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UNCLASSIFIED

PROCESSING DATE--11NOV70

CIRC ACCESSION NO--AP0134776

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CUMENE HYDROPEROXIDE (I) WAS DETD. THERMOMETRICALLY IN THE OXIDN. BATCH, OXIDATE, AND END PRODUCT IN THE COMBINED PRODUCTION OF PHOH AND HE SUB2 CO. TO 4 ML OF AN EQUIMOLAR MIXT. OF PHOH AND HE SUB2 CO AND 2.5 ML OXIDATE WAS ADDED 1 DROP 96PERCENT H SUB2 SO SUB4, THUS DECOMPG. I WITH LIBERATION OF HEAT AND INCREASING THE TEMP. TO 60-700DEGREES. THE TEMP. OF THE MIXT. WAS DETD. WITH PRECISION OF 0.1DEGREES. THE COND. OF I WAS DETD. BY MEANS OF THE DIFFERENCE OF THE INITIAL AND MAX. TEMP. WITH A GRAPH, PLOTTED WITH ARTIFICIAL MIXTS. OF I IN ISO.PKPH. THE RELATIVE DETN. ERROR WAS SIMILAR TO 1.5PERCENT. THE DETN. LASTED 3-5 MIN. FACILITY: KUIBYSHEV. ZAVDO. SINTEZSPIRTA, KUIBYSHEV, USSR.

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AA0052653

LEVSHUNOV V.T.

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 1-70

241830 FLUID BEARING prevents rotation of the shaft when the fluid pressure drops. It consists of a sleeve 1 with pockets 7 and 8 which when filled with the fluid at pressure take axial and radial loads. The shaft 4 carries stops 3 and 4 secured by the nuts 5. The elastic element 6 is fitted on the shaft between the nuts and the stop 3. Due to pressure of the fluid, the element 6 is compressed thus producing a working clearance in the pockets 8. When the pressure drops the element 6 expands forcing stops 3 and 4 towards the sleeve and braking the rotation of the shaft.

1.3.68. as 1221789/25-27, PUSH, V.E. et al.
Moscow Instrumentation Inst. (2.9.69) Bul.
14/18.4.69 Class 47b, Int. Cl. F 16a.

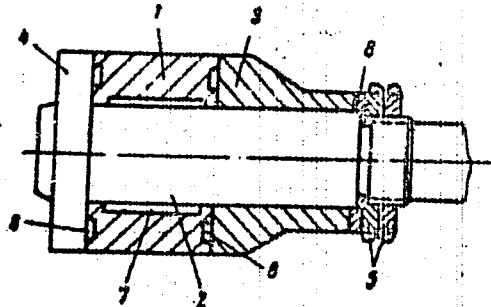
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Push, V. E.; Shimanovich, M. A.; Sokolov, Yu. N.;
Vulfson, I. A.; Levshunov, V. T.
Moskovskiy Stankoinstrumental'nyy Institut



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19821391

74

USSR

615.217.32.813.1.015.4:612.833.81

GOLIKOV, S. N., SELIVANOVA, A. T., LEVSHUNOVA, M. A. and BARANTSEVICH, R. P.,
Leningrad

"The Mechanism of Armine Action on Conditioned Reflexes"

Moscow, Farmakologiya i Toksikologiya, Vol 35, No 2, Mar/Apr 72, pp 131-134

Abstract: Armine given to cats intramuscularly in doses of 3-5 mcg/kg shortens latency periods, speeds up reactions to stimuli, and increases general motor activity, while larger doses (10 mcg/kg) inhibit conditioned reflexes. Armine injected into the right motor cortex through an implanted tubule in doses of 5 mcg/kg slows down conditioned reflexes to light and sound stimuli and causes clonic twitches on the contralateral side. Larger doses (20 and 50 mcg/kg) completely inhibit conditioned reflexes, destroy coordinated motor activity, and cause epileptic seizures recurring for up to 6 months. Conditioned reflexes begin to reappear in a month, but complete recovery requires up to a year. Histological examinations of cortical slides obtained during the acute phase revealed neurons with ischemic degeneration and neurons with bleached cytoplasm and nuclei in the third, fourth, and fifth cortical layers at and around the site of injection.

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UDC 632.95

USSR

BLIZNYUK, N. K., KHOKHLOV, P. S., KVASHA, Z. N., MARKOVA, L. I., LEVSKAYA, G. S., PROTASOVA, L. D., SOLNTSEVA, L. M., MATYUKHINA, Ye. N., VARSHAVSKIY, S. A., BARANOV, Yu. I., LIBMAN, B. Ya., ZHEMCHUZHIN, S. G.

"Method of Production of Dichlorides or Dibromides of Thiophosphonic Acids or Their Bis Analog"

USSR Author's Certificate No 332095, filed 19/08/69, published 17/04/72
(Translated from Referativnyy Zhurnal Khimiya, No 24(II), 1972, Abstract No 24N591, by T. A. Belyayeva)

Translation: Compounds of the formula $RP(X)X_2$ (I) (R=alkyl, aryl, aralkyl; X=Cl or Br) and $X_2P(S)A(S)PX_2$ (II) (A=bivalent hydrocarbon radical) were produced by the reaction of mono- or dihalo hydrocarbons with S, P and PX_3 with heating to 250-400° in an autoclave of stainless steel or nickel in the presence of catalytic quantities of I_2 or its compounds. Example. A mixture of 0.24 mole PhCl, 0.24 g-atom S, 0.16 g-atom white P, 35 ml PCl_3 and 0.05 g I_2 is heated at 290-330° for seven hours in an autoclave of stainless steel, the PCl_3 is distilled, then vacuum distillation is used to separate I (R=Ph, X=Cl), yield 60%, B. T. 109-112°/3, n_D^{20} 1.6241. Similarly, I were produced (given R, X, yield in %, B. P. in °C/mm, n_D^{20}): 4-ClC₆H₄, 1/2

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BLIZNYUK, N. K., et al., USSR Author's Certificate No 332095, filed 10/08/69,
published 17/04/72

Cl, 53.5; 124-3/1.5-2, 1.6229; p-MeC₆H₄, Cl, 54.5, 125-7/1, 1.6120; 4FC₆H₄,
Cl, 72.2, 95-7/0.5, 1.6028; Ph, Br, 61, 127-130/2, 1.6850; 4-FC₆H₄, Br, 55,
135-8/1, 1.6758; PhCH₂, Cl, 76.4, 120-3/2, 1.6150; 3-FC₆H₄, Cl, 108-110/1.5,
1.5908; 4-MeC₆H₄CH₂, Cl, 53.3, 126-9/2, 1.6035; 4-ClC₆H₄CH₂, Cl, 61.6, 129-
133.2, m. p. 74-6°, --; 2-FC₆H₄CH₂, Cl, 61.6, 129-133.2, m. p. 48-9°, --;
2.4-Me₂C₆H₃CH₂, Cl, 47.5, 140-1.6045; 2.4-Cl₂C₆H₃CH₂, Cl, 43.4, 147-9/2,
m. p. 100-1", --. Also produced were II (X=Cl, A=CH₂CH₂), yield 61.5%,
m. p. 92-3°. I and II are intermediate products for the production of
insecticides, acarocides, fungicides and herbicides.

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Organophosphorous Compounds

USSR

UDC 632.95

BLIZNYUK, N. K., LEVSKAYA, G. S., MATYUKHINA, YE. N., KVASHA, Z. N.

"Procedure for Obtaining Bisanilidophosphonates or Thiophosphonates"

USSR Author's Certificate No 298592, filed 23 Jan 70, published 25 May 71 (from RZh-Khimiya, No 6 (II), Jun 72, Abstract No 5N611)

Translation: Substances with the general formula $A[CP(X)(R)NR'R'']_2$ (I; R = alkyl, aryl, aralkyl; R' = lowest alkyl; R'' = aryl; A = 2-valent aromatic or aliphatic aromatic radicals; X = O or S) are obtained on interaction of di-N-alkylanilides of phosphonic or thiophosphonic acid with aromatic dioxy compounds at a temperature of 150-180° and a pressure of 10-30 mm with simultaneous distillation of the N-alkylaniline formed. The mixture of 0.01 moles of di-N-methylanilide of phenylphosphonic acid and 0.005 moles of 2,2-bis-(4'-oxy-phenyl)-propane (II) is heated to 170-180°, PhNHMe is distilled off simultaneously at a pressure of 20-30 mm, the residue is ground with ether and I is obtained [R = Ph, R' = Me, R'' = Ph, X = O, A = 4-C₆H₄C(Me₂)C₆H₄-4'], with a yield of 90.6% and a decomposition temperature of 45-62°. The I is obtained analogously (R, R', R'', X, A, the yield in %, and the melting point in °C are presented): Ph, Me, Ph, S, 4(3.5-Cl₂C₆G₂(C(Me₂)(3.5-Cl₂C₆H₂)-4'), 97.5, 140-5; PhCH₂, Me, Ph, O, 4-Cl₆H₄C

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USSR

BLIZNYUK, N. K., et al., USSR Author's Certificate No. 298592, filed 23 Jan 70, published 25 May 71

$(\text{Me}_2)_2\text{C}_6\text{H}_4-4'$, 91.6, 122-6; Me, Me, Ph, S; $4-\text{C}_6\text{H}_4\text{C}(\text{Me}_2)\text{C}_6\text{H}_4$, 4', 98.1, 78-80; Me, Me, Ph, S, 4,4'-(3-NH₂C₆H₃)₂SO₂ 95, 185-7. A mixture of 0.02 moles of $\text{PhCH}_2\text{P}(\text{O})\text{Cl}_2$ and 0.08 moles of PhNEt_2 (III) are boiled to cessation of separation of EtCl , 0.01 moles of dichlorodiphenylpropane are added, it is heated, simultaneously driving off the residue of III and PhNEt_2 at a pressure of 10-20 mm. The residue is ground with petroleum ether and I is obtained [R = PhCH_2 , R' = Et, R'' = Ph, X = O, A = $\text{ClC}_6\text{H}_3\text{C}(\text{Me}_2)\text{C}_6\text{H}_3\text{Cl}$] with a yield of 97.8% and a melting point of 124-5°. The I can be used as fungicides.

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USSR

UDC 632.95

BLIZNYUK, N. K., LEVSKAYA, G. S., KVASHA, Z. N., and VARSHAVSKIY, S. L.,
All-Union Scientific Research Institute of Phytopathology

"A Method of Synthesizing 1,4-bis-(dialkyl- or dibenzyltrithiophosphoryl)-
benzene"

USSR Author's Certificate No 259881, filed 1 Jul 68, published 28 May 70
(from RZh-Khimiya, No 2, 25 Jan 71, Abstract No 2N566 P)

Translation: Compounds of formula $C_6H_4[P(S)(SR)_2]_{2-1,4}$ (I) (R is an un-
substituted or substituted alkyl or benzyl) are synthesized by interacting
1,4-bis-(dichlorothiophosphoryl) benzene (II) with alkyl or benzyl halides
and H_2S at $120-70^\circ C$ in the presence of catalytic quantities of organic base
(C_5H_5N). For instance, two drops of C_5H_5N are added to a mixture of 0.02
mole of II and 0.09 mole of $PhCH_2Cl$, and H_2S is bubbled through at $130-40^\circ C$
for 10-12 hours, and then for 3-4 hours at $150-60^\circ C$ until liberation of
 HCl ceases. Upon cooling, the resultant product is compound I ($R = PhCH_2$),
melting point $114-5^\circ C$ (PhH), yield 80.7 percent. The following compounds
(I) are synthesized analogously (given are R, melting point in $^\circ C$ or d_{425}
and n_{25D}): 4- $ClC_6H_4CH_2$, 137-8 (ethyl amine); 2,4- $Me_2C_6H_3CH_2$, 94-5; C_7H_{15} ,
1.071, 1.5072. Compounds I can be used as insecticides or as additives
to lubricants.

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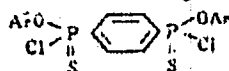
UDC 547.558.1.26'.118.07

BLIZNYUK, N. K., LEVSKAYA, G. S., and VARSHAVSKIY, S. L., All-Union Scientific Research Institute of Phytopathology, Moscow, Ministry of Agriculture USSR

"A Method of Synthesizing Bis-(aryloxychlorothiophosphoryl)-benzenes"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrazttsy, Tovarnyye Znaki, No 14, 1970, Author's Certificate No 268421, filed 1 Mar 68, pp 23-24

Abstract: This Author's Certificate introduces: 1. A method of synthesizing bis-(aryloxychlorothiophosphoryl)-benzenes of the general formula



where Ar is an unsubstituted phenyl, or a chloro- or nitrosubstituted phenyl, or an unsubstituted naphthyl. As a distinguishing feature of the patent, 1,4-bis-(dichlorothiophosphoryl)-benzene is interacted with a substituted phenyl or naphthyl with heating in the presence of catalytic quantities of salts of esters of polythiophosphoric or thiophosphoric acids or semiproducts of

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BLIZNYUK, N. K., et al., Otkrytiya, Izobreneniya, Promyshlennyye
Obraztsy, Tovarnyye Znaki, No 14, 1970

their synthesis such as a mixture of phosphorus pentasulfide or
pyridine pentasulfide in an organic solvent such as xylene with
subsequent isolation of the goal product by conventional methods.
2. The method described in (1) is distinguished by the fact that
the temperature reaches 100-200°C.

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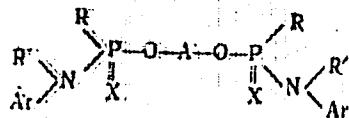
UDC 547.341.26'118.07

BLIZNYUK, N. K., LEVSKAYA, G. S., MATYUKHINA, Ye. N., and KVASHA, Z. N.,
All-Union Scientific Research Institute of Phytopathology

"A Method of Making Bisanilido Phosphonates or Bisanilidothiophosphonates"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki,
No 11, Apr 71, Author's Certificate No 298592, division C, filed 23 Jan 70,
published 16 Mar 71, p 87

Translation: This Author's Certificate introduces: 1. A method of making
bisanilidophosphonates or bisanilidothiophosphonates of the general formula



where R is an alkyl, aryl, or aralkyl, R' is a lower alkyl, Ar is an aryl,
A is an aromatic or aromatic-aliphatic hydrocarbon radical, and X is oxygen
or sulfur. As a distinguishing feature of the patent, a di-N-alkylanilide
of phosphonic or thiophosphonic acid is treated with an aromatic dihydroxy
compound with the application of heat, followed by isolation of the product
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USSR

BLIZNYUK, N. K., et al., Otkrytiya, izobretaniya, promyshlennyye obraztzy, tovarnyye znaki, No II, Apr 71, Author's Certificate No 298592, division C, filed 23 Jan 70, published 16 Mar 71, p. 87

by conventional methods. 2. A modification of this method consists of heating to 150-180°C. 3. A modification of this method distinguished by the fact that the process is carried out at a residual pressure of 10-30 mm Hg with simultaneous distillation of the N-alkylaniline formed in the reaction. 4. A modification of this method distinguished by the fact that the reaction mass produced by heating the corresponding phosphonic or thiophosphonic acid dichlorides with N,N-dialkylanilines to 200-250°C is used as the di-N-alkylanilide of phosphonic or thiophosphonic acid.

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USSR

UDC: 547.26'118.07

BLIZNYUK, N. K., LEVSKAYA, G. S., MATYUKHINA, Ye. N., and
VARSHAVSKIY, S. L., All-Union Scientific Research Institute of
Phytopathology, Moscow, Ministry of Agriculture USSR

"A Method of Synthesizing 1,4-bis-(O-alkyl-O-arylthiophosphoryl)-
benzenes"

Moscow, Otkrytiya, Izobretdniya, Promyshlennyye Obraztsy, Tovarnyye
Znaki, No 14, 1970, Author's Certificate No 268420, filed 22 May
68, p 23

Abstract: This Author's Certificate introduces: 1. A method of
synthesizing 1,4-bis-(O-alkyl-O-arylthiophosphoryl)-benzenes of
the general formula



where Ar is a substituted or unsubstituted phenyl or naphthyl, and
R is an alkyl. As a distinguishing feature of the patent, the
appropriate 1,4-bis-(O-arylchlorothiophosphoryl)-benzenes are
interacted with alcohols in an organic solvent such as benzene
with the application of heat in the presence of an organic base
such as pyridine as a catalyst, with subsequent isolation of the

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BLIZNYUK, N. K., et al., Otkrytiya, Izobretneiya, Promyshlennyye
Obraztsy, Tovarnyye Znaki, No 14, 1970,

goal product by conventional methods. 2. The method described
in (1) is distinguished by the fact that the temperature reaches
60-90°C.

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UDC: 632.95

BLIZNYUK, N. K., PROTASOVA, L. L., KVASHA, Z. N., LEVSKAYA, G. S.,
 VARSHAVSKIY, S. L., and BARANOV, Yu. I., A--Union Research Institute of Plant
 Pathology

"A Method for Preparing 1,4-Phenylene-bis-O-Alkyl-oxy-2,2,2,-Trichloroethyl-
 phosphinates"

USSR Author's Certificate No 255266, filed 27 Jun 68, published 24 Mar 70
 (from RZh-Khimiya, No 22, 25 Nov 70, Abstract No 22 N65) P by G. V. Kuznetsova)

Translation: Phosphinates with the general formula $CCL_3CH(OH)P(OR)(O)C_6H_4P-$
 $(O)(OR)CH(OH)CCl_3$ (I) ($R=C_1-C_4$ -alkyl; from here on the substitutes are in the
 para-position) are obtained from the reaction of $ROPH(O)C_6H_4PH(O)OR$ with
 $CCl_3CH(OH)_2$ in an organic solvent medium under conditions of azeotropic dis-
 tillation of water. The original phosphonites are formed by the action of
 excess alcohol on $C_1PC_6H_4PCl_2$ (II). A mixture of 0.75 mole of $C_6H_4C_1$, 1 g-
 -atom of white phosphorus, 300 ml of PCl_3 , and 3 g of I₂ is heated for 26
 hours in a stainless steel autoclave at 340-60°. After cooling the excess
 PCl_3 is driven off and 143.3 g (63.3%) II is obtained by distilling the resi-
 due, boiling point 132-3°/1, melting point 58-9°. A solution of 0.02 mole of
 II in 30 ml of CCl_4 is added at 0-5° and while being mixed to 0.4 mole of ab-
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BLIZNYUK, N. K., et al, USSR Author's Certificate No 255266, filed 27 Jun 68, published 24 Mar 70 (from RZh-Khimiya, No 22, 25 Nov 70, Abstract No 22 N653 P by G. V. Kuznetsova)

solute MeOH. The excess MeOH and HCl is removed under vacuum (toward the end at 80°) and 0.94 mole of $\text{CCl}_3\text{OH}(\text{OH})_2$ and 50 ml of C_6H_6 is added to the residue. The mixture is boiled with Dean-Stark packing until water is no longer driven off. C_6H_6 is distilled under vacuum and I (R=Me) obtained in the residue, yield 96% (in II), melting point 146-9°. The next I are obtained in a similar fashion (R, yield in %, and melting point in °C (ethyl alcohol) are given): Et, 97, 186-7; Pr, 85, 190-1; Bu, 61, 186-7; and iso-Bu, 66, 198-9. I can be used as intermediate products in the synthesis of physiologically active substances.

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UDC 632.95

USSR

BLIZNYUK, N. K., MATYURHINA, YE. N., LEVSKAYA, G. S., All-Union Scientific Research Institute of Phytopathology, Moscow, Ministry of Agriculture USSR

"Method of Obtaining O-Alkyltrichloromethyl Thiophosphonates"

USSR Author's Certificate No 251576, Cl. 12o, 26/01, (G 07 f), Filed 8 Apr 68, published 20 Feb 70 (from RZh-Khimiya, No 19 (II), 18 Oct 70, Abstract No 19 N578P by G. V. KUZNETSOVA)

Translation: Compounds of formula $Cl_3CP(S)(OR)Cl_2$ (I) (R = alkyl) are obtained by the reaction of $Cl_3CP(S)Cl_2$ with lower alcohols at 60-120° in the presence of catalytic quantities of C_2H_5N . To 0.2 mole absolute MeOH containing 20 mg C_2H_5N 0.06 mole $Cl_3CP(S)Cl_2$ is added. The mixture is boiled 3-5 hours, the excess MeOH distilled and I (R = Me) is obtained, yield 93.6 percent, d_4^{20} 1.5431, n_D^{22} 1.5450; NH_4 salt, $C_2H_7Cl_3NO_2PS$, decomposition temperature > 185°; K salt, $C_2H_7Cl_3KO_2PS$, decomposition temperature > 300°. Analogously obtained are the following I (enumerated are R, yield

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BLIZNYUK, N. K., et al, USSR Author's Certificate No 251576, Cl. 12o, 26/01, (C 07 f), filed 8 Apr 68, published 20 Feb 70 (from RZh-Khimiya, No 19 (II), 10 Oct 70, Abstract No 19 N578P by G. V. KUZNETSOVA)

in percent, d₂₂ and n_D²²⁻²³): Et, 94.6, 1.5669, 1.5360; and Pr, 84.5, 1.5436, 1.5350. I are intermediates of the synthesis of biologically active substances.

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USSR

BLIZNYUK, N. K., LEVSKAYA, G. S., KIRILINA, L. E., VARSHAVSKIY,
S. L., All-Union Institute of Plant Pathology

"A Method for Preparing 1,4-Phenylenebisthiophosphonic Acid Esters"

USSR Author's Certification No 255267, class 12c, 26/01 (C 07 f),
filed 17 Sep 68, published 25 Mar 70 (from RZh-Khimiya, No 21 (II),
10 Nov 70, Abstract No N562 P by I. A. Mel'nikova)

Translation: Compounds with the general formula $1,4-\text{R}_2\text{P}(\text{S})_2\text{C}_6\text{H}_4$
(I) (R = aryloxy-, arylthio-, alkylthio group), active as pesticides
or used as intermediates for synthesizing them, are obtained by
reaction of 1,4-bis-(dichlorothiophosphoryl)-benzol (II) with
phenols, thiophenols, mercaptans in the presence of a catalyst at
120-190°. For example, a mixture of 0.01 mole of II, 0.06 mole
of thiophenol, 0.01 g of P_2S_5 and 0.016 g of $\text{C}_5\text{H}_5\text{N}$ is heated for
2 hours at 140-160° until HCl (gas) ceases to evolve, blowing dry
 N_2 through the reaction mixture. The mixture is allowed to evaporate,
forming in the residue I (R = PhS), yield 100%, boiling point 173-4°. I
is prepared in a similar fashion: (R, yield in %, boiling point

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USSR

BLIZNYUK, N. K., et al, USSR Author's Certification No 255267, class 12o, 26/01 (C 07 f), filed 17 Sep 68, published 25 Mar 70 (from RZh-Khimiya, No 21 (II), 10 Nov 70, Abstract No N562 P by I. A. Mel'nikova)

in °C or nD (t) are given): 4-C₆H₅S, 62, 183-3; BuS, 93.2, 1.6130 (24); n-C₆H₁₃S, 95.8, 1.5755 (22); n-C₈H₁₇S, 96.5, 1.5590 (20); PhO, 100, 88-9; 4-NO₂C₆H₄O, 95.4, 205-7; 2-C₆H₄O, 83.5, 125-6; 4-C₆H₄O, 82.5, 145-6; 2,4-C₆H₃, 86.5, 146-7; 2,4,5-C₆H₂, 70.9, 193-4.

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USSR

UDC 632.95

BLIZNYUK, N. K., LEVSKAYA, G. S., KVASHA, Z. N., MATYUKHINA, Ye. N.

"Procedure for Obtaining Bis-thiolphosphonates"

USSR Author's Certificate No 319605, filed 16 Mar 70, published 17 Jan 72
(from RZh-Khimiya, No 2 (II), Feb 73, Abstract No 2N530)

Translation: Fungicides with the formula $A[CH_2SP(O)(OR')R]_2$ (I) (R = alkyl, aryl, aralkyl; R' = alkyl or aryl, A = arylene) are obtained by the reaction $RP(O)(OR')SR''$ (II) (R'' = alkyl) with xylylendihalogenide at a temperature of 140-200° in an organic solvent. As an example, a mixture of 0.05 moles of II (R = p-ClC₆H₄, R' = R'' = Me) and 0.025 grams of 1,4-(BrCH₂)₂-C₆H₄ in 5 ml of xylol is boiled to completion of precipitation of MeI₂, it is evaporated and the I (A = 1,4-C₆H₄, R = 4-ClC₆H₄, R' = Me) is separated. The yield is 67.3%, the melting point 167-8°. The I is synthesized analogously (R, R', yield in %, n_D²⁰ or melting point in °C are presented) A = 1,4-C₆H₄: Et, Me, 96, 1.5580; Me, Et, 97.4, 1.5330; 4-MeC₆H₄, Me, 88, 160-2 (acetone); PhCH₂, Me, 95.7, 1.6075; A = 4-MeC₆H₃-1,3: 4-ClC₆H₄, Me, 92.4, 152-4 (acetone).

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1/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--RELATIVE YIELD OF XENON ISOTOPES DURING THE IRRADIATION OF BARIUM
BY 680 MEV PROTONS --U--
AUTHOR--(03)--LEVSKIY, L.K., MURIN, A.N., YUTLANDOV, I.A.
COUNTRY OF INFO--USSR
SOURCE--RADIOKHIMIYA 1970, 12(2), 409-10
DATE PUBLISHED-----70
SUBJECT AREAS--NUCLEAR SCIENCE AND TECHNOLOGY, PHYSICS
TOPIC TAGS--XENON ISOTOPE, BARIUM, IRRADIATION, SYNCHROCYCLOTRON
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAHE--3005/1422 STEP NO--UR/0186/70/012/002/0409/0410
CIRC ACCESSION NO--AP0133374
UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0133374
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE RELATIVE YIELD OF XE ISOTOPES
FORMED BY SYNCHROCYCLOTRON IRRADIATION OF BaCl SUB2 WITH 630-MEV P FOR
10 HR IS GIVEN FROM MASS SPECTROMETER MEASUREMENTS (PRIME130 XE EQUALS
1) AS 0.48-0.94 FOR PRIME124 XE, 1.33-1.34 FOR PRIME126 XE, 1.64-1.66
FOR PRIME128 XE, 1.64-1.67 FOR PRIME129 XE, 1.69-1.74 FOR PRIME131 XE,
AND 0.82-0.84 FOR PRIME132 XE.

UNCLASSIFIED

USSR

UDC 669.11.669.18:621.785.53

KIDIN, I. N., ANDRYUSHECHKIN, V. I., and LEVTANOVA, N. M., Moscow Institute of Steel and Alloys

"Calorizing of Iron in Pastes Using Electric Heating"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Chernaya Metallurgiya, No 9, 1970, pp 137-140

Abstract: A study was made of the effect of a high rate of electric heating on the kinetics of the formation of the structure and phase content of Armco iron in calorizing in pastes at 950-1200°C for 1-10 min. Samples were heated by the contact method at a rate of 10 and 50 deg/sec. The paste composition (88% FeAl + 10% quartz powder (marshallite) + 2%NH₄Cl) makes it possible to obtain the greatest layer thickness. For comparison, heating was conducted in paste at a rate of 10 deg/sec and in a powder mixture at 0.1 deg/sec with a holding time of 15 min to 2 hr. Electric heating makes it possible to intensify the process of metal saturation by aluminum by more than 12 times; the 120-160-mm layer thickness is attained at 1100° in 2-5 min. It was established by metallographic and other methods that electric heating in calorizing produces a

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KIDIN, I. N., et al, Izvestiya Vysshikh Uchebnykh Zavedeniy -- Chernaya Metal-
lurgiya, No 9, 1970, pp 137-140

change in the structure and nature of the diffusion layer. The external brittle
phase, is absent in the layer. Which consists of an α -solid solution of 260
kg/mm² microhardness. Aluminum concentration on the surface is 15%.

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UDC 620.186:621.785.559

KIDIN, I. N., ANDRYUSHECHKIN, V. I., LEVTONOVA, N. M., and GULYAYEVA, V. M.
Moscow Institute of Steels and Alloys

"Structure and Phase Composition of the Calorized Layer"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No. 2, 1971,
pp 7-11

Abstract: The structure and phase composition of the layer formed by thermodiffusion calorizing of specimens heated in a furnace at rates of 0.1 and 10°/sec, and also electrically heated at 50 and 1000°/sec are studied. Results are presented from metallographic studies, X-ray phase and microx-ray spectral local analyses, and measurement of microhardness and thermal EMF of the layer. The dependence is established between the data produced by the various methods. The curve of the change in thermal EMF allows the concentration of aluminum in the layer and its phases to be determined. The influence of electric heating on the structure and phase composition of the calorized layer is demonstrated. Studies are performed for base specimens of Armco iron (0.05% C) and Kh5M steel (0.1% C; 4.42% Cr; 0.05% Mo). When calorizing was performed in a furnace from a vapor-gas phase with heating rates of 0.1 and 10°/sec at 950-1200°C with

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KIDIN, I. N., et al., Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 2, 1971, pp 7-11

holding from 1 minute to 8 hours, the layer formed consisted of two zones, an outer, brittle layer consisting of an ordered solid solution of FeAl, containing 18-33% Al, plus a thicker solid solution of aluminum at the base, going over to a superstructure of Fe_3Al when the aluminum content reaches 10%. Electric heating prevents formation of the outer brittle zone. The entire layer consists of a solid solution of aluminum in iron, with aluminum concentration only 18-20% at the surface.

2/2

UNCLASSIFIED

PROCESSING DATE--17JUL70

TITLE--HEAT RESISTANCE OF ALUMINIZED STEEL IN A MEDIUM CONTAINING HYDROGEN
 SULFIDE -U-

AUTHOR--CHESKIS, K.F.I., LEVTCNOVA, N.M.

38
48

COUNTRY OF INFO--USSR

SOURCE--ZASHCH. METAL. 1970, 6(1), 56-8

DATE PUBLISHED-----70

SUBJECT AREAS--MATERIALS, MECH., IND., CIVIL AND MARINE ENGR

TOPIC TAGS--HEAT RESISTANT STEEL, HYDROGEN SULFIDE, ALUMINIZING, METAL
 COATING, METAL SURFACE IMPREGNATION, CORROSION PREVENTION, PITTING
 CORROSION, ALLOY STEEL, STAINLESS STEEL/(U)KH18NIOT STAINLESS STEEL,
 (U)OKH13 STAINLESS STEEL, (U)KH8VF ALLOY STEEL, (U)KH12VMF STAINLESS
 STEEL, (U)KH5M CHROMIUM STEEL, (U)S13 CARBON STEEL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1979/1241

STEP AC--UR/0365/70/006/001/0056/0058

CIRC ACCESSION NO--AP0047667

UNCLASSIFIED

Acc. Nr: AP0047667 Abstracting Service:
CHEMICAL ABST.

Ref. Code:
4-70 UR 0365

[81884c Heat-resistance of aluminized steel in a medium containing hydrogen sulfide. Cheskis, Kh. I.; Levtonova, N. M. (USSR). *Zashch. Metal.* 1970, 6(1), 56-8 (Russ). The specimens of St3 (C 0.18, Si 0.16, Mn 0.54, S 0.028, P 0.015%) and Kh5M (C 0.09-0.10, Si 0.2-0.30, Mn 0.82-0.58, Cr 5.0-5.1, Mo 0.52-0.58, S 0.009-0.014, P 0.012-0.02%) steels were aluminized by 2 methods: (1) in the mixt. contg. ferroaluminium 30, Al-Cr master alloy 3, Cr 3, NH₄Cl 1%, Al₂O₃ the remainder, at 1000° for 2-12 hr with subsequent tempering at 700°; (2) in the mixt. contg. ferroaluminium 49, kaolin 49, NH₄Cl 2%, with subsequent isothermal annealing at 860°, or normalizing at 1000° and tempering at 700°. The aluminized specimens, as

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well as those of the uncoated St3, Kh5M, 1Kh8VF, 1Kh12VMP, OKh13, and Kh18N10T steels, were placed at the top of the diesel oil hydrorefinement reactor, at 365-80°, 27-30 kg/cm², S concn. ~1%, and at the outlet of the heat exchanger at 170-90°, 28-30 kg/cm². The corrosion rate was detd. by the gravimetric method. All unaluminized specimens except those of the Kh18N10T steel were corroded, but the surface of the aluminized specimens did not change. Pitting corrosion was obsd. on all specimens placed in the heat exchanger, but the pits on the aluminized specimens were very shallow. No differences in the behavior of specimens aluminized by the different methods were noticed. The Kh5M steel aluminized to a depth of 0.2-0.45 mm shows the corrosion resistance similar to that of the Kh18N10T steel.

I. Pietkiewicz -

EB

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19791242

UDC 612.15

USSR

LEVTOV, V. A., Laboratory of Regulation of Circulation, Institute of Physiology
imeni I. P. Pavlov, Academy of Sciences USSR

"Evaluating Results of Direct Measurement of Blood Flow in Resting Skeletal Muscle"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, No 5, 1970, pp 751-758

Abstract: A preparation of resting gastrocnemius muscle with blocked collateral blood supply was studied in anesthetized cats. Transection of the sciatic nerve immediately intensified the blood flow from the muscle to 120 to 320% above the original level, but the effect was transient. However, the procedure markedly decreased the resistance of the perfused blood vessels, and after 35 to 40 min it was about 10% below the original level. The oxygen content of arterial blood was 16.0.6% by volume. The arteriovenous oxygen difference was $4.2 \pm 0.4\%$, while the oxygen consumption by muscle averaged 0.234 ± 0.022 ml/O₂/min. A comparison of the individual values revealed a significant positive correlation between oxygen consumption and the arteriovenous oxygen difference ($r = 0.56 \pm 0.14$). A negative correlation ($r = -0.48 \pm 0.15$) was detected between the arteriovenous oxygen difference and the blood flow. Since there is little correlation between blood flow and oxygen consumption, the blood supply to denervated resting skeletal muscle appears to be independent of the rate of oxygen metabolism.

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024 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--ON THE ESTIMATION OF RESULTS OF DIRECT BLOODFLOW MEASUREMENTS IN
RESTING SKELETAL MUSCLE -U-
AUTHOR--LEVTOV, V.A.
COUNTRY OF INFO--USSR L
SOURCE--FIZIOLOGICHESKIY ZHURNAL SSSR IMENI I. M. SECHENOVA, 1970, VOL 56,
NR 5, PP 751-758
DATE PUBLISHED--70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--BLOOD CIRCULATION, MEASUREMENT, MUSCLE PHYSIOLOGY, OXYGEN
METABOLISM
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3001/0242 STEP NO--UR/0239/70/056/005/0751/0758
CIRC ACCESSION NO--AP0126018
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0126018

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VENOUS OUTFLOW FROM RESTING GASTROCNEMIUS MUSCLE IN NARCOTIZED CATS WAS INCREASED TO 202 PLUS OR MINUS 29 PERCENT (M PLUS OR MINUS SEM) JUST AFTER THE SCIATIC NERVE HAD BEEN DISSECTED (9 EXPERIMENTS) AND THEN RAPIDLY RESTORED. SOME 35-40 MIN. LATER THE RESISTANCE OF MUSCLE VESSELS AVERAGE 88 PLUS OR MINUS 7 PER CENT OF INITIAL LEVEL. IN 26 CATS (1 HOUR AFTER THE NERVE SECTION) THE MEAN VALUE OF BLOOD FLOW WAS 6.4 PLUS OR MINUS 0.7 ML-MIN.-100 G WET WEIGHT; O SUB2 CONTENT IN ARTERIAL BLOOD (VAN SLYKE) WAS 16 PLUS OR MINUS 0.6 VOL. PERCENT; AVO SUB2 DIFFERENCE WAS 4.2 PLUS OR MINUS 0.4 VOL. PERCENT, AND O SUB2 CONSUMPTION BY MUSCLE AVERAGE 0.234 PLUS OR MINUS 0.022 ML O SUB2-MIN.-100 G. COMPARISON OF INDIVIDUAL VALUES HAS REVEALED SIGNIFICANT POSITIVE CORRELATION (R EQUALS 0.56 PLUS OR MINUS 0.14) BETWEEN O SUB2 CONSUMPTION AND AVO SUB2 DIFFERENCE. NEGATIVE CORRELATION (R EQUALS 0.48 PLUS OR MINUS 0.15) BETWEEN AVO SUB2 DIFFERENCE AND BLOOD FLOW HAS BEEN DEMONSTRATED. THE WEAKNESS OF CORRELATION BETWEEN BLOOD FLOW AND OXYGEN METABOLIC RATE HAS BEEN SHOWN. THUS THE BLOOD SUPPLY TO ACUTELY DECENTRALIZED RESTING SKELETAL MUSCLE CAN HARDLY BE DEPENDENT UPON THE OXYGEN METABOLISM RATE.

FACILITY: LABORATORY OF REGULATION OF BLOOD CIRCULATION, I. P. PAVOLV INSTITUTE OF PHYSIOLOGY, THE ACADEMY OF SCIENCES OF THE USSR, Leningrad.

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1/2 020 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--DEPENDENCE OF REACTIVE HYMEREMIA INTENSITY, ON THE OCCLUSION
DURATION IN SKELETAL MUSCLE -U-
AUTHOR-(02)-KONRADI, G.P., LEVTOV, V.A.

COUNTRY OF INFO--USSR

SOURCE--FIZOLOGICHESKIY ZHURNAL SSSR IMENI I. M. SECHENOVA, 1970, VOL 56,
NR 3, PP 366-374
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CAT, HYDEREMIA, MUSCLE PHYSIOLOGY, ARTERY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1982/1605

STEP NO--UR/0239/70/056/003/0366/0374

CIRC ACCESSION NO--AP0052800

UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

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CIRC ACCESSION NO--AP0052800

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VENOUS OUTFLOW FROM AN ISOLATED IN SITU GASTROCHEMIUS MUSCLE IN NARCOTIZED CATS WAS SIGNIFICANTLY INCREASED IN RESPONSE TO 3 SEC DURATION OF ARTERY OCCLUSION. THE VALUES OF THE REACTION INTENSITY: ADDITIONAL OUTFLOW AT THE MAXIMUM OF REACTIONS (I), TOTAL EXCESS OF BLOOD DURING HYPEREMIAS (II) AND THE DURATION OF HYPEREMIAS (III), WERE PRACTICALLY CONSTANT IN SPITE OF INCREMENT IN OCCLUSION DURATION PERIODS FROM 3 TO 7, 15 TO 30 SEC. PROLONGATION OF THE OCCLUSIONS TO 1, 2 AND 4 MIN WAS FOLLOWED BY AN INCREASE OF REACTION INTENSITY VALUES IN APPROXIMATE PROPORTION WITH THE LOGARITHM OF OCCLUSION DURATION. AFTER THE HYPEREMIAS TO 8 AND 16 MIN DURATION OF OCCLUSIONS HAD BEEN ELICITED, THE ABILITY OF MUSCLE VESSELS TO DISPLAY POST OCCLUSION HYPEREMIAS WAS REDUCED, AND THE CONSTANCY OF REACTION INTENSITY VALUES AT SHORT OCCLUSIONS (3-30 SEC DURATION) DISAPPEARED.

FACILITY: LAB. OF REGULATION OF THE BLOOD CIRCULATION, L. P.

PAYLOV'S INSTITUTE OF PHYSIOLOGY, ACAD. SCI. USSR, LENINGRAD.

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USSR

UDC 531.1

LEVY, Yu. V.

"Determination of the Orientation of a Moving Object on the Basis of its Angular Velocity"

Mekhanika Tverdogo Tela, No 6, 1971, pp 7-13.

ABSTRACT: The error in determination of the orientation of a moving object resulting from inaccuracy of determination of the vector of its absolute angular velocity is studied. The solution of a system of Poisson equations in variations is represented as an infinite product of orthogonal matrices. The radius of convergence of this product is determined. Using majorants, the error resulting from replacement of the infinite product with the product of a finite number of its first terms is estimated. One limiting case of integration of the Poisson equations is studied.

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Acc. Nr.: AP0045878

Ref. Code: LLR 0387

JPRS 50054

Rock Density at High Pressures

(Abstract: "Study of Density of Rocks from Central Kazakhstan Under High Pressures," by M. P. Volarovich, A. K. Karskeyev, A. I. Levykin, I. S. Tomashevskaya, I. L. Tuzova and B. M. Urazayev, Institute of Physics of the Earth, Academy of Sciences USSR, and Institute of Geological Sciences, Academy of Sciences Kazakh SSR; Moscow, Izvestiya Akademii Nauk SSR, Fizika Zemli, No. 1, 1970, pp. 46-51)

The density of rocks of various composition from Central Kazakhstan was determined at high pressures in the laboratory. Rock tests were at quasihydrostatic pressures up to 15 kb. The apparatus used made it possible to measure the velocities of elastic waves. The sample was compressed by hard-alloy pistons. Change in volume (from displacement of the piston) was determined simultaneously with measurements of the velocity of longitudinal waves. Change in density at different pressures was computed using the formula

$$\rho = \frac{\rho_0}{1 - \Delta V/V}$$

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where ρ_0 is the initial density of the sample in g/cm^3 , $\Delta V/V$ is the volume decrement. Change in density was determined with an error of about 5 percent. Samples were selected along two deep seismic sounding profiles. Under the applied pressure density of all rocks increased. Density changes were greatest in the initial phase to 4 kb. Later the changes became less and the density-pressure curves flattened out. The greatest density changes were observed in samples of ancient metamorphosed rocks: schists, gneisses and porphyroids of more acidic composition for which the density changes at 15 kb attain 3.5 percent. The density of granites also changes rather sharply and increases continue to 15 kb. Relative density changes are dependent on initial density: the lesser the density at atmospheric pressure, the greater is the change when pressure is applied. The maximum changes in density for rocks of acidic composition are evidently caused by their greater inhomogeneity than for rocks of basic composition. Acidic rocks are also poorly preserved. Defects in the rock, largely microfissures, close under pressure and density at the attained pressures approaches an identical value for rocks of similar composition. For rocks of basic and ultrabasic composition the density change at pressures up to 15 kb does not exceed 2 percent, that is, the compressibility of rocks of acidic composition is greater than for basic

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rocks by approximately a factor of 1.5. Density is dependent primarily on chemical and mineralogical composition. Differentiation of rocks by density corresponds to their basicity. The density of sandstones at high pressures approaches the density of granodiorites. Tuff-diorites approach the density of diorites. The density of eclogites from northern Kazakhstan is less than the density of eclogites from other regions. The low density of eclogites in northern Kazakhstan can be attributed to the fact that they contain quartz (up to 15-20 percent). The results of studies of rock densities at high pressures can be used in the geological interpretation of geophysical data. The authors used such data in constructing a density cross section of the crust in central Kazakhstan.

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19780904

USSR

UDC 8.74

TYRSA, V. YE., DYUNYASHEV, V. V., KIRICHENKO, N. P., LEVYKIN, V. M., ROMANOVA, A. G.

"Analysis of the Accuracy of Analog-to-Digital Transformation with Automatic Exclusion of Systematic Errors"

Pribory i sistemy avtomatiki. Resp. mezhved. temat. nauch.-tekhn. sb. (Automation Instruments and Systems. Republic Interdepartmental Thematic Scientific and Technical Collection), 1972, vyp. 24, pp 103-107 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V452)

Translation: A study was made of the method of analog-to-digital transformation which can be realized in information-measuring devices. For a significant reduction (exclusion) of systematic measurement errors, an information channel is introduced into the block diagram of the converter which permits the code of a standard value in its physical essence an adequate unknown, to be received. On the basis of the analysis of the accuracy of the proposed method of analog-digital transformation, recommendations are made for selection of the optimal ratio of the unknown and the standard variables.

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USSR

UDC: 621.315.3

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FARMAKOVSKIY, B. V., AFONINA, L. G., VAKHRAMEYEV, V. I., LEYANOVA, S. V.,
KRASIK, N. Ya., FIRSOV, A. M.

"Thermoresistive Cast Microwires in Glass Insulation"

Elektron. tekhnika. Nauchno-tekhn. sb. Radiokomponenty (Electronic Technology.
Scientific and Technical Collection. Radio Components), 1970, vyp. 1, pp 77-82
(from RZh-Radiotekhnika, No 5, May 71, Abstract No 5V416)

Translation: The authors present the technological properties of thermo-
resistive alloys and the results of an investigation of the properties of
microwires made from resistive alloy based on nickel with a temperature coef-
ficient of resistance of $(5-6) \cdot 10^{-3}\%$ /deg. Resumé.

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1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--DETERMINATION OF PYROMELLITIC ACID -U-
AUTHDR--(03)-VAYL, YE.I., BORISENKO, L.A., LEYBA, V.S.
COUNTRY OF INFO--USSR
SOURCE--U.S.S.R. 264,758
REFERENCE--OTKRYTIYA, IZOBRET., PROM, OBRAZTSY, TOVARNYE ZNAKI, 1970
DATE PUBLISHED--03MAR 70
SUBJECT AREAS--CHEMISTRY
TOPIC TAGS--PYROMELLITIC ACID, CHEMICAL PATENT, POTENTIOMETRIC TITRATION,
MERCURY COMPOUND
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3007/0852 STEP NO--UR/0482/70/000/D00/0000/0000
CIRC ACCESSION NO--AA0136286
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AA0136236

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PYROMELLITIC ACID IS DETD. BY
POTENTIOMETRIC TITRN. WITH A SOLN. OF HGNO SUB3 OR HY(NO SUB3) SUB2.
FACILITY: UKRAINSKIY NAUCHNO, ISSLEDOVATEL'SKIY UGLEKHIMICHESKI'
INSTITUT.

UNCLASSIFIED

Pharmacology and Toxicology

USSR

UDC 615.214.3

KHOLODOV, L. Ye., TASHUNSKIY, AL'TSHULER, R. A., MASHKOVSKIY, M. D.,
ROSHCHINA, L. F., SHERSHNEVA, S. I., LEYBEL'MAN, F. Ya., VOLZHINA, O. N.,
GORODETSKIY, L. Sh., and PETROVA, N. A., All-Union Chemical and Pharmaceutical
Institute imeni S. Ordzhonikidze, Moscow

"Sydnocarb, a New Central Nervous System Stimulant"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, No 1, 1973, pp 50-52

Abstract: The recently developed heterocyclic compound sydnocarb -- N-phenyl-carbamoyl-3-(β -phenylisopropyl) sydnonomie, $C_{18}H_{18}N_4O_2$ -- produced marked motor excitation in mice, rats, dogs, and cats, increased the frequency and decreased the amplitude of electrical potentials, shortened the latent period of conditioned avoidance reflexes, and reduced the duration of the somnifacient action of hexobarbital. It did not depress monamine oxidase activity, affect arterial pressure, or cause morphological changes in the viscera or peripheral blood. Administered to persons with various neurological and mental diseases (average dose 10 to 25 mg) characterized by asthenic, adynamic, and apathic disorders, sydnocarb had a pronounced stimulatory effect (exceeding that of amphetamine) without inducing euphoria or motor excitement, tachycardia, elevated blood pressure, or other peripheral changes. No signs of physical or

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KHOLODOV, L. Ye., Khimiko-Farmatsevticheskiy Zhurnal, No 1, 1973, pp 50-52

mental dependence were observed even in patients that received the drug more than 2 years. Sydrocarb has been authorized by the USSR Ministry of Health for use as a psychotropic agent.

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1/2 014 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--COMPARISON OF THE RESULTS OF BACTERIOLOGICAL ANALYSIS OF THE URINE
AND URINARY CONCREMENTS IN PATIENTS WITH STONES OF THE URINARY BLADDER
AUTHOR--(03)-SUKHODOLSKAYA, A.YE., LEYBEL, S.A., DOBROVOKSKAYA, L.I.

COUNTRY OF INFO--USSR

SOURCE--UROLOGIYA I NEFROLOGIYA, 1970, NR 3, PP 19-21

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--KIDNEY DISEASE, STONE, MICROBIOLOGY, DRUG TREATMENT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/1998

STEP NO--UR/0606/70/000/003/0019/0021

CIRC ACCESSION NO--AP0120641

UNCLASSIFIED

2/2 014

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PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120641

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS COMPARED THE RESULTS OF BACTERIOLOGICAL ANALYSIS OF THE URINE AND URINARY CONCREMENTS IN 70 PATIENTS IN WHOM ELECTROHYDRAULIC CYSTOLITHOTRIPSY WAS CARRIED OUT. THE MICROBES FOUND IN THE URINE AND IN THE URINARY CONCREMENTS FAILED TO COINCIDE IN 57PERCENT OF THE PATIENTS. THE AUTHORS ATTRIBUTE THIS TO THE FACT THAT DURING CRUSHING OF THE STONES PATHOGENIC MICROBES FROM THE STONES OR THE WALLS OF THE URINARY BLADDER GET INTO THE URINE AND BEGIN TO MULTIPLY RAPIDLY. THE RESULTS OF BACTERIOLOGICAL EXAMINATION OF THE URINE AND STONES IN THE PATIENTS WITH INFECTED STONES OF THE URINARY BLADDER CAN DIFFER DUE TO PECULIARITIES OF THE PROTECTIVE PROPERTIES OF THE MACROORGANISM, ANTIBACTERIAL TREATMENT APPLIED, SELECTION OF MORE RESISTANT BACTERIAL SPECIES, AND ALSO MAY BE ASSOCIATED WITH BACTERIOGENESIS.

FACILITY: KIEV. N-1 INSTITUT UROLOGII.

UNCLASSIFIED

USSR

UDC 517.9

LEYBENZON, Z. I.

"Spectral Expansions of Transformations of Boundary Value Problem Systems"

Moscow, Trudy Moskovskogo Matematicheskogo Obshchestva, Vol 25, 1971, pp 15-58

Abstract: The transformations of boundary value problems, originated by the author and introduced in 1966, are defined as the fundamental tool for solving the inverse problem of spectral analysis and replacing the Volterra transformations, which do not exist for $n > 2$. This paper develops a special method of spectral expansions providing a procedure for reconstructing a system of boundary value problems from its spectral data. The notation used in this paper is derived from the notation originated in the pioneer paper of 1966 by the same author and published in the same journal (vol. 15, pp 70-144), bearing the title "Obratnaya zadacha spektral'nogo analiza obyknovennykh differentsial'nykh operatorov

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USSR:

LEYBENZON, Z. L., Trudy Moskovskogo Matematicheskogo Obshchestva,
Vol 25, 1971, pp 15-58

vysshikh poryadkov" (Inverse Spectral Analysis for Ordinary Differential Operators of Higher Order). The present paper is divided into four sections: the first is essentially a summary of the earlier paper; the second introduces some basic quantities and definitions; the third explains the spectral expansion of the transformations from one system to another and gives the relationships between the two systems; the fourth demonstrates how a system with a simple spectrum can be restored from its eigenvalues and weight numbers. The author expresses his deep appreciation to V. A. Marchenko for his valuable suggestions.

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USSR

UDC 620.171.5

LEYBMAN, A. N. and GUSAKOV, B. P., All-Union Scientific Research Institute of Chemical Machine Building, Moscow

"The Production of Thin-Walled Models of Cylindrical Shells From Optically Active Materials"

Moscow, Zavodskaya Laboratoriya, No 5, 1972, p 610

Abstract: A method is being developed at the All-Union Scientific Research Institute of Chemical Machine Building, by means of which cylindrical shells of any diameter between 70 and 140 mm, with a wall of any given thickness greater than 0.5 mm, can be obtained by the use of several revolving molds. Interchangeable molds 70, 90, 120, and 140 mm in diameter are used. If a shell is required with an external diameter differing from those enumerated, an intermediate cylinder with the assigned internal diameter is cast from a composition on the basis of resin ED-6 in the next largest mold, is coated with a separating composition without removal from the mold, and is then used as a mold for obtaining the required shell. Models with mirror-like inner and outer surfaces are obtained. Deviation from the nominal with respect to the diameter is 0.05-0.08 mm, and deviations with respect to the wall thickness are 0.01-0.015 mm. 2 references in the form of a footnote.

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1/2 022 UNCLASSIFIED PROCESSING DATE--09OCT70
TITLE--HISTOCHEMICAL CHARACTERIZATION OF THE DEHYDROGENASE ACTIVITY IN THE
SKIN IN PSORIASIS -U-
AUTHOR--LEYBMAN, I.G. L
COUNTRY OF INFO--USSR
SOURCE--ARKH. PATOL. 1970, 32(1), 76-81
DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--HISTOCHEMISTRY, SKIN DISEASE, DEHYDROGENASE, CARBOHYDRATE,
GLUCOSE

CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1996/0473 STEP NO--UK/9056/70/032/001/0076/0081
CIRC ACCESSION NO--AP0117709
UNCLASSIFIED

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UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--AP0117709

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EPIDERMIS OF PSORIATIC FOCI IN 35 PATIENTS WAS STUDIED HISTOCHEM. INTENSIFICATION OF THE PE OSE CYCLE, OF CARBOHYDRATE OXIDN. WAS OBSD. IN THE UPPER STRATA OF THE MALPIGHIAN LAYER; SUCCINIC DEHYDROGENASE WAS INCREASED IN THE DEEPEST STRATA OF THE EPIDERMIS, ESP. IN THE PROGRESSIVE STAGE OR PSORIASIS. INCREASED GLUCOSE 6,PHOSPHATE DEHYDROGENASE, NADP-DIAPHORASE, AND NADP-DEPENDENT ISOCITRIC DEHYDROGENASE INDICATED A DISTURBANCE OF SYNTHETIC PROCESSES IN THE ZONES OF KERATOGENESIS IN PSORIATIC FOCI. FACILITY: NAUCH.-ISSLED. KOZHNO-VENEROL. INST., MINSK, USSR.

UNCLASSIFIED

USSR

UDC: 669.715:669.046.54/55

STREL'TSOV, F. N. and LEYBOV, YU. M.

"The Effectiveness of Various Methods for Refining Aluminum and Its Alloys"

Moscow, Tsvetnyye Metally, No 9, Sep 73, pp 45-48

Abstract: The authors review and evaluate various methods for refining aluminum and its alloys. Various methods are in current use in refining aluminum and its alloys from hydrogen and nonmetallic inclusions. These methods include: the absorption type, processing the melt with chlorides, and purging with active and inert gases. The study shows that the method of purging the melt with inert gas through porous ceramic elements is most effective from the physico-chemical point of view.

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Aluminum and Its Alloys

USSR

UDC 669.715.004.82

BAZILEVSKIY, V. M., KRYLOV, A. P., and LEYBOV, YU. M.

"Developing New Secondary Aluminum Alloys and Changing the Composition of Secondary Aluminum Alloys Already in Use"

Moscow, Tsvetnyye Metally, No 7, Jul 71, pp 51-53

Abstract: Principal trends in improving the properties of alloys prepared from scrap metal and waste products are discussed. They include the refinement of the chemical composition of existing secondary alloys, application of heat treatment, and additional alloying with specific admixtures and modification. On the basis of works conducted by the Giprosvetmetobrabotka State Scientific Research and Planning Institute of Alloys and Nonferrous Metal Processing, new secondary aluminum foundry cast alloys with higher mechanical properties than those of existing alloys have been developed. Their content of admixtures is not lower than the admissible content of secondary alloys according to the All-Union State Standard. Compositions and properties of some improved secondary aluminum alloys or their new compositions are presented. Two tables, thirteen biblio. refs.

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USSR

UDC 621.382.002 (088.8)

KOCHKAREV, G.V., KRACHKOVSKIY, O.I., LEVROVICH, A.SH., CHARNYY, YU.S.,
PETRAKOVSKIY, YA.SH., SIDORENKO, L.D., LEVAKOV, V.P., GLADCHENKO, V.P.,
RATNEK, YU.A.

"Classifier Of Semiconductor Devices"

USSR Author's Certificate No 296180, filed 14 July 1969, published 18 May 1971
(from RZh--Elektronika i yeye primeneniye, No 3, March 1972, Abstract No 3B357)

Translation: The classifier of semiconductor devices (principally transistors) contains a unit [uzel] for connection of a device to the measuring equipment, the measuring equipment, logical equipment, mechanism for marking the polarity, and a unit for allocation of the measured devices into a container; it has a rotating tube connected with an electric motor. With the object of increasing the speed of operation and the efficiency of the classifier, the unit for connection, made in the form of a revolving reversible disk, supporting two blocks [kolodka] for the devices, diametrically located and connected by a flexible braid [zhgut] with the measuring device, and two withdrawing devices, mounted on the axis of the blocks, is partially arranged inside a guiding hopper, connected with the rotating tube of the unit for allocation, and under the disk of the unit for connection, in a groove of the lateral surface of the hopper, the mechanism for marking the polarity is located.

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USSR

UDC: 62-55

YEMEL'YANOV, S. V., UTKIN, V. I., ITKIS, Yu. F., and LEYBOVICH, A. V.

"Centralized Control of a Combination of Dynamic Objects"

USSR Author's Certificate No. 282479, filed 10 Sept 68, published 17 Feb 71 (From RZh-Avtomatika, telemekhanika i vychislitel'naya tekhnika, No. 12, 1971, Abstract No. 12A153P)

Translation: The invention may be used in automatic control of a combination of dynamic objects with varying characteristics: for example, for simultaneous control of the temperature in several zones of multisectional heaters and seasoning ovens. The known method of centralized control of a combination of dynamic objects uses a central regulator of the relay type which is, in turn, connected to each of the controlled objects. In this method, however, the sequence of connections of the controlled objects to the central regulator is inefficient from the viewpoint of rapid action. The proposed method differs in that, at each moment of time, control is exerted only over those objects in which a comparison signal (formed from a signal representing the difference between the object and the derivatives of the signal or the inner coordinates of the object replacing them) has the greatest value of $1/2$

USSR

UDC: 62-55

YEMEL'YANOV, S. V., et al, USSR Author's Certificate No. 282479

corresponding comparison signals for the other objects. This permits increasing the speed of action of the system.

2/2

1/2 013 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--EXOTHERMIC MIXTURE FOR STEEL POURING --U-

AUTHOR--(05)-ASTROV, YE.I., KLIPOV, A.O., KONY SHEV, V.I., LEYBOVICH, P.M.,
PAKHOMOV, N.A.

COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 262,329

REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970 47(6)

DATE PUBLISHED--26JAN70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--METALLURGIC PATENT, METALLURGIC PLANT, EXOTHERMIC PROCESS,
SLAG, FOUNDRY TECHNOLOGY, STEEL MANUFACTURE PROCESS, FLUORITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA ME--3001/1462

STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0126993

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AA0126993

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AN EXOTHERMIC MIXT., FOR PREPG. SLAG DURING THE CASTING OF STEEL, HAS THE FOLLOWING COMPN. SILICDCALCIUM 25-35, CA, (NO SUB3) SUB2 OR KNO SUB3 5-15, FE CINDER 20-5, A SUBSTANCE CONTG. B OXIDES 1-10 WT. PERCENT, AND FLUORITE THE REMAINDER.
FACILITY: GORKOVSKIY METALLURGICHESKIY ZAVOD.

UNCLASSIFIED

USSR

UDC 547.26.118

KRUGLYAK, YU. L., LANDAU, M. A., LEYBOVSKAYA, G. A., MARTYNOV,
I. V., SALTYSKOVA, L. I.

"Reaction of O-Imino-O,O-Dialkylphosphites with α -Chloronitroso-
and α -Chloronitroalkanes"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 10, 1971,
pp 2338-2339

Abstract: A series of chemical conversions of O-imino-O,O-dialkyl phosphites (I) were carried out at a temperature in the -10 to 0 degrees, because of known instability of I at a temperature above 0 degrees. Particularly, the typical reactions of trialkyl phosphites with α -chloronitroso- and α -chloronitroalkanes gave, in the case of I, O,O-diimino-O-alkyl phosphites. The structure of the latter was determined by their NMR and IR spectra. The formulas and some physical constants of the prepared compounds are given.

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USSR

UDC: 51:155.001.57:681.3.06

LEYBOVSKIY, M. A.

"An Example of Using Linear Discriminant Functions for Computer Diagnosis of Illnesses"

Tr. VNIi med. priborostr. (Works of the All-Union Scientific Research Institute of Medical Instrument Making), 1971, vyp. 1, pp 97-102 (from RZh-Kibernetika, No 12, Dec 71, Abstract No 12V1025)

Translation: It is shown on the example of diagnosis of breast cancer that linear discriminant functions constructed on the basis of the hypothesis of normal distribution of initial data give good separation even in the case of distributions other than normal. Diagnosis is done from 33 symptoms and from the 7 most informative symptoms. The program for constructing the linear discriminant function is described, and the computing time is estimated. Author's abstract.

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1/2 018 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THE LEVEL OF NON ESTERIFIED FATTY ACIDS IN THE BLOOD OF THE
DEVELOPING CHICKS AND ITS HORMONAL REGULATION -U-
AUTHOR-(03)-MAZINA, T.I., PLISETSKAYA, E.M., LEYBSON, L.G.
COUNTRY OF INFO--USSR
SOURCE--ZHURNAL EVOLYUTSIONNOY BIKHIMII I FIZIOLOGII, 1970, VOL 6, NR 2.
PP. 172-178
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--FATTY ACID, BLOOD PLASMA, BIRD, INSULIN, HORMONE, ADRENALINE,
NORADRENALIN, ACTH
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--3005/0363 STEP NO--UR/03B5/70/006/002/0172/0178
CIRC ACCESSION NO--AP0132592

UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0132592

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STUDIES HAVE BEEN MADE ON THE CONTENT OF NON ESTERIFIED FATTY ACIDS (NEFA) IN THE BLOOD PLASMA OF CHICKS. THE LEVEL OF NEFA WAS FOUND TO BE DEPENDENT ON THE SEASON OF HATCHING. NEFA CONCENTRATION INCREASES FROM THE 1ST TO 3RD DAYS AFTER HATCHING ATTAINING MAXIMUM TO THE 7TH DAY AND DECREASING ON FURTHER DEVELOPMENT. INJECTIONS OF INSULIN, GLUCAGON AND GROWTH HORMONE RESULT IN A SHARP INCREASE OF NEFA CONTENT IN THE BLOOD PLASMA. THE EFFECT OF ADRENALIN AND NORADRENALIN DEPENDS ON THE INITIAL LEVEL OF NEFA; AT LOW INITIAL CONCENTRATIONS THESE SUBSTANCES INCREASE THE LEVEL OF NEFA, WHEREAS AT HIGH ONES THEY DECREASE IT. THE EFFECT OF ACTH WAS STUDIED IN 5 TO 11 DAYS OLD CHICKS. IT INCREASES NEFA CONTENT ONLY IN 5 DAYS OLD CHICKS BEING INEFFECTIVE IN ALL OTHER CASES. SINGLE INJECTION OF CORTISOL DOES NOT AFFECT NEFA CONTENT IN THE BLOOD PLASMA.
FACILITY: INSTITUTE OF EVOLUTIONARY PHYSIOLOGY AND BIOCHEMISTRY, USSR ACADEMY OF SCIENCES, LENINGRAD.

UNCLASSIFIED

172 030

UNCLASSIFIED

PROCESSING DATE--04DEC70

TITLE--KINETICS OF THE REACTION OF METHANE WITH A WATER VAPOR OXYGEN MIXTURE ON A NICKEL CATALYST -U-

AUTHOR--(03)--LEYBUSH, A.G., GRUZINTSEVA, A.N., FADEYEVA, T.V.

COUNTRY OF INFO--USSR

SOURCE--KHIM. PROM. (MOSCOW) 1970, 46(1), 18-24

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--METHANE, NICKEL CATALYST, CATALYTIC OXIDATION, PRESSURE, THERMAL EFFECT, PARTICLE SIZE, ACTIVATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRA--3005/0040

STEP NO--UR/0064/70/046/001/0018/0024

GIRC ACCESSION NO--AP0132335

UNCLASSIFIED

2/2 030

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0132335

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN THE CATALYTIC OXIDN. OF CH SUB4 BY H SUB2 O AND O (1:1.5:0.6 VOL. CH SUB4 -H SUB2 O-O) ON A NI-AL CATALYST (4-6PERCENT NI), THE RATE CONSTS. K OF THE REACTION AT 700DEGREES AND 800DEGREES WAS 95 AND SIMILAR TO 200 L.-(ATM-HR-G) RESP., REGARDLESS OF SUBSTANTIAL VARIATIONS IN THE PARTIAL PRESSURES P OF THE REACTANTS; E.G., PCH SUB4 WAS 0.04-0.21 ATM. AT 900DEGREES, K DECREASED FROM 552 TO 383 L.-(ATM-HR-G) WHEN PCH SUB4 WAS INCREASED FROM 0.025 TO 0.034 ATM. THE ABOVE DATA WERE OBTAINED WITH A CATALYST WITH A PARTICLE SIZE (P.S.) OF 2.5 MM; INCREASING THE P.S. DECREASED K; E.G., WITH A CATALYST WITH A P.S. 15 MM AT 800DEGREES, K WAS SMALLER THAN OR EQUAL TO 25-6 L.-(ATM-HR-G); AT 900DEGREES, K WAS SMALLER THAN 39-51 L.-(ATM-HR-G), DEPENDING ON THE SHAPE OF THE CATALYST. THE APPARENT ENERGY OF ACTIVATION OF THE REACTION ON THE CATALYST WITH P.S. 1.5-2.5 MM WAS 19-9.7 KCAL-MOLE AND THE CONST. A IN THE ARRHENIUS EQUATION WAS 2.5 TIMES 10 PRIME6; THE RESP. VALUES FOR P.S. 10-15 MM WERE 9-11 KCAL-MOLE AND 1.8 TIMES 10 PRIME3, RESP.

UNCLASSIFIED

USSR

SAFARALIBEKOV, M. G., (Deceased), YAGODZINSKAYA, YE. M., MIRZOMEVA, N. M.,
LEYBZON, M. M. and USTINOVICH, V. N.

"Characteristics of the Clinical Course of Ornithosis"

Azerbaydzhanskiy Meditsinskiy Zhurnal, No 2, 1970, pp 71-74.

Translation: The clinical picture of ornithosis, incorrectly diagnosed as pneumonia or neurasthenia, was described for the first time in Azerbaydzhan (Agdzhahedinskiy rayon). Semi-wild pigeons were the source of infection. Serological and virological studies were conducted in the arbovirus laboratory of the VMIG Institute. Three of the 15 pigeons were serologically positive, and ornithosis virus was isolated from one of them, with characteristic intracellular inclusions in liver and spleen smears. Sera from the blood of a number of adult and child patients was positive with respect to ornithosis antigen. Three associates of the arbovirus laboratory became infected with ornithosis during the work and were subjected to thorough clinical, serological and biochemical study, after which catamnestic observations were conducted for two years.

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1/2 026 UNCLASSIFIED PROCESSING DATE—30OCT70
TITLE—KINETICS OF THE DECOMPOSITION OF AROMATIC NITRO ALCOHOLS IN AN
ALKALINE MEDIUM -U-
AUTHOR—(03)—LEYBZON, V.N., BELIKOV, V.M., KOZLOV, L.M.
COUNTRY OF INFO—USSR
SOURCE—IZV. AKAD. NAUK SSSR, SER. KHIM. 1970, (2), 322-7
DATE PUBLISHED—70
SUBJECT AREAS—CHEMISTRY
TOPIC TAGS—REACTION KINETICS, CHEMICAL DECOMPOSITION, ORGANIC NITRO
COMPOUND, ALCOHOL, ACTIVATION ENERGY
CONTROL MARKING—NO RESTRICTIONS
DOCUMENT CLASS—UNCLASSIFIED
PROXY REEL/FRAHE—2000/0751 STEP NO—UR/0062/70/000/002/0322/0327
CIRC ACCESSION NO—AP0124421
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--A0124421

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. KINETIC DATA, OBTAINED BY POLAROGRAPHY, ARE REPORTED FOR DECOMPN. OF 1,PHENYL,2,NITROETHANOL (I) AND ITS P,BROMO, P,METHYL AND M,NITRO ANALOGS. THE REACTIONS, IN VERONAL BUFFER AT PH 7-9.5 WERE ACCOMPANIED BY REVERSIBLE IONIZATION OF THE C-H BOND ACTIVATED BY THE NO SUB2 GROUPS. THE RATE CONSTANTS (10 PRIME12 SEC NEGATIVE PRIME1) WERE: I, 3.15; P-BR, 4.15, P-ME, 3.9; M-NO SUB2, 4. THE ACTIVATION ENERGY WAS 19 KCAL-MOLE. THE SUBSTITUENTS HAVE LITTLE EFFECT ON THE KINETICS OF DECOMPN. FACILITY: INST. ELEMENTOORG. SOEDIN., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 547.856

STRAKOV, A. YA., BRUTANE, D. V., and LEYCH, V. D., Riga Poly-
technical Institute, Riga, Latvian Sovnarkhoz

"2-Phenyl-7,7-dimethyl- and 2,7-Diphenyl-4-phenylamino-5-oxo-
-5,6,7,8-tetrahydroquinazclines"

Riga, Izvestiya Akademii Nauk Latviyskoy SSR, Seriya Khimicheskaya,
No 2, 1970, pp 248-249

Abstract: Reaction of 5,5-dimethyl- (I), and 5-phenylcyclo-
hexanedione-1,3-thiocarboxylic acid (II) with benzanidine in
boiling absolute ethanol gave, respectively 3-(N-benzamidynyl)-5,
5-dimethyl- (m.p. 174°C) and 3-(N-benzamidynyl)-5-phenylcyclohexen-
2-one-1-thiocarboxylic-2 acid, m.p. 180-184° C (decomposition).
Refluxing the above compounds for 12 hrs in dry diokane contain-
ing a trace of orthophosphoric acid gave their tetrahydroquinazo-
line derivatives melting, respectively, at 137-139 and 203-207° C
(decomposition).

1/1

1/2 023 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--THE ELECTROCARDIOGRAPHIC REFLECTION OF PREMEDICATION, INFUSION
ANESTHESIA AND INTUBATION OF THE TRACHEA IN CHILDREN -U-
AUTHOR--(03)--BARKALAYA, B.B., LEYCHUK, N.N., STAZHADZE, L.L.

COUNTRY OF INFO--USSR

SOURCE--EKSPERIMENTAL'NAYA KHIRURGIYA I ANESTEZIOLOGIYA, 1970, NR 3, PP
66-69

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ELECTROCARDIOGRAPHY, ANESTHESIA, PEDIATRICS, ATROPINE,
BARBITURATE, MUSCLE RELAXANT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAE--3002/1895

STEP NO--UR/0481/70/000/003/0066/0069

CIRC ACCESSION NO--AP0129248

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0129248

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS REPORT THE ELECTROCARDIOGRAPHIC DATA IN PREMEDICATION, INFUSION ANESTHESIA AND INTUBATION OF THE TRACHEA IN 107 CHILDREN, AGED 1 AND ONE HALF-14 YEARS. INTRAVENOUS INJECTION OF A MIXTURE OF PROMEDOL AND ATROPINE CAUSED SIGNIFICANT ELECTROCARDIOGRAPHIC SHIFTS, WHEREAS INTRAMUSCULAR PREMEDIATION PRACTICALLY PROVOKED NO SHIFTS IN THE ELECTROCARDIOGRAPHIC PATTERN. BARBITURATE INFUSION IS ACCOMPANIED BY INHIBITION OF THE MYOCARDIAL CONTRACTILE CAPACITY WITH MANIFESTATIONS OF DISTURBANCE OF THE ATRIOVENTRICULAR CONDUCTION. INFUSION NITROUS OXIDE PLUS ETHER PLUS OXYGEN ANESTHESIA CAUSES INSIGNIFICANT ELECTROCARDIOGRAPHIC SHIFTS IN THE STAGE OF EXCITATION WITH REVERSION TO INITIAL INDICES IN THE TOLERANT STAGE. INTUBATION OF THE TRACHEA IN THE TOLERANT STAGE AGAINST THE BACKGROUND OF TOTAL CURARIZATION PRODUCED NO SIGNIFICANT ELECTROCARDIOGRAPHIC ALTERATIONS. ENDOTRACHEAL INTUBATION IN I SUB3-II STAGE OF ANESTHESIA WITH THE USE OF DEPOLARIZING MUSCLE RELAXANTS WAS ATTENDED BY A SIGNIFICANT TACHYCARDIA AND VENTRICULAR EXTRASYSTOLE.

FACILITY: RESPUBLIKANSKAYA BOL'NITSA MINISTERSTVA ZDRAVOOKHRANENIYA ABKHAZSKOY SSSR, NAUCHNO-ISSLED, INSTITUT SKOROY POMOSHCHI IM. N. V. SKLIFOSOVSKOGO.

UNCLASSIFIED

Crystals & Semiconductors

USSR

BROUDE, V. L., LEYDERMAN, A. V. and TRATAS, T. G., Institute of Solid State Physics of the Academy of Sciences USSR, Chernogolovka

"Energy Spectrum of Isotopically Mixed Naphthalene Crystals"

Leningrad, Fizika Tverdogo Tela, No 12, Dec 71, pp 3624-3632

Abstract: Data on the absorption spectra of isotopically mixed naphthalene-hg-naphthalene-dg crystals are analyzed. It has been recently established that a fine structure connected with the formation of clusters and complicating analysis of experimental data from the aspect of impurity exciton states is observed in the spectra of isotopically mixed molecular crystals, particularly in the spectra of mixtures of deuterioisotopes of naphthalene. On the other hand, there have been several theoretical studies of similar isotopic mixtures both on the basis of a simplified model picture or specific ordered distribution of the impurity, and on the basis of a calculation using Green's functions. This complicated situation required a detailed analysis of experimental and theoretical data in order to make a reasonable comparison between them, and an attempt is made to do this in this article. The isotopically mixed molecular single crystal, the mixture of naphthalene-hg and naphthalene-dg, is a typical example of an unordered

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USSR

BROUDE, V. L., et al., Fizika Tverdogo Tela, No. 12, Dec 71, pp 3624-3632

system. The position of impurity absorption bands in the fine structure is calculated for low concentrations on the basis of the cluster representation. A computer calculation was made using the Green's function method for an ordered system, and these results were compared with a concentration dependence for centers of gravity of the bands that were obtained experimentally. It is emphasized that the results show that the notion of a cluster may have independent geometrical and energy interpretations. The presence of geometric bands shows in the energy spectrum only for sufficiently rapidly attenuating interactions between molecules. The naphthalene crystal for which the lowest exciton zones are characterized by short-acting interactions is a good example of this. The presence of similar geometric clusters does not lead to a fine structure of the impurity spectrum in crystals of a different type or of other exciton zones of the naphthalene crystal, where dipole-dipole interactions occur between the molecules, and the presence of such geometrical clusters does not lead to a fine structure of the impurity spectrum. In this case the considerable distance does not make it possible to select independent cluster groups at average concentrations, there occurs a covering of regions of elementary excitation, and the corresponding optical

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USSR

BROUDE, V. L., et al., Fizika Tverdogo Tela, No 12, Dec 71, pp 3624-3632

spectrum is close to the spectrum calculated by the Green's function method. It is only at low concentrations that an additional fine structure in the spectrum is expected in this case. It is noted that the use of more complex samples will lead to more detailed and precise experimental data.

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USSR

UDC 621.395.44:622

LEYDERMAN, A. YE.

"Equipment for High-Frequency Communication on IntraMine Transportation"

Gornyy Zh. (Mining Journal), 1970, No 1, pp 47-50 (from RZh--Elektrosvyaz', No 5, May 70, Abstract No 5.64.13)

Translation: The paper describes semiconductor high-frequency equipment used on mine transportation. The EVS-1 equipment is intended for communication between a dispatcher and points for unloading ore and the engineers of electric locomotives. Communication is two-way by loudspeakers at frequencies of 47 kHz (transmitting) and 33 kHz (receiving). The VChS-4 equipment is intended for two-way loudspeaker communication for mine transportation where there is no dispatcher and makes it possible to accomplish group reporting for all users and to conduct two-way conversation. Stations are either fed from a 127/220 V a-c net and operate at points for loading and unloading ore, or from batteries and are located in the cabs of electric locomotives. N. L.

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USSR

UDC [537.226+537.311.33]:[537+535]

KARAGEORGIY-ALKALAYEV, P. M., and LEYBERMAN, A. YU.

"Deep Impurity Levels in Wide-Gap Semiconductors"

Glubokiye primesnyye urovni v shirokazonnykh poluprovodnikakh (cf. English above), Tashkent, "Fan," 1971, 204 pp, ill. 1 r. 15 k (from RZh-Fizika, No 1, Jan 72, Abstract No 1YE1215)

Translation: The monograph considers the influence of deep impurity levels on physical properties of wide-gap semiconductors (injection currents, radiation in the visible region of the spectrum, electroluminescence, etc.) as well as on operating characteristics of devices made thereof. A description is given of new effects first observed using these materials: luminescent waves, recombination instability, etc.

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USSR

UDC [537.226 + 537.311.33] : [537 + 535]

KARAGEORGIY-ALKALAYEV, P. M., ~~LEYDERMAN, A. Y.~~

"Resonance Photoelectric Excitation of Electroluminescence Waves in Semiconductors"

Kiev, V sb. Elektroluminesentsiya tverd. tel (Electroluminescence in Solids -- collection of works), Nauk. dumka, 1971, pp 104-107 (from RZh-Fizika, No 11, 1971, Abstract No 11E1180)

Translation: It is shown that, in semiconductor structures, waves of electroluminescent intensity may arise -- luminescence waves (LW) connected with natural oscillation of the electric field intensity E and the unbalanced carrier density n. The latter are produced by the nonlinear dependence of the semiconductor structural parameters on the concentration n and the field E: the mobility of the current carriers, the dielectric permeability, the cross section of carrier capture by traps, etc. These effects are primarily linear. External light modulation of the semiconductor crystal can produce the phenomenon of forced oscillations of the electric field interacting with the field's natural oscillations and showing up as LW activity. Thus, the

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USSR

KARAGEORGIY-ALKALAYEV, P. M. et al, Elektroluminestsentsiya tverd. tel, Nauk. dumka, 1971, pp 104-107

action of sufficiently intense modulated light causes asynchronous quenching, the suppression of electric field natural oscillations and LW. Under certain conditions, resonance interaction of the field forced oscillations with its natural oscillations may occur in their action in LW, in particular. Investigation of the peculiarities of resonance activity uncovers the existence of typical nonlinear phenomena: discontinuous variations in the LW amplitude, with smooth frequency changes of externally modulated light, and the hysteresis effect of elongating the LW amplitude. The presence of local traps in the semiconductors strongly affects the conditions of natural oscillation of the LW and their peculiarities. Thus, to obtain steady-state LW, one must have a definite amount of trap-filling, the degree of which influences the intensity of the constant component I of the optically generated carriers. By changing the charge condition of the traps, it turns out that I also affects the amplitude of the steady-state LW. The shape of the LW resonance characteristic also varies in the presence of the traps, which shift it into the region of higher frequencies. Author's abstract.

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USSR

UDC [537.226 + 537.311.33] : [537+535]

LEYDERMAN, A. Yu., KARAGEORGIY-ALKALAYEV, P. M., ISAMUKHAMEDOVA, M.

"Electroluminescence and Photoelectric Effects in Semiconductors With Cross-Impurity Recombinations"

Kiev, V sb. Elektroluminestsentsiya tverd. tel (Electroluminescence in Solids -- collection of works), Nauk. Dumka, 1971, pp 102-104 (from RZh-Fizika, No 11, 1971, Abstract No 11E1186)

Translation: Expressions are obtained for the rate of cross-impurity recombination in a semiconductor and for the extent of filling of the local levels forming a pair. It is shown that the lumen-ampere characteristic at various intervals of current density can be described by the power function $L \sim I^n$, where $n = 1.3/2.2$. When the concentration of the recombination pairs is large, the adhesion effect of the carriers becomes noticeable. Then, anomalous phenomena of the type of light and temperature quenching of the photoconductivity and of negative internal photo-effects arise. A necessary condition for the appearance of these phenomena is the reduction in lifetime of the free, unbalanced carriers under heat or external impurity bias lighting. Author's abstract.

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USSR

UDC: None

KARAGEORGIY-ALKALAYEV, P.M., and LEYDERMAN, A.Yu.

"Kinetic Instability and Resonance Effects With Double Injection Into a Semiconductor"

Leningrad, Fizika i Tekhnika Poluprovodnikov, Vol 4, No 4, 1970, p 812

Abstract: Forced oscillations excited by modulated illumination of a semiconductor may interact with the field oscillations self-excited in a semiconductor with unequal electron and hole capture times when the drift and diffusion velocities are comparable. The possibility of the appearance of negative resistance and conductivity of diode structures containing shunting regions is considered. Also considered is the thermokinetic instability of the field concentration distribution.

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USSR

1/2 058 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--KINETIC INSTABILITY AND RESONANCE EFFECTS DURING DOUBLE INJECTION
INTO A SEMICONDUCTOR -U-
AUTHOR-(02)-KARAGEORGIYALKALAYEV, P.M., LEYDERMAN, A.YU.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TEKH. POLUPROV. 1970, 4(4), 812
DATE PUBLISHED-----70
SUBJECT AREAS--ELECTRONICS AND ELECTRICAL ENGR., PHYSICS
TOPIC TAGS--KINETIC ENERGY, SEMICONDUCTOR DIODE, PLASMA INJECTION,
OSCILLATION, ELECTRIC FIELD, LIGHT MODULATION, RECOMBINATION RADIATION,
WAVE PERTUBATION, PHOTODIODE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1308 STEP NO--UR/0449/TD/004/004/0812/0812
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CIRC ACCESSION NO--AP0124959

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. RESONANCE EFFECTS BETWEEN SPONTANEOUS OSCILLATIONS OF ELEC. FIELD AND FORCED OSCILLATIONS GENERATED IN A SEMICONDUCTOR BY A MODULATED ILLUMINATION ARE CONSIDERED. THE EXISTENCE OF NEG. DIFFERENTIAL RESISTIVITY ACCOMPANIED BY LUMINESCENT RECOMBINATION RADIATION IN DIODE STRUCTURES WITH SHUNTING AREAS IS DISCUSSED. STRUCTURES HAVING RESONANCE AND RECOMBINATION EFFECTS CAN BE USED TO CONSTRUCT OPTO ELECTRONIC DEVICES WITH SELECTIVE PROPERTIES. THE THERMO KINETIC INSTABILITY OF ELEC. FIELD DISTRIBUTION WITH RESPECT TO LONG WAVE PERTURBATIONS IS CONSIDERED. FACILITY: FIZ.-TEKH. INST., TASHKENT, USSR.

UNCLASSIFIED

1/2 034 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--EFFECT OF TRAPS ON VOLT AMPERE CHARACTERISTICS OF A P,N,N PRIME
POSITIVE DIODE DURING THE BIOMOLECULAR RECOMBINATION OF CARRIERS IN A
AUTHOR--(03)--KARAGEORGIYALKALAYEV, P.M., LEYDERMAN, A.YU., RABINOVICH,
F.YA.
COUNTRY OF INFO--USSR
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TOPIC TAGS--ELECTRON TRAP, VOLT AMPERE CHARACTERISTIC, RECOMBINATION
COEFFICIENT, SEMICONDUCTOR DIODE, CARRIER DENSITY, HOLE MOBILITY
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PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124675

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE RRAPS ON THE CURRENT VOLTAGE CHARACTERISTIC OF THE STRUCTURE IS STUDIED ON THE CONDITION THAT THE RECIPROCAL VALUE OF THE HOLE LIFETIME, τ PRIME NEGATIVE1 SUBP, INCREASES LINEARLY WITH NONEQUIL. HOLE CONC. WHEN BIMOL. RECOMBINATION TAKES PLACE. THE TRAPPING OF CURRENT CARRIERS CAUSES AN INCREASE IN THE BIMOL. RECOMBINATION COEFF. AND THUS A DECREASE IN MIN. HOLE CONC. WHEN ALL TRAPS ARE FILLED, THE BIMOL. RECOMBINATION WITH τ SUBP EQUALS $1-BN$ BECOMES UNIMOL., WITH τ SUBP EQUALS $1-BN$ SUBT, WHERE N AND N SUBT ARE CONCNS. OF CARRIERS AND TRAPS, RESP. FACILITY: FIZ. TEKH. INST. IM. STARODUBYSEVA, TASHKENT, USSR.

UNCLASSIFIED

USSR

UDC 546.882'261+546.831'261

LEYDERMAN, G. M., and NIKOLAYEVA, V. A., Institute of High Temperatures,
Academy of Sciences USSR

"Interaction of NbC and ZrC with Ni"

Moscow, Neorganicheskiye Materialy, Vol 9, No 10, Oct 73, pp 1721-1723

Abstract: The interaction with nickel in the region of 20 wt% carbide was investigated in the NbC-Ni and ZrC-Ni systems. Two phases were found in the Ni-NbC system: a solid solution of NbC in Ni and NbC. The solid solution region is characterized by coarse grains while in the two-phase region there is a eutectic whose quantity increases with increased carbide content. The alloy with 9.6% NbC consists totally of the eutectic. The Ni-NbV system is quasi-binary type system with a eutectic transformation temperature of 1330°C with a solubility of NbC in Ni, at this temperature, in the limits of 6.1-66 wt %. Microstructure analysis and the relationship of temperature at the melting point to composition made it possible to assume that a eutectic transformation takes place at 1270°C in the Ni-ZrC system. Appearance of the eutectic was noted in the alloy with 2.7% ZrC. The alloy with 12.2% ZrC is, apparently, hypereutectic since it contains uniformly distributed carbide grains and dark-phase inclusions. Three figures, five bibliographic references.

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USSR

UDC 549.212+66.01

ANIKEYEV, YE. F., KOSTIKOV, V. I., LEVIN, V. YA., and LEVITSKAYA, G. YA., Moscow
Institute of Steel and Alloys, Moscow, Ministry of Higher and Secondary Specialized
Education RSFSR

"Mechanism of Liquid Silicon Impregnation of Graphite"

Moscow, Khimiya Tverdogo Topliva, No 4, 1970, pp 143-146

Abstract: A study was made of impregnation of dense graphites MPG-5, MPG-6, and
MPG-8 (porosity of 12, 15, and 20%, respectively) with liquid silicon in the 1410-
1550° temperature range. The mass transfer process can be divided into two stages:
viscid flow of liquid silicon along graphite pores (0.50 seconds) with 11.5-14.2
kcal/mole energy of activation and superficial diffusion of silicon along walls of
graphite pores (50-180 seconds) with 45.0-53.2 kcal/mole energy of activation.

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USSR

UDC: 621.396.6-181.5

SAFRONOVA, L. I., LEYDMAN, G. A., and FARAFONOV, V. V.

"Choice of Aging Mode for Hybrid Integrated Circuits"

Elektron. tekhnika. Nauchno-tekhn. sb. Mikroelektronika (Electronic Engineering, Scientific-Technical Collection, Microelectronics) 1970, No. 2(23), pp 103-106 (from RZh-Radiotekhnika, No. 3, March 71, Abstract No. 3V320)

Translation: Experiments are described on the application of technological aging to quality control of hybrid microcircuits with hidden defects. Tests were applied for stability under shock, vibration stability, and thermal cycling. The obtained results permitted specification of the break-in period for the microcircuits. Two illustrations, bibliography of one.

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Automata Control: Instruments

USSR

UDC: 621-525

LEYENSON, F. G., MASHBITS, A. V., Special Design Office on Automation in Petroleum Refining and Petrochemistry

"A Pneumatic Device for Determining the Extrema of Functions"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztzy, Tovarnyye Znaki, No 48, Dec 73, Author's Certificate No 409231, Division G, filed 26 May 72, published 30 Nov 73, p 118

Translation: This Author's Certificate introduces a pneumatic device for determining the extrema of functions. The device contains a circuit comprised of a unit for storage of the maximum connected in series with a null indicator and a pulser. The unit for storage of the maximum is also connected to the input and output channels and is based on two series-connected repeaters with a shift. The output of the first repeater is connected through a normally open contact to a reset line. As a distinguishing feature of the patent, the measurement range of the device is extended by adding an inverter and a second series circuit made up of a unit for storage of the maximum, a null indicator, and a pulser. The additional unit for storage of the maximum is connected through the inverter to the output

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USSR

LEYENSON, F. G., MASHBITS, A. V., USSR Author's Certificate No 409231

channel. The output of the pulser in the first series circuit is connected to the controlling input of the normally open contact of the reset line of the unit for storage of the maximum in the second circuit, and the output of the pulser in the second series circuit is connected to the controlling input of the normally open contact of the reset line of the unit for storage of the maximum in the first circuit.

2/2

USSR

UDC: 681.325.53-525

ZAKATOV, V. P., ZELIKMAN, A. M., LEYENSON, F. G., MASHBITS, A. V.,
PODOL'NIY, V. A., Special Design Office for Automation in Petroleum
Refining and Petrochemistry

"A Converter Which Changes a Pneumatic Analog Signal to a Number of Pulses"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obratzsy, tovarnyye znaki,
No 1, Jan 71, Author's Certificate No 289415, division G, filed 28 Mar 69,
published 8 Dec 70, pp 161-162

Translation: This Author's Certificate introduces a converter which changes a pneumatic analog signal to a number of pulses. The device contains a pulsating choke, a pulse generator which controls the contacts of the pulsating choke, and a pressure differential controller. As a distinguishing feature of the patent, the precision with which an input pneumatic signal is converted to a pulse number is improved by making the pressure differential controller in the form of a pulsating vessel whose controlling chamber is connected through contacts to the output channels of sources of zero-level pressure and controlling pressure. The working chamber of the pulsating vessel is connected through contacts to the cavities of input and output pulsating chokes. The cavity of the input choke is connected

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ZAKATOV, V. P., et al., USSR Author's Certificate No 289415

through a contact to the input pressure line, and the cavity of the output choke is connected through a contact to the zero-level pressure source and directly to the output repeater.

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LEYENSON, I. F.

CHEMICAL TRANSFORMATIONS

SINGLE-ELECTRON TRANSFER AND CHEMICAL TRANSFORMATIONS
(Conference in Rostov-on-Don)

[Article by centinate of Chemical Sciences Z. V. Tikhonov, Moscow,
Vostok Akademiya Nauk SSSR, Russian, No 5, September 1973, pp
10, 100]

2-14-73
J. Van
de Ruyllis

A conference on the role of electron transfer in chemical reactions was held in Rostov-on-Don on 22-25 May. It was organized by the Northern Caucasus Scientific Center of the High School; about 40 reports were presented, participating in the conference were the leading chemical institutes of the High-Leningrad and Gorkiy universities, and also Rostov-on-Don, Moscow, and formation of bonds, the is usually regarded as the rupture of a molecule. It is now considered, however, that the cleavage of atoms or atomic arrangements is preceded by the transfer of electrons from one of the reacting molecules to the other. The study of that stage, which has become possible through the use of new instrumental methods of investigation, especially of electron paramagnetic and nuclear magnetic resonance, expands concepts of the reaction mechanism as a whole of elementary stages known to us.

As a result of electron transfer new particles appear. Products of dynamic chemistry of the past. The properties of these products were examined in a number of reports. Homoglobin, not give non-equilibrium forms with Fe(II) after electron transfer into the state Fe(II) but the protein part still retains its previous configuration (K. M. Davydov). The transformation of 4-41-dinitro-cis-stilbene into an anti-oxidant is accompanied by complete cis-trans-isomerization. Destruction of the symmetry of the molecule leads to establishment of equilibrium: 4-nitro-cis-stilbene in the presence of electron transfer gives a mixture known to dynamic chemistry of the past.

- 143 - JRS 60461, 30 2-73

Nitrogen Compounds

USSR

UDC 541.515:621.313.14:547.232

LEYENSON, I. A., SERGEYEV, G. S., Moscow State University imeni
M. V. Lomonosov, Moscow, Ministry of Higher and Secondary
Specialized Education RSFSR

Moscow, Zhurnal Fizicheskoy Khimii, Vol 44, No 5, May 70,
pp 1146-1152

Abstract: A report is made on free radical reaction of tetranitro-
methane with alamines, the reaction going through the donor-acceptor
type of mechanism compounds. Tetranitromethane was reacted with
cyclohexene without solvent by keeping a mixture of $C(NO_2)_4$ and
cyclohexene for several hours at ice water temperature followed
by several weeks at room temperature; the reaction products were
dissolved in a 3:1 mixture of $CCl_4-C_2H_5OH$ and filtered, the solvent
was evaporated, and the crystalline material was recrystallized
from $CCl_4-C_2H_5OH$. From different ratios of the reagents the follow-
ing compounds were isolated: N-(2'-nitro)-cyclohexoxy-3,3'-dinitro-
cyclohexanoisoxazolidine, m.p. 108-109°C; adipic acid, m.p. 149-
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USSR

LEYENSON, I. A., et al, Zhurnal Fizicheskoy Khimii, Vol 44, No 5, May 70, pp 1146-1152

150°C; 1-nitro-2-nitrosocyclohexane dimer m.p. 145°. The heat of complex formation was found to be $\Delta H = -2.0 \pm 0.2$ kcal/mole. Free radicals were noted in $C(NO_2)_4$ mixtures with several olefines studied, with the exception of 2-ethylbutene-1. On the basis of the products obtained and the EPR data, a free radical mechanism is proposed for the reaction of $C(NO_2)_4$ with olefines. The first stage consists of the formation of a charge transfer complex with a heteropolar structure. Free radicals form most probably during homolytic breakdown of the complex in which a complete electron transfer takes place.

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USSR

UDC 532.5

IL'YASHUK, B. G., KUDRYAVTSEVA, K. A., LEYFEROV, V. A.

"Device for Studying Liquid Oscillations"

Tr. Fiz.-tekhn. in-t nisk. temperatur AN USSR (Works of the Physico-Technical Low-Temperature Institute of the Ukrainian SSR Academy of Sciences), 1970, vyp. 1, pp 265-272 (from RZh-Mekhanika, No 11, Nov 71, Abstract No 11B359)

Translation: A device is described which creates reciprocal movement in the horizontal plane according to a sine law for a cavity filled with liquid. The cavity with the liquid is installed on a dolly which moves along guides and is driven by a crankgear with multilink breaking shaft. Movement along the guides using the crankgear permits high accuracy of reproduction of the sine law to be obtained, and application of the multilink breaking shaft permits the amplitude of movement of the dolly to be changed during movement. A special lock instantaneously halts the dolly at the end position. This offers the possibility of studying the damping of the movement of the liquid. The design of the cavities permits directional collapse of the liquid mass, which simulates pulsed application of a load. Oscillations of a liquid in a sphere with and without dampers are presented as an example.

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USSR

UDC 51

LEYFMAN, L. YA., SHCHERBINSKAYA, A. V.

"Defining the Parameters of Consumption Models by the Least Squares Method"

V sb. Probl. modelir. nar. kh-va. Ch. 2 (Problems of Simulating the National Economy. Part 2—collection of works), Novosibirsk, 1972, pp 43-85 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V353)

No abstract

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USSR

UDC: 51

LEYFMAN, L. Ya.

"Constructing Estimates of the Requirements of a Project for Nonstorable Resources, and the Concept of the Job Front"

Sb. tr. In-t gidrodinam. Sib. otd. AN SSSR (Collected Works. Institute of Hydrodynamics of the Siberian Department, Academy of Sciences of the USSR), 1971, vyp. 4, pp 75-115 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V572)

[No abstract]

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