal cross section on pitch cylinder; n - the interelectrode ...ded and practically verified space between the anode and cath- ... in this specific case and could be only ... and this was

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RYABCHENKOV, A.V., doktor khim.nauk, prof.; KHROMOV, V.Ye., insh.

Wear-resistant chromium plating of cylindrical worm shafts and testing transmissions with chromium plated worm shafts and cast iron wheels. Vest.mash. 40 no.12:21-26 D '60. (MIRA 13:12)
(Chromium plating) (Gearing, Worm)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

KHROMOV, V. YE., CAND TECH SCI, "WEAR-RESISTANT CHROME-PLATING OF CYLINDRICAL WORM SHAFTS AND INVESTIGATION OF CERTAIN PROPERTIES OF CHROME SEDIMENT." MOSCOW, 1961. (MIN OF HIGHER AND SEC SPEC ED RSFSR. KRASNOYARSK INST OF NON-FERROUS METALS IM M. I. KALININ). (KL, 2-61, 213).

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KHROMOV, V.Ye., kand.tekhn.nauk

Obtaining uniform chromium deposits on surfaces with variable curvature. Vest.mashinostr. 44 no.7:50-53 Jl '64. (MIRA 17:9)

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L 32819-66 EWT(m)/EWP(k)/EWP(t)/ETI IJP(c) JD/HW/JG

ACC NR: AP6010132 SOURCE CODE: UR/0122/66/000/003/0062/0063

31
30
B

AUTHOR: Khromov, V. Ye.

ORG: None

TITLE: The production of chromium deposits of a given thickness on surfaces with varying curvatures

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SOURCE: Vestnik mashinostroyeniya, no. 3, 1966, 62-63

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

L 32819-66

ACC NR: AP6010132

the anode which secures a predetermined thickness of the deposits on individual sections of the surface. The method may be easily extended to electrolytic deposition of Ni and other types of coatings. Orig. art. has: 1 formula and 2 tables.

SUB CODE: 13 / SUBM DATE: none / ORIG REF: 002

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KHROMOV, Yu., arkhitektor

Landscaping in residential areas of Leningrad. Zhil. stroi. no.11:24-26 '65. (MIRA 18:12)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

KHROMOV, Yu., arkhitektor

Planning children's play areas in the peoples' democracies.
Zhil. stroi. no.9:27-30 '64.
(MIRA 17:12)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

KHROMOV, Yu.I.

Efficient methods of compacting railroad embankments. Transp. stroi. 12 no.3:10-11 Mr '62. (MIRA 16:11)

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

SHAPIRO, I.I.; ZOTIKOVA, M.V., inzh.; KHROMOV, Yu.N., inzh.; TURCHANINOV, A.A., red.; SOKOLOVA, T.F., tekhn.red.

[Time norms for drop forging operations; mass, large-lot, and lot production in forges for general machinery manufacture] Obshchemashinostroitel'nye normativy vremeni na goriachuiu shtampovku; massovoe, krupnoseriinoe i seriinoe proizvodstvo. Moskva, Gos. nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1959. 85 p. (MIRA 14:1)

1.Moscow..Nauchno-issledovatel'skiy institut truda. TSentral'noe byuro promyshlennykh normativov po trudu. 2. Zaveduyushchiy otdelom mashinostroyeniya TSentral'nogo byuro promyshlennykh normativov po trudu (for Shapiro).
(Forging--Production standards)

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SHAPIRO, I.I.; GVOZDEVA, A.N.; DERYABINA, V.I.; KOZLOVA, V.L.; MATOVA, A.D.; PETROVA, A.S.; KHROMOV, Yu.N.; TISHIN, S.D., kand.tekhn.nauk, red.; DOBRITSYNA, R.I., tekhn.red.

[General norms of cutting conditions and time used in the machinery industry for technical standardization of preparatory operations; cutting of metal with disk saws, presses and shaped-stock shears] Obshchemashinostroitel'nye normativy rezhimov rezaniia i vremeni dlia tekhnicheskogo normirovaniia zagotovitel'nykh rabot; rezka metalla na diskovykh pilakh, pressakh i sortovykh nozhnitsakh. Moskva, Mashgiz, 1961. 75 p. (MIRA 14:12)

1. Moscow. TSentral'noye byuro promyshlennykh normativov po trudu.
2. Zaveduyushchiy otdelom mashinostroyeniya TSentral'nogo byuro promyshlennykh normativov po trudu pri Nauchno-issledovatel'skom institute

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

Reaction of isoxazolone with aldehydes. N. V. Khromov. *Byull. Vsesoyuz. Obshchestva im. D. I. Mendeleeva* 1939, No. 3-4, 31-3; *Khim. Referat. Zhur.* 1939, No. 7, 31.—The reactions of methylisoxazolone (I) (prepd. by K. with difficulty and in a small yield from the corresponding β-keto acids) and phenylisoxazolone (II) (formed very easily) with *p*-$Me_2NC_6H_4CHO$ (III) were investigated. 4-*p*-Dimethylaminobenzylidene-3-phenylisoxazolone (IV), $Me_2NC_6H_4CH$ C CPh N O.CO, was formed quantitatively from II. It had good *dyeing properties* and dyed animal fibers (unstable colors). Acetate silk produced with it in a water suspension a gold-yellow color which was fairly stable to light and soap. I could not be condensed in a similar manner. K. detd. that I has a double anhydride form.

The formation of the anhydride form of I, which does not react with III, is explained by the different inductive effect of Ph and Me: in the latter case the carbonyl O is more active and is split off easily in the form of H_2O from the interaction of 2 mols. of I. Because of the inductive influence of Me the syn-Me form of the oxime of acetoacetic ester is more stable, which fact hinders the ring formation. A substitution of Me(1) with a neg. group (Ph, etc.) creates a greater stability of the anti form which forms easily a ring structure without isomerization. These suppositions are confirmed by a no. of examples. Two mols. of IV are transformed under the influence of a base into the bisisoxazolone deriv. with a sepn. of 1 mol. of III. In an acid medium the IV compd. is again formed. W. R. Henn

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Tautomeric compounds. I. Isoxazolone and oxazolone compounds. A. B. Poral-Koshits and N. V. Khromov. *J. Gen. Chem.* (U. S. S. R.) 10, 557-68(1940).—The older methods of prepg. methylisoxazolone (I) from MeC(:NOH)CH_2CO_2Et (II) give poor yields because II is in the syn form. When II is warmed with Na at 65-80°, it is converted to the anti form and ring closure to I is made easy. The yield is 50%. In the presence of ether or MePh as solvents, this reaction does not occur. When $BrCH_2CO_2H$ (III) and NH_2OH react, the *anti*-oxime is formed directly, due to the electroneg. Ph group, and ring closure to phenylisoxazolone (IV) occurs before the oxime can be isolated. Neither I nor IV condenses with aromatic aldehydes. However, when II is mixed with an equal amt. of $Me_2NC_6H_4CHO$ (V), it gives orange *p-dimethylaminobenzylidenemethylisoxazolone* (VI), m. 203-4°. Similarly, III, NH_2OH and V give *p-dimethylaminobenzylidenephenylisoxazolone*, m. 216.5-17°. These compds. are *dyes*. The reactions are explained in terms of electron structure. When VI is heated with NH_4OH it gives V and MeC:N.O.CO.CHCH($C_6H_4NMe_2$)CH.CO.O.N:C which is stable only in alk. solns. and in acids regenerates VI.

H. M. Leicester

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KHROMOV-BORISOV, N.V.

PROCESSES AND PROPERTIES INDEX

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Sulfanilamide. N. V. Khromov-Borisov. U.S.S.R. 65,171, Aug. 31, 1945. Equimol. quantities of aniline and phthalic anhydride or acid are heated to form phthalanil. This is cooled and treated with chlorosulfonic acid. The resulting phthalanilsulfonyl chloride is simultaneously amidated and sapond. with concd. NH_4OH. After sepn. of sulfanilamide, the mother liquor is acidified to ppt. phthalic acid which is reused in subsequent reactions.

M. Hosch

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KHROMOV-BORISOV, N. V.

CA

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Alkalimetric determination of sulfapyridine N. V. Khromov-Borisov (Leningrad Pharm. Research Inst.). ~~Farmatsiya 8, No. 6, 31-3(1945)~~; cf. *C.A.* 41, 351*b*.—Sulfapyridine is hydrolyzed 30 min. in 25% aq. HCl by boiling under a reflux. The system is then evapd. to dryness in the same flask on a water bath. The residue (sulfanilic acid and α-aminopyridine-HCl) is taken up in hot water and titrated with 0.1 *N* alkali against phenolphthalein to a pink color. This method eliminates the need for titrating in acetone. Accuracy is indicated by 5 detns. on 1 sample; the average result was 90.5% (range 90.3-9.7%).

Julian F. Smith

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KHROMOV-DORISOV, N.V.

PROCESSES AND PROPERTIES INDEX

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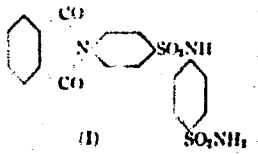
Gasometric method for the determination of sulfamides. N. V. Khromov-Borisov (Leningrad Pharm. Research Inst.) *J. Applied Chem.* (U.S.S.R.) 18, 612-23(1945) (English summary). Sulfonamides react with HNO_3 in concd. H_2SO_4 at room temp. to yield N_2O quantitatively; acylated sulfonamides react similarly, the 1st reaction consists of the cleavage of the acyl group. *N*-aryl-substituted sulfonamides fail to yield N_2O under these conditions. The accuracy of a gasometric method based on the formation of N_2O was checked on 27 various sulfonamides. The prepn. of the following sulfonamides is given as new compds. Phthalanil (*M* g.) was added to 150 g. $ClSO_3H$ and the mixt. was heated to 70° for 1 hr.; after pouring into water there was obtained a paste of *phthalanilsulfonyl chloride* contg. 26.4% of the chloride. 134.1 g. of the paste, 17.2 g. sulfanilamide, 7.8 g. Na_2CO_3 in 32 cc. water, and 170 cc. satd. soln. of NaCl gave at 60-



(I)

formic acid). Sulfanilamide (0.7 g.) and 0.6 g. *p*-dimethylaminobenzaldehyde were heated to 210-20° for 20 min. to yield the corresponding *N*[*p*-*dimethylaminobenzylidene*]*sulfanilamide*, m. 192-4° (from EtOH); the *HCl salt* was obtained by conducting the reaction in aq. HCl, m. 243° (with decompn.). *p*-Chlorobenzenesulfonamide (10 g.) heated to 180° with 10 g.

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1ST AND 2ND ORDERS 3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

KHROMOV-BORISOV, N.V.

CA

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Nitrous oxide. N. V. Khromov-Borisov. U.S.S.R. 65,762, Jan. 31, 1946. N_2O is obtained by the action of HNO_3 at room temp. on a soln. of an aromatic sulfonamide.
M. Hosch

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

KHROMOV-BORISOV, N.V.

Determination of sulfapyridine as the silver salt. N. V. Khromov-Borisov, I. M. Yurist, and L. P. Popova (Leningrad Pharmaceutical Research Inst.). *Farmatsevt* 9, No 1, 25-8(1946). Argentometric detn. of sulfapyridine can be carried out gravimetrically or by the Volhard titration. For the former add about 0.1 g. sample to a little less than the equiv. quantity of 0.1 *N* NaOH and add 50 ml. water. Heat to 70° till dissolved, add 25 ml. 0.1 *N* $AgNO_3$, cool, filter through fritted glass (No. 3), wash free from Ag^+ and then with 300 cc. water, and dry at 90-103°. For the Volhard detn. (0.3-g. sample) heat again nearly to boiling after ppg. the Ag salt; wash with 5% HNO_3, then with water till neutral, then with hot water till free from Ag^+ and titrate the excess Hg^+. Julian F. Smith

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"APPROVED FOR RELEASE: 03/13/2001 CIA-RDP86-00513R000722410004-1

KHROMOV-BORISOV, N.V.

PROCESSES AND PROPERTIES INDEX

Determination of sulfonic acid amides. N. V. Khromov-Borisov. U.S.S.R. 67,938, Feb. 28, 1947. The method applies to substances of the general formula: $R.SO_2.NH_2$ and its derivs. of the general type: $R.SO_2.NH.Ac$, where Ac is a carboxylic acid radical. A sample of the substance is dissolved in concd. H_2SO_4 and is treated at room temp. with a soln. of KNO_2 in H_2SO_4. The quantity of amide in the sample is detd. from the equiv. amt. of evolved N_2O.

M. Hosch

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The oxime of acetoacetic acid (β-oximinobutyric acid). N. V. Khromov (Leningrad Technol. Inst.). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 20, 1858-67(1950).—*Acetoacetic acid oxime* (I) has the *syn*-Me structure. The opinion of Hantzsch [*Ber.* 24, 498(1891)] concerning its formation from *methylisoxazolone anhydride* (II) on treatment with H_2O or on formation of salts is in error. Allowing 13 g. $AcCH_2CO_2Et$ and 5.7 g. KOH in 50 ml. H_2O to stand 24 hrs., extn. of the unreacted ester with Et_2O, and treatment with 7 g. $HONH_3Cl$ gave after several days 1.8 g. crude I, m. (pure) 104-5° (from EtOH). Continued standing of the filtrate 10-15 days gave 1-1.3 g. II, decomp. 100-70° (from $CHCl_3$). Addn. of about 2 ml. 25% NaOH to 1.5 g. $HONH_3Cl$ in 10 ml. H_2O, then 2 g. diketene (spontaneous heating to 80°), gave after 10-13 days 27.7% I; longer standing yields II. Boiling 3 g. $MeC(:NOH)CH_2CO_2Et$ with 44 ml. 0.5 *N* KOH 1 hr., acidifying, and letting stand 3-4 days gave 0.1 g. I; a similar low yield is obtained on storage of the ester oxime in contact with moisture. I forms in 38% yield on boiling 2.8 g. *4-isopropylidene-3-methyl-5(4H)-isoxazolone* (III) with 44 ml. 0.5 *N* KOH 1 hr., acidifying with HCl, and letting stand 3-4 days; 95% of the theoretical amt. of Me_2CO is found in the soln. Titration of I gives inflection points at pH 9.9 and 3.5; the dissoc. const. at 10° is 5 ×

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N.V. KHROMOV-BORISOV, I.M. YURIST May 52

USSR/Chemistry - Pharmaceuticals

"Investigation of Substituted Cyancacetic Esters and of the Products of Their Reactions with Acetyl Methyl Urea," Leningrad Sci-Res Chem Pharm. Inst

Zhur Obshch Khim, Vol22, No 5, pp 847-852

A solid secondary product of the hexenal synthesis, 2-methyl-4imino-4-cyclohexenyl barbituric acid, was isolated and described. It is formed in condensation of cyclo-hexenylcyanoacetic ester (I) with acetyl methyl urea (II). Methylcyclohexenyl cyancacetic ester (III), which contains no admixture of I, does not form solid secondary products in condensation with II. A method is suggested for obtaining pure III by treatment of a technical mixt of esters with aqueous NH. A method was developed for event data of I in presence of III

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KHROMOV-BORISOV, N. V.

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USSR/Chemistry - Pharma

"Synthesis and Conversi
tives. III. Studying t
drogen Atoms in the Met
dropyrimidine Derivati
sov, A. M. Savchenko, F
imeni Acad I. P. Pavlov

"Zhur Obshch Khim" Vol

The activity of the met
hydropyrimidines was st
highly active in the co

condensation with aldeh
It was shown that dihyd
by condensation are an
(desmotropes). The str
dihydropyrimidines prop
not explain the activit
Some tautomers were rem
(not brominated). When
alc, benzene, or glacia
were converted into the
of const compn. It was
methyl group is present
form of dihydropyrimidi
tural formula for this
activity of the methyl
pyrimidines studied.

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KHROMOV-BORISOV, N. V.

"Investigation of Heterocyclic Compounds; Derivatives of Acetoacetic Acid." Dr Chem Sci, First Leningrad Medical Inst, Leningrad, 1953. (Referativnyy Zhurnal--Khimiya, Moscow, No 4, Feb 54)

So: Sum 243, 19 Oct 54

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Syntheses and transformations of pyrimidine derivatives. IV. Preparation of 1-methyl and 1,3,7-trimethylisoxanthines. M. V. Khromov-Borisov and L. M. Yurist (I. P. Pavlov 1st Leningrad Med. Inst.). *Sbornik Statei Obshchei Khim., Akad. Nauk S.S.S.R.* 1, 657–62(1953); cf. *Sbornik, Kamyati Akad. A.E. Porai-Koshitsa*, 1949, p. 121; *C.A.* 48, [illegible] —CO(NH$_2$)$_2$ (120 g.) and 120 g. 70% tech. diketene [illegible] stand 48 hrs. at room temp. followed by 1 hr. at 88° [illegible] 79% *4-methyluracil* (I) (*C.A.*: 6-methyluracil) m. above [illegible] decomp.) I (25.2 g.) and 20 g. 8–10% NaOH soln. [illegible] with 65 g. Me$_2$SO$_4$ at 20–5°, heated 1 hr. at 40–5°, [illegible] and extd. with CHCl$_3$ gave 84% *1,3,4-trimethyl-*[illegible] II, m. 111–12° (from AmOAc). To 2 g. 5-amino-[illegible] methyluracil in 50 ml. 2.5% HCl was added with cooling [illegible] 20% NaNO$_2$ to yield 89% *5-nitrosamino-4-isonitroso-*[illegible] at −15°, followed by addn. over 1.5 hrs. of 10 g. powd. II; after 18 hrs. at −0° the mass was treated with ice to yield 66–72% *5-nitro-1,3,4-trimethyluracil* (V), m. 149–50° (from H$_2$O). To 4.3 g. 5-nitro-4-methyluracil in 60 g. 10% NaOH was slowly added at room temp. 20 g. Me$_2$SO$_4$, and the soln. kept 1 hr. at 40° to yield, after 24 hrs., 3.5 g. V. Refluxing 10 g. V, 500 ml. H$_2$O, a little NH$_4$OH and 10 g. amalgamated Al wire until the mass became colorless gave after filtration, washing with hot H$_2$O, and evapn. of the filtrate, 82% *5-amino-1,3,4-trimethyluracil*, m. 165–6°. The same product was formed in 94% yield on reduction with H$_2$O over Raney Ni in EtOH. This amine reacts with HNO$_3$ yielding a product, decomp. 232°, which is not 5-diazo 4-isonitroso-methyl-1,3-dimethyluracil. Treatment of 6 g. isoxanthine in 100 ml. 5% NaOH with 19 g. Me$_2$SO$_4$ at 15–20° gave 0.2 [illegible]

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KHROMOV-BORISOV, N.V.

I. Synthesis and transformations [illegible] V-bis(2-hydroxyethyl)aminoacetic acid [illegible] glycine. I. Dehydration of [illegible] acid. N. V. Khromov [illegible] Khim. [illegible] (1953) —$ClCH_2CO_2H$ (14.1 g.) 25 ml. H_2O neutralized with cooling with [illegible] ml. 60% NaOH added to 10 g. $(HOCH_2CH_2)_2NH$, refluxed [illegible] hrs., the mixt. evapd., and the residue extd. with hot 80% MeOH yielded on cooling [illegible] can be recovered from the mother [illegible] of 80-2%. The product [illegible] 10° bath gave 85-90% 4-(2-hydroxyethyl)-2-morpholinone (II), a lactone of I, b_3 163°, b_4 174°, b_4 168°; *picrate*, m. 136-8°; *picrolonate*, $C_{16}H_{18}N_5O_7$, decomp. 205-6° (from

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KHKOMOV-BORISOV, N.V.

Synthesis and transformations of some derivatives of *N,N*-bis(2-hydroxyethyl)aminoacetic acid. II. Esters of *N,N*-bis(hydroxyethyl)aminoacetic acid and 4-(hydroxyethyl)morpholinone. N. V. Khromov-Borisov and A. L. Remizov. *Zhur. Obshchei Khim.* 23, 787-91(1953); cf. *ibid.* 698.—Increased basicity of a morpholinone deriv. leads to lesser stability of the morpholinone ring. To 3.36 g. $HOCH_2CH_2N.CH_2.CO.O.CH_2.CH_2$ (I), or 4.18 g. of its HCl salt in 2 vols. dry pyridine was added with cooling 3.3 g. BzCl, the whole heated on a steam bath 2-3 hrs., dild. with xylene, filtered, and the filtrate evapd., again dild. with xylene, filtered, and evapd. *in vacuo*, yielding 69-72% I *benzoate*, $b_{3.4}$ 210-12°, a glycerollike liquid, sparingly sol. in H_2O, which on prolonged exposure to moist air hydrolyzes to $HOCH_2CH(BzOCH_2CH_2)NCH_2CO_2H$ (II). Its *picrate*, decomp. 204-6° (from AcOH-Me_2CO). I benzoate (2.5 g.), heated with 5 ml. H_2O until the soln. is homogeneous and then evapd., gave 80-85% II, m. 127-7.5° (from MeOH or EtOH), sol. in H_2O and insol. in nonpolar solvents. $(HOCH_2CH_2)_2NCH_2CO_2H$ (1.63 g.) with 1.41 g. BzCl in pyridine 3 hrs. on a steam bath gave I benzoate (isolated

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Khromov-Borisov, N. V. (2)

(from $CHCl_3$-Et_2O), which, heated *in vacuo* 1.5-2 hrs. to 85-95°, gave sirupy I *diphenylacetate; picrolonate*, m. 135-8°. III. Synthesis of 4-morpholineacetic acid. A. L. Remizov and N. V. Khromov-Borisov. *Ibid.* 791-8.—$ClCH_2CO_2H$ (8.5 g.) in 10 ml. H_2O neutralized with cooling with 3.6 g. NaOH in 10 ml. H_2O, treated with 7.55 g. morpholine, let stand 20 min., and refluxed 20 min. when the mixt. became neutral. After being evapd., treated with 75 ml. abs. EtOH, the NaCl filtered off, the filtrate evapd. *in vacuo*, the residue treated with 25 g. $Ba(OH)_2$ in 70 ml. H_2O, the mixt. evapd. *in vacuo* repeatedly with addn. of H_2O (93% completion of the reaction was indicated by recovery of 6.7% morpholine in the distillate), and the residue taken up in hot H_2O, treated with CO_2, filtered, evapd. to dryness, and extd. with hot abs. EtOH gave 19.1 g. *Ba 4-morpholineacetate*, sol. in H_2O, MeOH, AcOH, sparingly sol. in EtOH. Treatment with N H_2SO_4 and evapn. of the filtrate gave free *4-morpholineacetic acid*, very hygroscopic powder; *HCl salt*, m. 169-71° (from EtOH-C_6H_6); *picrate*, $C_{12}H_{16}O_{12}N_4$, m. 141-2°, forms from an equimolar proportion of reagents in EtOH-C_6H_6; *picrate*, $C_{18}H_{22}O_{10}N_4$, m. 170-1° (from AcOH-EtOH), forms from 1:2 ratio of reagents in AcOH-Me_2CO-C_6H_6; the latter picrate also forms from the former on heating in EtOH with [illegible]

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REMIZOV, A.L.; KHROMOV, N.V.

Synthesis and transformations of some derivatives of N,N-di-(β-hydroxyethyl)-aminoacetic acid. Part 3. Synthesis of 4-morpholineacetic acid. Zhur.ob.khim. 23 no.5:794-798 My '53. (MLRA 6:5)
(Aminoacetic acid)

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KHROMOV-BORISOV, N.V.

USSR/Chemistry - Synthesis

Card 1/1 Pub. 151 - 38/42

Authors : Torf, S. F., and Khromov-Borisov. N. V.

Title : Synthesis of nitro-, amino, and oxy-derivatives of the diphenylethane series

Periodical : Zhur. ob. khim. 24/9, 1674-1684, Sep 1954

Abstract : The synthesis of diphenylethane series hydrocarbons and their conversion into p,p'-dinitro, p,p'-diamino and p,p'-dioxy derivatives are described. The

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KHROMOV-BORISOV, N. V.

Preparation of trimethylfurfurylammonium salts. N. V. Khromov-Borisov, I. M. Yurist, and B. D. Yudovskaya (I. P. Pavlov Ist Med. Inst., Leningrad). *Zhur. Obshchei Khim.* 24, 2050-8(1954).—Furfurylamine (0.7 g.) and 100 ml. H_2O treated with 16 g. powd. K_2CO_3, then, with cooling, with 50 g. MeI at 15-20°, the excess MeI distd. after 3 hrs. at 40-5°, the residue steam distd., evapd., extd. with dry EtOH, and the ext. treated with EtOAc or BuOAc gave

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[illegible] N.V

U.S.S.R.

Alkylated diamine derivatives of the diphenylethane series. [illegible] and N. V. [illegible] *Obshchei Khim.* 24, 2168-73(1954). [illegible] $C_6H_4NH_2$-*p*)$_2$, 1.2 g. $CaCO_3$, 40 ml. MeOH, 20 ml. H_2O, and 4 ml. MeI 6 hrs. at reflux, letting the mixt. stand overnight, addg. 10 ml. H_2O, boiling 20 min. with activated C, filtering, and cooling gave 2.17 g. *1,2-diphenylethane-p,p'-bis-(trimethylammonium)iodide*, m. 229-32° (from H_2O). The following compds. were prepd. similarly: *meso*-(*MeCHC*$_6$*H*$_4$*NMe*$_3$*I*-*p*)$_2$, m. 262-5°, 60.4%; *meso*-(*EtCHC*$_6$*H*$_4$*NMe*$_3$*I*-*p*)$_2$, 78%, m. 220-9°; *meso*-(*PrCHC*$_6$*H*$_4$*NMe*$_3$*I*-*p*)$_2$, 70.7%, m. 238-41°; *meso*-(*BuCHC*$_6$*H*$_4$*NMe*$_3$*I*-*p*)$_2$, m. 218-21°, 74.3%; *meso*-(*MeCHC*$_6$*H*$_4$*NEt*$_3$*I*-*p*)$_2$, yellowish, m. 279-82°, 52%; *meso*-(*EtCHC*$_6$*H*$_4$*NEt*$_3$*I*-*p*)$_2$, 58%, m. 248-50°; *dl*-(*EtCHC*$_6$*H*$_4$*NMe*$_3$*I*-*p*)$_2$, 52.6%, m. 194-6°; [*CH*$_3$*C*$_6$*H*$_4$*NEt*$_3$-*p*)$_2$, 36.9%, m. 83-4°; *meso*(*MeCHC*$_6$*H*$_4$*NEt*$_3$-*p*)$_2$, 30.7%, m. 123-4°; *meso*-(*EtCHC*$_6$*H*$_4$*NEt*$_3$-*p*)$_2$, 58%, m. 158-9°. EtBr converts the primary amino groups into tertiary, while EtI yields the quaternary ammonium salts.

G. M. Kosolapoff

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Khromov-Borisov, N.V.

62 **Syntheses and transformations of pyrimidine derivatives.** V. Sulfonation of pyrimidine derivatives. N. V. Khromov-Borisov and R. S. Karlinskaya. *Zhur. Obshchei Khim.* 24, 2212-17(1954); cf. *C.A.* 49, 10563; Petal-Koshits, Moscow, 1949, p. 121.—Keeping 4 g. 2-amino-6-hydroxy-4-methylpyrimidine with 10 ml. $ClSO_3H$ 0.25 hr. at 110°, followed by quenching in ice gave 42-4% *2-amino-6-hydroxy-4-methylpyrimidine-5-sulfonic acid*, does not m. 300°; *Na salt*, m. 278-80° (from H_2O). Similarly was obtained 34% *2-amino-6-hydroxypyrimidine-5-sulfonic acid*, chars but does not melt in an open flame; *Na salt*, m. 288-90°; similarly was prepd. 40-3% *2,6-diamino-5-methylpyrimidine-5-sulfonic acid*, m. 270-2°; *2,6-diamino-4-methylpyrimidine-5-sulfonyl chloride*,

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KHROMOV - RADIGOV N.V.

[illegible] in the presence of a Me group in comparison with the Ph group. A similarity between the nitro-substituted phenylmethylpyrazolones and diphenylpyrazolones with [illegible] [illegible] in the [illegible]

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[illegible]
heating to 265° suffers decompn. and forms a tar, treated
with concd. H_2SO_4 1 hr. at 20-5° it gave [illegible], but
[illegible]

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KOLESNOV - BORISOV N.V.

Reaction of nitro derivatives of benzenesulfenamide with carbonyl compounds. N. V. Kuromov-Borisov and M. B. Kolesova (1st Leningrad Med. Inst.). *Zhur. Obshchei Khim.* 25, 380-7(1955); *J. Gen. Chem. U.S.S.R.* 25, 361-6(1955)(Engl. translation).—2,4-$(O_2N)_2C_6H_3SCl$ (from 10 g. $[2,4\text{-}(O_2N)_2C_6H_3]_2S_2$) in 200 ml. Et_2O with 150 ml. 24% NH_4OH yielded 65.5% yellow *2,4-$(O_2N)_2C_6H_3SNH_2$*, (I), m. 119-20° (from EtOH), stable in alkalies but cleaved by HCl. Refluxing 1 g. *p*-$O_2NC_6H_4SNH_2$ and 1 g. *p*-$Me_2NC_6H_4CHO$ in EtOH with a little NH_4Cl 10-15 min. gave on cooling 34% orange *labile isomer* of *p*-(*p*-$Me_2NC_6H_4CH:NS)C_6H_4NO_2$, m. 154-5° (from EtOH); extending the refluxing to 4 hrs. gives 51% of the *stable isomer*, red needles, m. 172-3° (from $CHCl_3$). Similarly I gave the *labile* and the *stable isomers* of *4,1,3*-(*p*-$Me_2NC_6H_4CH:NS)C_6H_3(NO_2)_2$, light red, m. 54-5°, and deep red, m. 180-90°, resp. Refluxing 1 g. *p*-$O_2NC_6H_4SNH_2$ and 5 ml. Me_2CO in 20 ml. EtOH and a little NH_4Cl 3 hrs. gave 75% orange *p*-$Me_2C:NSC_6H_4NO_2$, m.

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KHROMOV-BORISOV, N.V.; YANOVITSKAYA, A.M.; KHALETSKIY, A.M.

Synthesis and conversion of methyldicyclohexylcarbinol. Zhur. ob.khim. 25 no.3:526-529 Mr '55 (MLRA 8:6)

1. 1-y Leningradskiy meditsinskiy institut.
(Carbinols)

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Khromov-Borisov, N. V.

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A method of isolation of 6-aminoanabasine and lupinine from a technical mixture of anabasine and lupinine. N. V. Khromov-Borisov and B. O. Vatkina (1st Med. Inst., Leningrad). Zhur. Obshchei Khim. 25, 1161-2(1955).—Heating with stirring 50 g. mixed 86% anabasine and 20% lupinine, 30 g. powd. $NaNH_2$, and 300 g. $PhNMe_2$ 5 hrs. at 130-5° and 6 hrs. at 140-5°, treatment with ice-H_2O, extn. with Et_2O and distn. of the ext. gave 10.6 g. fraction, b. 125-8°, and 18.2 g. fraction, b. 185-95°. The latter fraction gave 16 g. 6-aminoanabasine, m. 100° (from MePh), while the MePh mother liquor gave 2 g. lupinine; the 1st fraction gave 6.8 g. more lupinine and 3.8 g. anabasine. Lupinine recovery was 88%, and the product m. 68°. Also in J. Gen. Chem. U.S.S.R. 25, 1113-14(1955)(Engl. trans-

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Amino

Esters of amino alcohols and disubstituted glycolic acids. N. V. Khromov-Borisov and N. A. Zakharova. *Zhur. Obshchei Khim.* 25, 2132-8(1955).—o-$(C_6H_4)_2C(OH)CO_2H$ (I), with $Et_2NCH_2CH_2Cl$ yields some 9-fluorenol. The following compds. were prepd. by heating the corresponding acid with equimolar amts. of RCl in PhMe or PhCl 4 hrs. at 110-20° (compd., % yield, m.p. of HCl salt given) $Ph_2C(OH)CO_2R'$ (R' = $CH_2CH_2NEt_2$), 81.6, 174-5°; $Ph_2C(OH)CO_2R''$ (R'' = $CH_2CH_2NMe_2$), 69.3, 180°; R'''$PhC(OH)CO_2R'$, (R''' = 2-furyl), 70.9, 143.5°; R'''$PhC(OH)CO_2R''$, 63.1, 177.5-8°; $(4\text{-}MeOC_6H_4)_2C(OH)CO_2R'$, 87.1, 167°; $(4\text{-}MeOC_6H_4)_2C(OH)CO_2R''$, 63.4, 191-2°; 4-$MeOC_6H_4PhC(OH)CO_2R'$, 96.2, 155-6°; 4-$MeOC_6H_4PhC(OH)CO_2R''$, 63.9, 185-7°; $(C_6H_4)_2C(OR')CO_2R'$, 35.5, 190-1° (dihydrochloride). The following salts

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Khromov-Borisov, N. V.

Syntheses and transformations of pyrimidine derivatives. VI. Mutual effect of HO and CH_3 groups in α- and γ-positions in the pyridine or pyrimidine ring. N. V. Khromov-Borisov, R. S. Karlinskaya, and L. N. Ageeva (Gat Leningrad Med. Inst.) *Zhur. Obshchei Khim.* 25, 2261-8(1955); cf. *C.A.* 50, 355a.—2,4-Dimethyl-6-hydroxypyridine failed to condense with p-$Me_2NC_6H_4CHO$ under a variety of conditions up to 160° in the presence of either basic reagents or $ZnCl_2$. 2,4-Dimethyl-5-nitro-6-hydroxypyridine (I) however did condense on heating in the presence of 7% NaOH, yielding orange *6-hydroxy-2(or 4)-methyl-4(or 2)-p-dimethylaminostyryl-5-nitropyridine*, m. 267°, which has acidic character and can be titrated. Similar reaction of 1 mole I with 2 moles aldehyde with piperidine catalyst at 160° gave red *2,4-bis(p-dimethylaminostyryl)-5-nitro-6-hydroxypyridine*, m. 350-8°. 2-Hydroxy-4-methylquinoline failed to condense with BzH or p-$Me_2NC_6H_4CHO$. Coupling of *4-methylpyrimidine* with p-$O_2NC_6H_4N_2Cl$ in AcOH-AcONa gave a red azo compd., which purified with hot H_2O and [illegible]

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KHROMOV-BORISOV, N.V.

Synthesis and conversions of pyrimidine derivatives. Part 7. Effect of the pyrimidine, and respectively, of the pyridine rings on the methyl group in position four. Zhur.ob.khim. 25 no.13:2520-2522 D '55. (MLRA 9:3)

1. 1-y Leningradskiy meditsinskiy institut imeni I.P. Pavlova.
(Pyrimidine) (Pyridine)

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KHROMOV-BORISOV, N.V.

The yield is 67.5-70% in 65-75% H_2SO_4 and drops in more [illegible] H_2SO_4.

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KHROMOV-BORISOV, N.V.

USSR/ Organic Chemistry - Synthetic organic chemistry E-2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11697

Author : Remizov A.L., Khromov-Borisov N.V.
Title : Synthesis of Some Physiologically Active Esters of Dialkylamino Acetic Acids

Orig Pub : Zh. obshch. khimii, 1956, 26, No 5, 1471-1482

Abstract : To study changes in physiological action of esters of aromatic acids

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USSR/ Organic Chemistry - Synthetic organic chemistry E-2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11697

In a typical example 9.25 g $C_6H_5CH_2OCOCH_2Cl$ (III), 7.5 g $NH(C_2H_5)_2$ and 25 ml C_6H_6 are boiled 3-4 hours, after ~12 hours diluted with 20 ml ether, from filtrate is isolated by distillation of II (listing yield in %, BP in °C/mm, MP in °C of derivatives of II): IIa, 80-82, 117/3, hydrochloride (HC) 88-90 (decomposes, fron alcohol + ether, hygroscopic); picrate, 77-78.5 (from benzene + ether); methyl iodide (MI) (from IIa and CH_3I in acetone, yield 98.5%), 109-

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USSR/ Organic Chemistry - Synthetic organic chemistry E-2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11697

(from acetone + ether), picrolonate, 155-156 (from acetone), MI, 109-110 (from EA); IIf (boiling 5-6 hours), 85, -, (MP 83-84°), HC.H_2O, 92-95 (from acetone + ether or ethyl acetate), HC, 132-133, picrolonate, 176-178 (from CH_3COOH), MI (CH_3I, in acetone + ether, 48 hours, 20°), 154-155 (from alcohol); IIg, (analogously to IIf), -, MP 63-64° (from aqueous alcohol), HC, 161-163 (from CH_3OH + acetone).
$C_6H_5CH_2OH$, 12 g, and 11.3 g $ClCH_2COCl$ (IV) are mixed, after evolution of HCl subsides heated for 30 minutes on water bath, IV decomposed by

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USSR/ Oeganic Chemistry - Synthetic organic chemistry E-2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11697

ml n-C_4H_9OH, yield 50-57%, MP 53-54° (from petroleum ether on rapid crystallization of very concentrated solutions) and 61-62°. All the II thus prepared have local anethetic properties, sometimes exceeding in potency that of the corresponding I; gangliolytic and general toxic action of II are much weaker than those of I. The authors refute the notion that the action of I is produced not by the integral molecule but by products of hydrolysis within the organism. All boiling point

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KHROMOV-BORISOV, N.V.

Synthesis of some derivatives [illegible]

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Distr: 2E2

Synthesis and transformations of carimidine derivatives

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