

ONIKYONOK, V. V.

Bukovina - ~~Pravda~~ [redacted]

Visiting the Soviet Union, 1988, from Bukovina, Ukraine, USSR

Monthly List of National Commissions, etc., in the USSR, dated 1988, 1989,

MINAKOV, Ivan Fedorovich; ONIKIYENKO, Vladimir Vasil'yevich [Onykiienko, V.V.]; ONISHCHENKO, P.D., otv. za vypusk; MIRONOVA, Ye.V. [Myronova, I.E.V.], red.; MUZICHKO, G.I. [Muzychko, H.I.], tekhnred.

[Chernovtsy Province; economic and geographical outline] Chernivets'ka oblast'; ekonomiko-geografichnyi narys'. [Manual for geography teachers] Posibnyk dlja vchyteliv geografii. Chernivtsi, obl.vyd-vo, 1958. 101 p. (MIRA 12:9)  
(Chernovtsy Province--Economic conditions)

KOROBKO, I.M., inzh.; FEDOROVSKIY, N.V., inzh.; PLESKACH, V.I., inzh.;  
ONIKMENKO, A.M., inzh.

Regulating and measuring vacuum in a sinter strip. Met. I  
gornorud. prom. no.4:6C-64 Jl-Ag '63. (MIRA 16:11)

1. Institut avtomatiki Gosplana UkrSSR.

ONIKO, B.I., slesar'

Portable clamp pipe-bender. Nov. tekhn. mont. i spets. rab.  
v stroi. 21:3 of cover Je '59. (MIRA 12:P)

1. Moskovskaya sanitarno-tekhnicheskaya masterskaya Tsentral'nogo  
sanitarno-tekhnicheskogo montazhnogo tresta.  
(Pipe bending)

OMIKOV, E.A.; BOLOTINA, Z.P.

Manufacture of staple fabrics for suits. Tekst.prom. 16 no.5:  
53-55 My '56. (MLRA 9:8)  
(Textile fabrics)

ONIKOV, E. A.

Influence of the sizing stretch of the warp thread on work on  
synthetic-fiber fabrics. p. 432.

MAGYAR TEXTILTECHNIKA. (Textilipari Muszaki és Tudományos Egyesület)  
Budapest, Hungary, Vol. 10, no. 11/12, Dec. 1958.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8,  
August 1959.  
Unclu.

ONIKOV, E.A., inzh.

Effect of stretch in warp yarns during sizing on the shrinkage of  
staple fabrics. Tekst.prom. 19 no.4:26-29 Ap '58. (MIRA 11:4)  
(Sizing (Textile))

ONIKOV, E.A.

Tensiometer for the investigation of tension devices for a  
fast-moving yarn. Izv.vys.ucheb.zav.; tekhn.tekst.prom. no.6:  
72-85 '59. (MIRA 13:4)

1. Moskovskiy tekstil'nyy institut.  
(Tensiometer) (Spinning machinery)

ONIKOV, E.A., inzh.

Some causes of breakage of the warp thread during high speed  
warping. Tekst. prom. 19 no.7:52-54 J1 '59.

(MIRA 12:11)

(Warping machines)

ONIKOV, E.A.

Investigating the tensions of a fast moving yarn. Izv.vys.  
ucheb.zav.; tekhn.tekst.prom. no.1:97-104 '60.  
(MIRA 13:6)

1. Moskovskiy tekstil'nyy institut.  
(Textile machinery)

ONIKOV, E. A. Cand Tech Sci -- "Stydy of tighteners for fast-moving cotton threads." Len 1961 (Min of Higher and Secondary Specialized Education of PEP Len Textile Inst im S. M. Kirov). (KL, 4-61, 199)

- 19 -  
- 200 -

ONIKOV, Eduard Arshakovich; BERKOVICH, N.Yu., retsenzent;  
CHUGREYEVA, V.N., red.; PYATNITSKIY, V.N., tekhn.red.

[Tensors, control and clearing mechanisms for simple twist  
threads] Natiazhnye i kontrol'no-ochistitel'nye ustroistva  
odinochnykh nitei. Moskva, Gizlegprom, 1963. 100 p.  
(MIRA 17:3)

ONIKOV, E.A., starshiy nauchnyy sotrudnik; SAUKOVA, L.A., mladshiy nauchnyy sotrudnik; GOREUNOVA, Ye.O., mladshiy nauchnyy sotrudnik.

Geometric method of analysis and construction of linen weave fabrics. Tekst. prom. 24 n.1:50-55 Ja '64. (MIRA 17:3)

1. Tsentral'nyy nauchno-issledovatel'skiy institut po zashchitno-mazhnay promstilenosti.

BERKOVICH, Nikolay Yuryevich; ALEXEYEV, V.A., et al. tekhn. tekhn. retezets; retezets; CHIKREYEV, V.V. set.

[Maps for reducing breakages in a weaving Putil shipper's  
polymerized vinyl chloride reaction. 1. Lava, legkaya inulinilla,  
1965. 221 p.]

ONIKOV, E.A., starshiy nauchnyy sotrudnik, kand.tekhn.nauk

Widespread error made in the measurement of yarn weight on  
looms. Tekst.prom. 25 no.11:36-41 N '65.

(M.PA - R. p.)

I. Tsentral'nyy nauchno-issledovatel'skiy institut nauchno-  
tekhnicheskoy promyshlennosti.

SREMIN, V., ..., BMCh. (Leningrad); I. FPR, V., ..., Bkh. (Leningrad);  
S.A., Inst. of (Leningrad); AIPM, S.A., Inst. of (Leningrad)

Unit for rendering harmless the sulfuric acid storage tanks at  
refineries. Vod. i san. tekhn. no. 127-30 Ja '65.

(MIA 107)

ZAKHAR'YEVSKAYA, I.D.; OMIKOV, L.I.; MARKOV, N.Y.

Yarn vat dyeing with PKM apparatuses. Tekst.prom. 15 no. 1.  
29-31 Je '55. (MLRA R:?)  
(Dyes and dying--Apparatus)

AVETISYAN, I.S.; POSPELOVA, K.A.; ONIKUL, K.E.; ZUBOV, P.I.;  
Prinimala uchastiye DREZEL'S, S.S.

Obtaining the copolymer of vinyl acetate with butyl acrylate for  
emulsion paints. Lakokras.mat. i ikh prim. no.2:13-15 '64.  
(MIRA 17:4)

BERLYAND, M.Ye.; GEMIKHOVICH, Ye.L.; ONIKUM, R.I.

Determining the atmospheric pollution by fumes from estimates of  
electric stat. no. Trudy №6 n.158; 3-41 '64. MIRA . . .

BERLYAND, M.Ye.; GENIKHOVICH, Ye.L.; LOZHKOINA, V.P.; ONIKUL, R.I.

Numerical study of atmospheric diffusion under normal and anomalous conditions of stratification. Trudy GGC no.158:22-31 '64.

Characterist . . . . .usion of heavy pollutants in the atmosphere.  
Ibid.:32-40 (MIRA 17:?)

ONIKUL, R.I.

Frosts in Sakhalin. Trudy Dal'nevost. NIGMI no. 6:44-58 '58.  
(MIRA 12:1)  
(Sakhalin--Frost)

GANDIN, L.S.; PYATYGINA,K.V.; ONIKUL, R.I.; TITOV, V.M.; SHAFRAN, Z.M.

Diurnal march of temperature in the lower atmospheric layers.  
Trudy GGO no.76:3-29 '58. (MIRA 11:11)  
(Atmospheric temperature)

S/044/62/000/009/038/069  
A050/A000

AUTHOR: Onikul, R. I.

TITLE: On solving the problem of heat- and humidity-exchange in the lower layers of the atmosphere by the method of grids

PERIODICAL: Referativnyy zhurnal, Matematika, no. 9, 1962, 23, abstract 9V116  
(In collection: "Materialy Soveshchaniya Koordinats. komis. po chisl. metodam prognoza". Leningrad, Gidrometeoizdat, 1961, 113 - 121)

TEXT: The paper describes the method of numerical solution of the one-dimensional equation of heat conduction with respect to the variables  $t$  and  $z$  for media with varying coefficient of thermal conductivity (atmosphere and the bedding medium). In conformance with the variation of the coefficient of thermal conductivity with the  $z$  coordinate, the three-layer problem is considered. The appropriate boundary conditions are given on the upper and lower boundaries of each of the media. The solution is sought at the grid points in the plane of the variables  $t$  and  $z$ . Within the limits of an elementary segment (the grid in-

Card 1/2

On solving the problem of heat- and...

S/044/62/000/009/038/069  
A060/A000

terval) of the variable  $z$  the coefficient of thermal conductivity is approximated by a linear function of  $z$ . Computational formulae are given, such as were used on the machine "Ural", to carry out computations for the solution of heat-exchange problems in the atmosphere and in the bedding medium. In order to establish the size of the approximation errors, the same formulae were used to compute the temperature distribution also for the case when the coefficients of thermal conductivity are constant in all three media. The results of the calculations for this case are compared with calculations according to the formulae of the exact solution of the problem.

S. L. Belousov

[Abstracter's note: Complete translation]

Card 2/2

ONIKUL, R. I.

Formation of the Irkutsk fogs. Trudy GGI no.127:69-81 '62.  
(MIRA 15:7)  
(Irkutsk -Fog)

S/531/62/000/127/007/007  
I053/I253

AUTHOR: Onikul, R.I.

TITLE: The reducibility of numeric solution of the equation of heat conductivity

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 127. 1962. Fizika prizemnogo sloya vosdukh, 127-133

TEXT: In order to decrease the errors in the investigation of the heat exchange in the boundary layer of the atmosphere, the numeric solution of the equation of thermal conductivity for a semi-limited medium under initial homogeneous conditions can be reduced to an analytical one, irrespective of the value of intervals  $t$  and  $z$ . A graph showing the rate of change with respect to time of the relative error of a numeric solution is plotted for a two-layer ground-air problem with the night-time decrease of temperature. There is 1 figure and 2 tables. PC

Card 1/1

L 18374-63

BWT(1)/EDS APTTC/ASD/ESD-3 RB

ACCESSION NR: AP3005875

S/0050/63/000/008/0003/0010

59  
58

AUTHOR: Berlyand, M. Ye.; Onikul, R. I.; Genikhovich, Ye. L.; Lozhkina, V. P.

TITLE: Contamination of the atmosphere by industrial wastes under anomalous stratification conditions

SOURCE: Meteorologiya i hidrologiya, no. 8, 1963, 3-10

TOPIC TAGS: aerosol, aerosol diffusion, atmospheric inversion, atmospheric contamination, temperature exchange coefficient

ABSTRACT: The diffusion of light and heavy aerosols has been investigated for the complex case of an anomalously stratified atmosphere above the level of the source and for certain related cases. The inversion layer is characterized by weak vertical exchange; the exchange coefficient  $k_2$  decreases sharply in the intercepting layer and increases farther aloft; in normal stratification  $k_2$  increases to the top of the surface layer and remains constant above it. The dependence of the exchange coefficient on height is complex and must be determined numerically. The distribution of the aerosol concentration is essentially dependent on the  $k_2$  profile. When the inversion layer is considerably

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L 18374-63

ACCESSION NR: AF3005875

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higher than the source, the influence of the layer at short distances is not great, even if  $k_2$  within the inversion layer is extremely small. If the lower boundary of the inversion layer approaches the level of the source, the intercepting effect increases appreciably, but can be detected only at a considerable distance from the source. The anomalous stratification associated with an inversion layer aloft does not always lead to a significant enhancement of the surface concentration. If the source is sufficiently high above the ground and the intercepting layer is sufficiently high above the source, a relatively small intensification of the surface concentration occurs within a zone of several kilometers from the source. If the source is not high above the ground, and an inversion layer is directly above it, the intercepting effect of the inversion layer will be highly significant; at sufficiently great distances from the source the surface concentration may increase by a factor of more than 2. When the source is within or above the inversion layer, the penetration of the aerosol into the surface layer is slight, even at great distances from the source. Gravitational settling must also be considered in a study of the propagation of heavy aerosols. This problem is solved numerically. In the absence of an inversion, the surface concentration near

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ACCESSION NR: AP3005875

the source will be greater for a heavy aerosol than for a light aerosol. The influence of an inversion above the source is less for the former. The downward propagation of a heavy aerosol is not hindered by lower-lying inversions to the same extent as is the downward propagation of a light aerosol. Orig. art. has: 12 formulas and 4 tables.

ASSOCIATION: Glavnaya geofizicheskaya observatoriya (Main Geophysical Observatory)

SUBMITTED: 00

DATE ACQ: 06Sep63

ENCL: 00

SUB CODE: AS

NO REF SOV: 004

OTHER: 000

Cord 3/3

BERLYAND, M.Ye.; GENIKHOVICH, Ye.L.; DOZHKINA, V.P.; ONIKUL, R.I.

Numerical solution of the turbulent diffusion equation and  
calculation of atmospheric pollution near industrial  
enterprises. Trudy GK no.1 98:3-17 '63. (MFA 17).

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

GILDEDENSKI LUD

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

L 20961-66 EWT(1)/FCC GW

ACCESSION NR: AT5019733

UR/2531/65/000/172/0035/0041

AUTHOR: Byzova, N. L.; Onikul, R. I.

TITLE: Analysis of the heavy-contaminant concentration field from data of experiments carried out at the 300-meter meteorological tower

SOURCE: Leningrad. Glavnaya geofizicheskaya observatoriya. Trudy, no. 172, 1965. Voprosy atmosfernoy diffuzii i zagryazneniya vozdukha (Problems of atmospheric diffusion and contamination), 35-41

TOPIC TAGS: atmospheric particle diffusion, air pollution, meteorological tower, aerosol

ABSTRACT: Utilizing the numerical solutions of the turbulent diffusion equation (M. Ye. Berlyand, Ye. L. Genikhovich, V. P. Lozhkina, R. I. Onikul, Tr. GGO, no. 158, 1964), the author analyzed data obtained by scattering in the atmosphere heavy pollutants ejected from various levels of the 300-meter meteorological tower. The point sources sprayed chemically neutral substances of various colors (red, orange, and yellow polymethylmethacrylate [sic]), which could then be collected simultaneously. Subsequently, the dplored samples were studied under ultraviolet light. Tests show that the theoretical results are in excellent agreement with the experimental data.

Cord 1/2

L 20961-66

MISSION NR: AT5019733

Concentration of various fractions could be calculated from the precipitation rate on the collecting surfaces. These, in turn, permitted the calculation of the maximum ground concentrations and distances at which they are observed as a function of the source altitude, wind velocity, atmospheric stratification, and the rate of gravitational precipitation of the particles. All results are in the form of tables.  
Orig. art. has: 9 formulas and 2 tables. [08]

ASSOCIATION: Glavnaya geofizicheskaya observatoriya, Leningrad (Main Geophysical Observatory)

SUBMITTED: 00

ENCL: 00

SUB CODE: ES

NO REF SOV: 008

OTHER: 000

ATD PRESS: 4084

Card 2/2

L 2669-66 ENT(1)/ENT(m)/FCC/EWA(h) CS/GW  
ACCESSION NR: AT5023953

UR/0000/65/000/000/0380/0391

AUTHOR: Berlyand, M. Ye.; Genikhovich, Ye. L.; Dem'yanovich, V. K.;  
Onikul, R. I.

TITLE: Effect of vertical distribution of temperature and wind  
velocity on the atmospheric diffusion of radioactive pollutants

SOURCE: Nauchnaya konferentsiya po yadernoy meteorologii, Obninsk,  
1964. Radioaktivnye izotopy v atmosfere i ikh ispol'zovaniye v  
meteorologii (Radioactive isotopes in the atmosphere and their use in  
meteorology); doklady konferentsii. Moscow, Atomizdat, 1965, 380-391

TOPIC TAGS: nuclear meteorology, air pollution, atmospheric surface  
boundary layer, atmospheric boundary layer, micrometeorology, radio-  
active fallout, radioactive pollution, lapse rate, atmospheric turbu-  
lence, wind velocity

ABSTRACT: Until recently, Soviet research dealing with problems of  
atmospheric pollution from continuously active point sources has been  
based on models of conditions for wind velocity and the coefficient  
of turbulent exchange prevailing in the surface boundary layer of the  
atmosphere. The present paper discusses the inapplicability of this  
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L 2669-66  
ACCESSION NR: AT5023953

model to many existing and planned point sources and to problems of radioactive fallout; it presents a quantitative analysis of the effects of lapse rates, wind velocity, turbulent exchange, and other factors and a mathematical model which reflects them as they actually occur in the thicker boundary layer. Orig. art. has: 8 formulas and 5 figures. [ER]

ASSOCIATION: none

SUBMITTED: 28Apr65

NO REF Sov: 009

ENCL: 00

OTHER: 000

SUB CODE: ES, NP

ATD PRESS: 4101

ONIKUL, Ya.Ye., inzhener; STRASHUN, K.Z., inzhener; ROMANOVSKIY, V.P.,  
kandidat tekhnicheskikh nauk, dotsent; SHILOV, V.S., inzhener,  
retsensent; VAYNTRAUB, D.A., inzhener, redaktor

[Stamping non-metallic materials] Shtampovka nemetallicheskikh  
materialov. Pod obshchei red. V.P.Romanovskogo. Moskva, Gos. nauchno-  
tekhn. izd-vo mashinostroit. lit-ry, 1955. 56 p. (Bibliotekha  
shtampovshchika, no.8) (MLRA 9:12)  
(Sheet-metal work)

AID P - 4259

Subject : USSR/Engineering  
Card 1/1 Pub. 128 - 17/33  
Author : Onikul, Ya. Ye., Engineer, Chief of a Plant's Construction Bureau  
Title : Letter to the Editor  
Periodical : Vest. mash., #1, p. 55, Ja 1956  
Abstract : The author states that the method of calculation presented by D. A. Vayntraub in his article "Technological Calculations in the Drawing of High Rectangle Casings" published in this journal (#6, 1955) proved in practice to be very helpful and accurate.  
Institution : None  
Submitted : No date

ONIKUL, Ya.Ye.

Group blocks for die casting. Av.prom. 26 no.8:54-57 Ag 157.  
(MIRA 15:4)  
(Die casting--Equipment and supplies)

VEDENEYEV, Nikolay Petrovich; VOLCHENKOV, Aleksandr Ivanovich;  
NOVGORODOV, Aleksandr Stepanovich; OLIKUL, Ya.Ye., inzh.,  
retsenzent; VAYNTRAUB, D.A., kand. tekhn. nauk, red.;  
LEYKINA, T.L., red. izd-va; SPERANSKAYA, OV., tekhn. red.

[Hard-alloy engineering equipment; dies and press-molds]  
Tverdosplavnaia tekhnologicheskaiia osnastka; shtampy i press-  
formy. Leningrad, Gos.nauchno-tekhn.izd-vo mashinostroit.  
lit-ry, 1961. 119 p. (MIRA 15:2)  
(Dies (Metalworking)) (Metalwork)

ONIN, N.M.; TSIGEL'MAN, I.S. [deceased]

Use of combined electric profiling in surveys of a complex ore deposit at the contact of two media having different electric conductivity. Zap. LGI 39 no.2:110-113 '61. (Mirr 15:2)  
(Electric prospecting)

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Practices in the mapping of electric fields can be classified  
electric field map. Inv. app. unit. rev. (incl. trans. &  
etc., 1922-1923. D. 46

1. Lenjérnyi disklik a magyar hagyományban imádó G.V. Plekhanov.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

RECORDED BY [redacted]

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED  
DATE 10-10-2019 BY [redacted]

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

32(4)

AUTHOR: Onipchenko, G. V., Engineer

TITLE: On the Selection of Lifting Mechanism  
Navigation Locks

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1958, Nr. 10, p. 35

ABSTRACT: In answer to a question of Architect G.P. Terestrenina on the decreased height of downstream navigation lock valvehouse structures, published in the Soviet periodical "Gidrotekhnicheskoye stroitel'stvo", 1958, Nr. 10, the author gives an explanation of phenomena which condition the height of these structures. Experience in operation with downstream gate hoist mechanisms of the Kuybyshev Hydrocomplex navigation lock showed that the mass-acceleration of water, caused by the length of the filling conduit, cannot be neglected. When closing the operation, water rose to 3.5 m above the normal level and flooded the valvehouse. The NII of the "Gidroproyekt" carried out

Card 1/2

DDC-INFO-1970-1

On the Selection of Lifting Mechanism Weights in "Aviation" took  
laboratory experiments and field tests to study the  
problem and recommended either the sealing of the  
gate shaft or the use of hydraulic hoist equipment  
which is not effected by flooding. There are 1 dia-  
gram and 1 graph.

Card 2/2

KHALTURIN, A., inzh.; ONLIPCHENKO, G., inzh.

Characteristics of operating twin sluices. Mech. transp. 19  
no. 9:32-33 S '60. (MIRA 1):9)  
(Sluices)

ONIPCHENKO, G. F. insh.

Wave damping in the lower lock approach channels. Rech. transp.  
21 no. 10:42 0 '62. (MIRA 15:10)

(Locks(Hydraulic engineering)) (Waves)

ONIPENKO, N. I.

"Effect of Camphor Serum on the Cardiovascular System of Horses."  
Cand Med Sci, Moscow Veterinary Acad, Moscow, 1953. (RZhBiol, No 5, Nov '54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher  
Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

PAVLOVSKIY, V.; OSTAPENKO, K.; MENDELEVICH, M.M.; BATANOV, Yu.P.; ANTONETS,  
G.I.; ONIPENKO, N.I.; GORCHAK, G.K.; ANDRIYASH, L.T.; ADELIN, I.;  
IGNATOVICH, N.; CHIZHOV, A.; DALMATOV, M.K.; SIKORSKIY, A.N.; KOTIA-  
LENKO, Ya.R.

Information and brief news. Veterinariia 40 no.9:83-93 S '63.  
(MIRA 17:1)

AUTHOR: Onipko, A.M.

7-1-16, 4

TITLE: Distinguished Pedagogues of the National Higher Schools. Vydayushchiyesya pedagogi sotshestvennoy vyssney shkoly. Aleksandr Ivanrievich Kovalevskiy, Deceased

PERIODICAL: Vestnik Vyssney Shkoly, 1958, # ., pp 70-74 USSR

ABSTRACT: The article contains a biography of Professor Doctor A.S. Kovalevskiy (1840-1901), the founder of the comparative evolutionary embryology and a follower of Darwinism. According to the article he was also an advocate of natural scientific materialism. His scientific work was always closely connected with his pedagogical activity. In February 1870 he was appointed professor at the Kazan' University and placed in charge of the chair of Zoology. In the course of 21 years he taught this subject at the Kiyev and Novorossiysk universities. In 1897, he was elected member of the Russian Academy of Sciences.  
There are 14 Russian references.

AVAILABLE: Library of Congress

Card 1/1

ONIPKO, V., starshiy tekhnik-leytenant

Device for clamping main shock struts. Av. i kozm. 45 no.3:24  
Mr '63. (MIRA 16:3)  
(Shock absorbers)

KARLIN, M.I., kand.med.nauk; KLEBANOV, G.Ya.; ONIPKO, V.A.

Dispansery service for patients with lupus erythematosus. Vest.  
derm.i ven. no.11:56-58 '61. (MIRA 14:11)

1. Iz Kozhno-venerologicheskogo dispansera No.3 Leningrada  
(glavnnyy vrach S.M. Grudinina, nauchnyy rukovoditel' - cheln-  
korrespondent AMN SSSR zasluzhennyy deyatel' nauk RSFSR prof.  
S.T. Pavlov).

(LUPUS ERYTHEMATOSUS)

C N I S H C H Z N K O , A . A .

2 (1) Shevchenko, N. M., Kolosov, N. B., Sovr' - 19-0-1177  
Aptusov, Yu. A., Karapetyan, M. G.,  
Chernom, Ye. S., Onishchenko, A. A.

INVESTIGATIONS IN THE FIELD OF TETRAYCLINES (Tetralactones, "elephant's trunks"), IV. Investigation of different syntheses of the tricyclic system of the tetraacycline (IV, known also as pentacyclic tricyclohexoy system DCG tetra-  
cyclines)

JOURNAL: Zhurnal obnaruzhenii, 1959, Vol 29, Br. 6, pp 1051 - 1042  
(USSR)

ABSTRACT: The structure of the well-known tetracyclines (I) has a specific characteristic which indicates the ways and methods necessary for carrying out the complete synthesis of compounds of this type. On the basis of certain theoretical considerations the authors tried to synthesize such ketone of the hydrocarbon series of type (III) and (IV) in which two rings had to be similar with respect to structure and position arrangement to the rings D and C of the tetracyclines. The third ring had to offer the structural conditions for the subsequent building-up of the ring A and for the introduction of the necessary functional groups of the tetracycline. The adopted method of synthesizing these compounds consisted in the condensation of 1,4-daphthoquinones with butadiene or derivatives and the transformation of the resulting adducts (II) into the ketone (III) which, on their part, can easily be converted to the oxy-diketone (IV). The first step, the addition of butadiene, takes place readily by means of daphthoquinones and alkynes. By condensation of the 5-hydroxy-daphthoquinone with 2-methoxybutadiene two isomeric adducts - (II, 4) and (II, 5) - are formed. The second step, the selective transformation of the C(=O)-C(=O) group of the adduct (II) into the tertiary carbonyl group - $\text{C}(=\text{O})-\text{CH}_2-$  is also possible. However, it is necessary to carry out this reaction under difficult conditions. It is possible to carry out the synthesis by means of magnesium methyl halide. The third step of the synthesis of the compound (IV) is the hydrolysis of the enol-methoxy up to the keto group is only possible when using dilute acids. The synthesis of the tricyclic system (IV) was performed on the basis of daphthoquinone, in which two rings are analogous with the rings D and C of the natural tetracyclines.

CARD 1/3

The second group of the ring B of the tetracyclines. The adopted method of synthesizing these compounds consisted in the condensation of 1,4-daphthoquinones with butadiene or derivatives and the transformation of the resulting adducts (II) into the ketone (III) which, on their part, can easily be converted to the oxy-diketone (IV). The first step, the addition of butadiene, takes place readily by means of daphthoquinones and alkynes. By condensation of the 5-hydroxy-daphthoquinone with 2-methoxybutadiene two isomeric adducts - (II, 4) and (II, 5) - are formed. The second step, the selective transformation of the C(=O)-C(=O) group of the adduct (II) into the tertiary carbonyl group - $\text{C}(=\text{O})-\text{CH}_2-$  is also possible. However, it is necessary to carry out this reaction under difficult conditions. It is possible to carry out the synthesis by means of magnesium methyl halide. The third step of the synthesis of the compound (IV) is the hydrolysis of the enol-methoxy up to the keto group is only possible when using dilute acids. The synthesis of the tricyclic system (IV) was performed on the basis of daphthoquinone, in which two rings are analogous with the rings D and C of the natural tetracyclines.

CARD 2/3

resembles with respect to structure and spatial arrangement. The presence of the reactive double bond, the enol group or the carbonyl group in the third ring of the compound (IV) offers further possibilities for the introduction of substituents and for the building up of the fourth ring of the tetracycline. There are 12 references, 4 of which are Soviet.

ASSOCIATION: Institut biologicheskoy i meditsinskoy khimii Akademii nauchno-tekhnicheskikh initsiativ i laboratoriya po issledovaniyu funktsionnykh i biologicheskikh svoistv sochinenii, Institute of Biological and Medical Chemistry of the Academy of Sciences of USSR, and Institute of Organic Chemistry of the Academy of Sciences, USSR

June 9, 1948

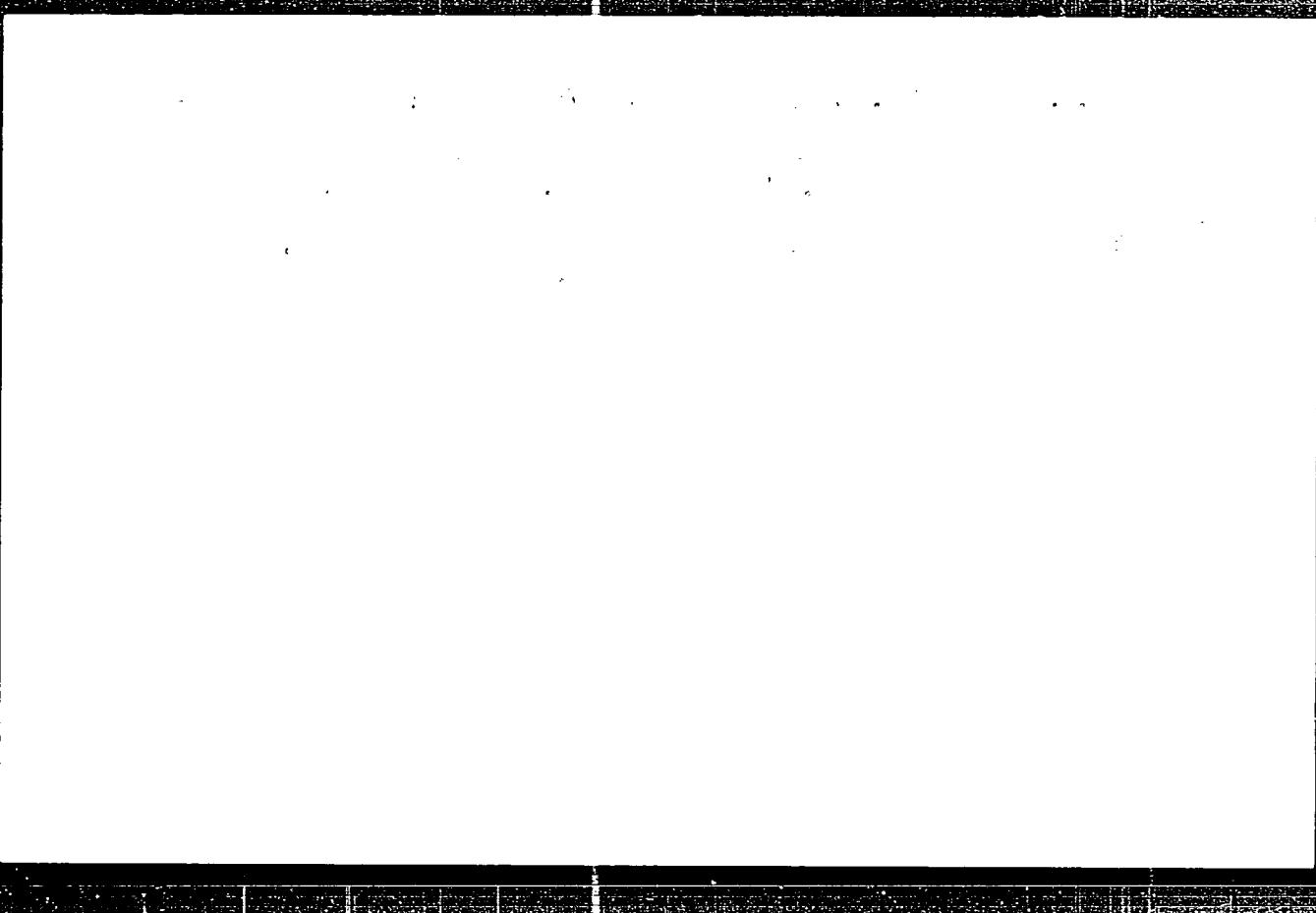
CARD 3/3

ARBUZOV, Yu.A.; ONISHCHENKO, A.A.

Reaction of 1-chloro-1-nitrosohexane with 1, $\beta$ -butadiene.  
Dokl. AN SSSR 146 no. 5:1075-1077 0 '62. (MIRA:15 10)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.  
Predstavлено академиком A.N. Nesmeyanovym.  
(Cyclohexane) (Butadiene)

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238



APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

DELYAGIN, G.N.; KANTOROVICH, B.V.; KARACH NTSEV, V.I.; ONISHCHENKO, A.S.

Combustion of coal and water suspensions at a pilot plant. Уголь  
39 no.9:86-7 S '64. (MI.A 12:10)

TITOV, Viktor Dmitriyevich; ONISHCHENKO, Anna Ivanovna; SOSEDOV,  
C.O., retsenzent; KAPLJUKOV, R.P., otv. red.; YEROKHIN, G.M.,  
red.izd-va; LCHILINA, L.N., tekhn. red.; PROZOROVSKAYA, V.L.,  
tekhn. red.

[Underground method of iron-ore mining] Razrabotka rud chernykh metallov podzemnym sposobom. Moskva, Gosgortekhizdat,  
1963. 181 p. (MIRA 16:12)

(Iron mines and mining)

CHISINAU, M. I.

Potatoes

A more elaborate description of the food available in the city.

9. Monthly List of Russian Acquisitions, Library of Congress, [REDACTED], 1947, Vol. .

Kharkov, U.S.S.R.

1956 (1957)

dictated

Development of the roots of the potato as affected by the methods of planting.  
Agrobiologiya no. 3, 1952.  
Ukrayinskiy nauchno-issledovatel'skiy institut obozreniya i uchovistva, Kharkov

Monthly List of Russian Acquisitions, Library of Congress, September 1952. 1 CL.

UkrSSR, 1961

USA (FOI)

Potatoes

Resistance of potatoes to high temperatures.

Dokl. Akad. Nauk SSSR 1961 no. 2, 1962  
Ukrainskiy Nauchno-Issledovatel'skiy  
Institut vospnchevodstva Charkiv  
red. 7 Dec. 1961

Monthly List of Russian Acquisitions, Library of Congress, ~~Aug 1962~~  
August 1962

1. СНЕЧЕНКО, А. И.
2. УССР (60)
4. Потатос
7. Effect of conditions under which the seed stock grew on the yield of potato seedlings, Агрономія №. 1, 1953.
9. Monthly List of Russian Accessions, Library of Congress, May 1953. Unclassified.

VAGANOV, A.P.; ONISHCHENKO, A.I.

Investigation of the efficiency of top dressing potatoes with  
superphosphates. Dop. UN URSR no.2:152-156 '56. (MIRA 9:12)

1. Kharkiv's'kiy sil's'kogos'podars'kiy insitut imeni Dokuchayeva  
i Ukrains'kiy n.-d. institut ovochivnitstva. Predstavлено akademikom  
Akademii nauk USSR i Vsesoyuznoy Akademii sel'skokhozyaystvennykh  
nauk imeni Lenina P.A. Vlasyukom.  
(Phosphates) (Potatoes)

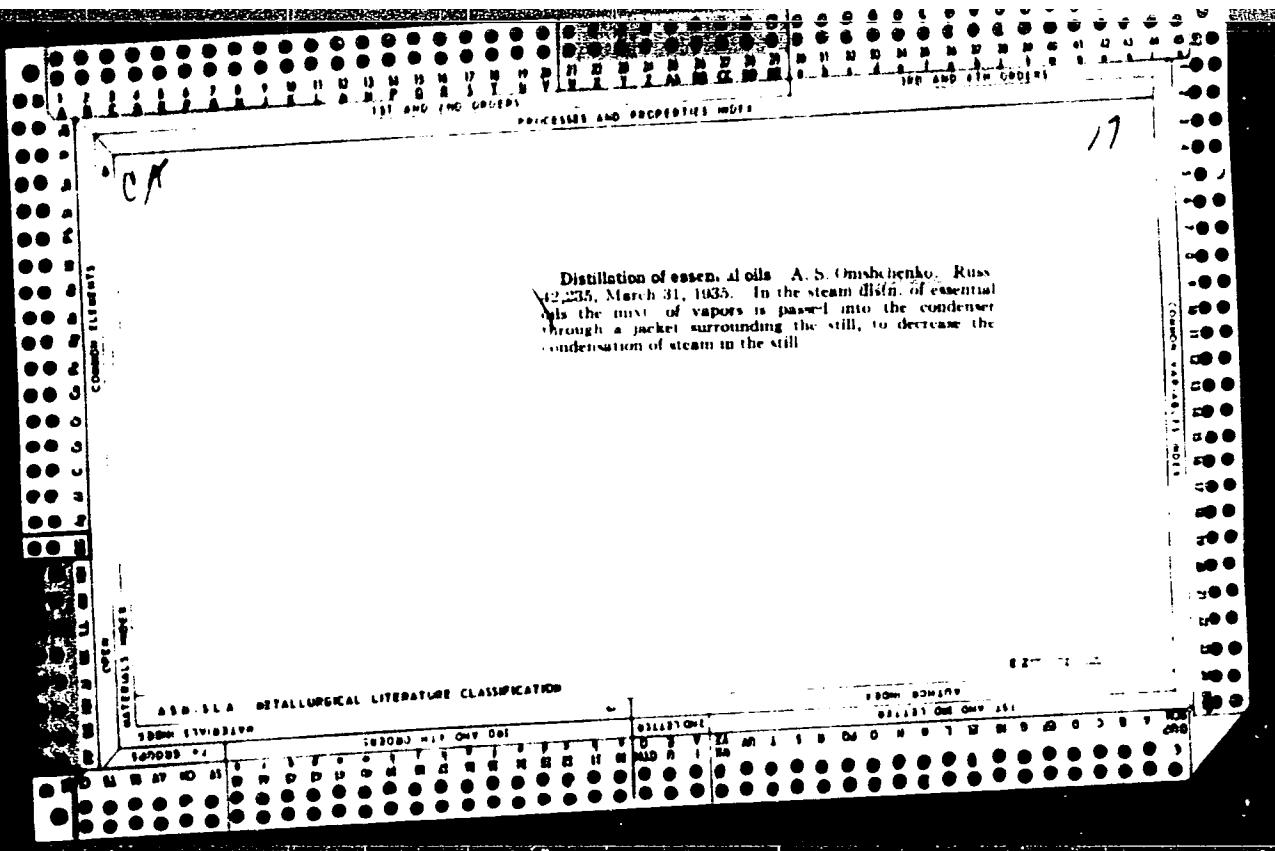
GOLIKOV, Vladimir Ivanovich [Holikov, V.]; ONISHCHENKO, Aleksey Moiseyevich [Onyshchenko, O.]; SKLYARENKO, O., red.; MIL'KIN, Yu., tekhn. red.

[Cost of farm produce and how to reduce it] Sobivartist' sil'-s'kohospodars'koi produktsii i shliakhy ii znyzhennia. Kyiv, Derzh.vyd-vo polit.lit-ry URSR, 1960. 70 p. (MIRA 15:1)  
(Ukraine—Farm produce)

ONISHCHENKO, A.M.; VAS'KO, V.N., GLOVNYAK, I.F., red.; KHOKHANOVSKAYA,  
T.I., tekhn. red.

[Handbook for training in geological mapping] Rukovodstvo k  
provedeniu uchebnoi praktiki po geologicheskому kartirova-  
niyu. Kiev, Izd-vo Kievskogo univ., 1962. 78 p.  
(MIRA 16;7)

(Geology--Maps)



## PROCESSES AND PROPERTIES INDEX

CIA-RDP86-00513R001238

CH

17

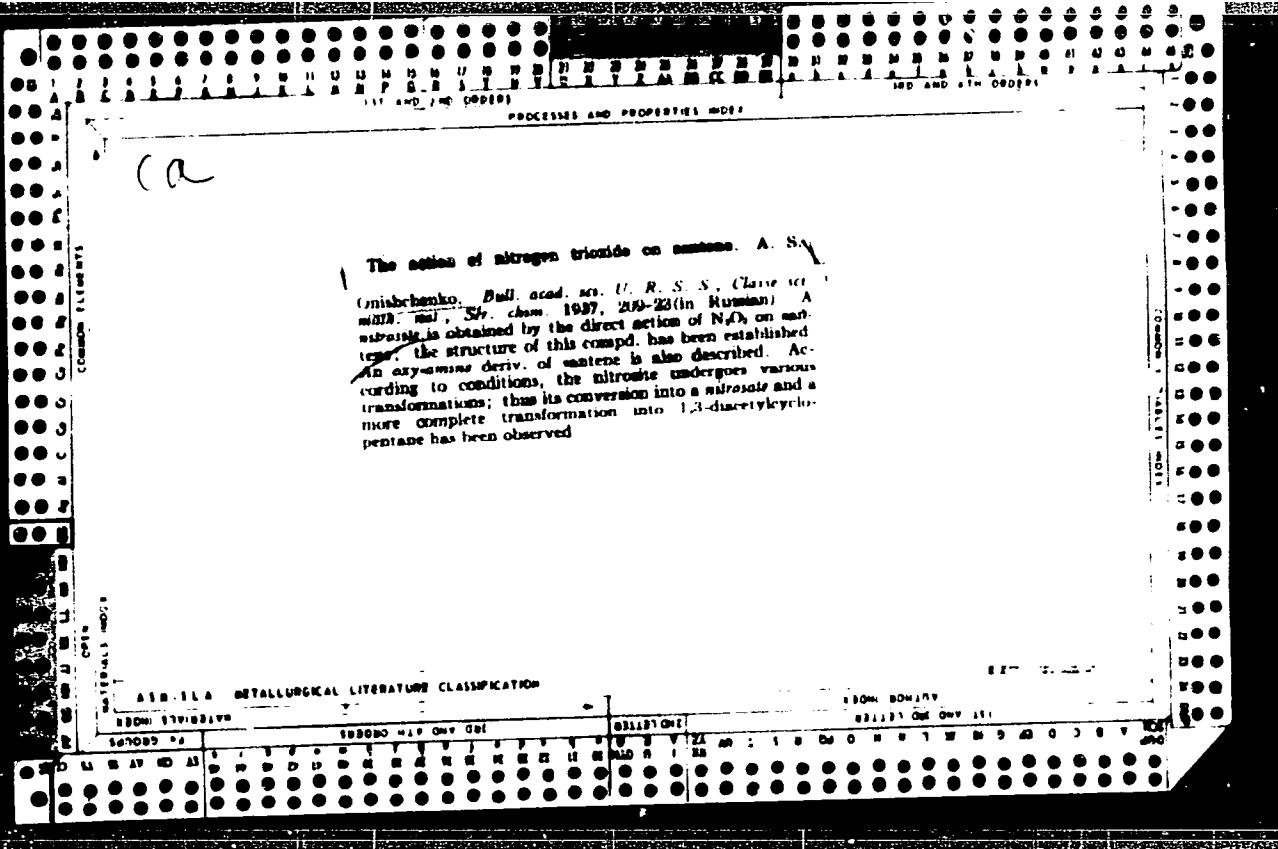
The composition of the esterified oil of the Siberian fir tree, W. W. Williams and A. S. Charkiewicz, *J. Soc. Chem. Ind.*, 1926, No. 2, 18-21.—The oil contains up to 22% of bornyl acetate, acetone, 1- $\alpha$ -pinene, bornyl acetate, bornyl acetate, acetone, 1- $\alpha$ -pinene, 1- $\beta$ -pinene, 1-camphene, 1- $\alpha$ -phellandrene and dipentene. In the hydrocarbon part of the oil there is apparently a hydrocarbon of unknown compn. D. V. Shlyapnikov.

430-314 METALLURGICAL LITERATURE CLASSIFICATION  
430-314 METALLURGICAL LITERATURE CLASSIFICATION  
430-314 METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

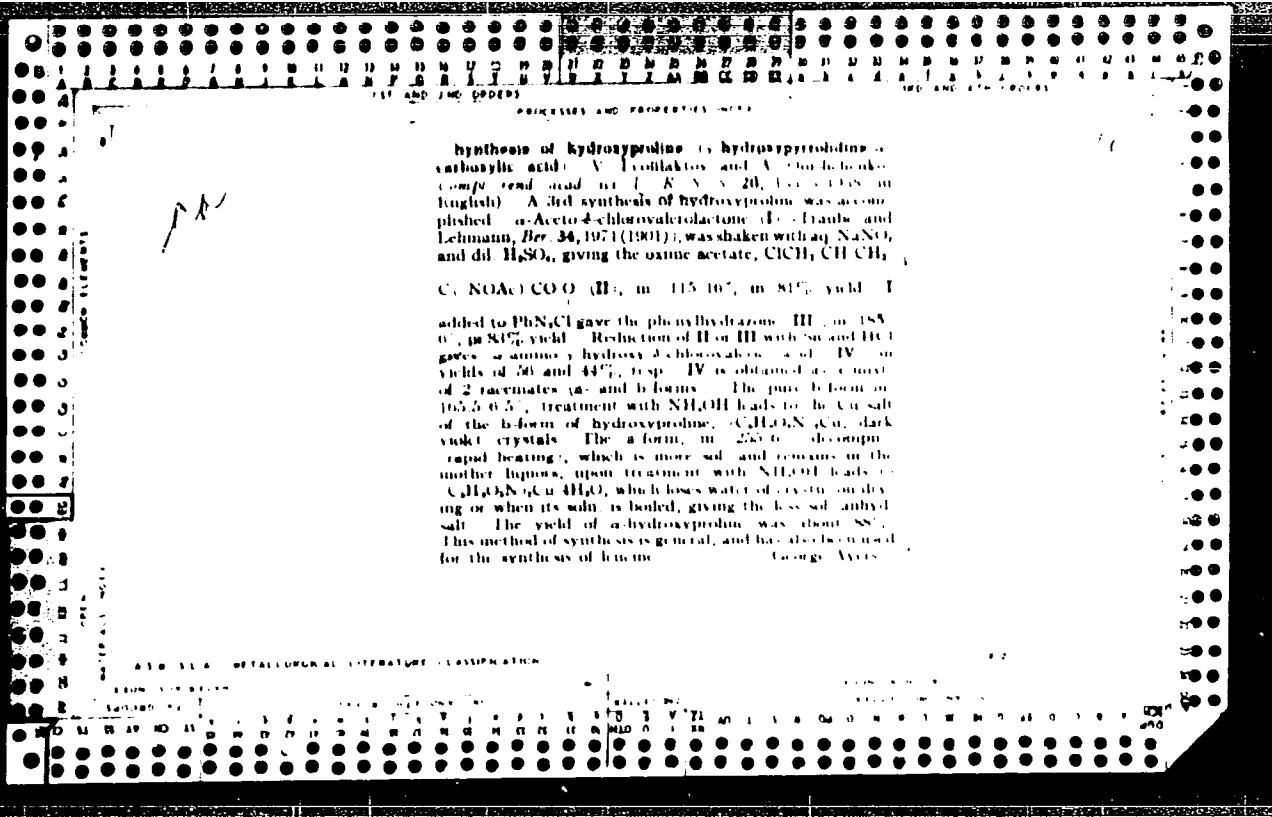
A study of the composition of Astrakhan whitefish oil  
N. V. Williams and A. S. Onushchenko, *Schaffens technai  
Forschungsinst. Lebensmittelchem.* U.S.S.R. 4, 145-9  
(1953). Sep. analyses were made of the oil from different parts of the Astrakhan whitefish. Body oil, the principal fraction, had const. and compn. as follows:  
d<sub>40</sub><sup>20</sup> 0.9232; n<sub>D</sub><sup>20</sup> 1.4750 (butyrorefractometer 73.3);  
f.p. 21°; unsaponifiable 0.00%; acid no. (mg. KOH)  
14.53; sapon. no. 104.33; Ac no. 11.28; Reichert-Meissl  
no. 146; I no. 140.21; thiocyanate no. 94.58; sard.  
acids (Bettmann) 22.45%; acid neutralization no. (Bett-  
mann) 244.4; av. mol wt. sard. acids 230; m.p. of sard.  
acids 53.64°; f.p. of sard. acids 50.5-51°; percentage of  
acids stearic + palmitic 22.13; oleic 43.8; linoleic 3.91;  
linolenic 12.45; alpha-linolenic 0.71; undet. 3.0; un-  
saponifiable matter 0.6%; glycerol (by difference) 7.4%.  
Author: F. Smith

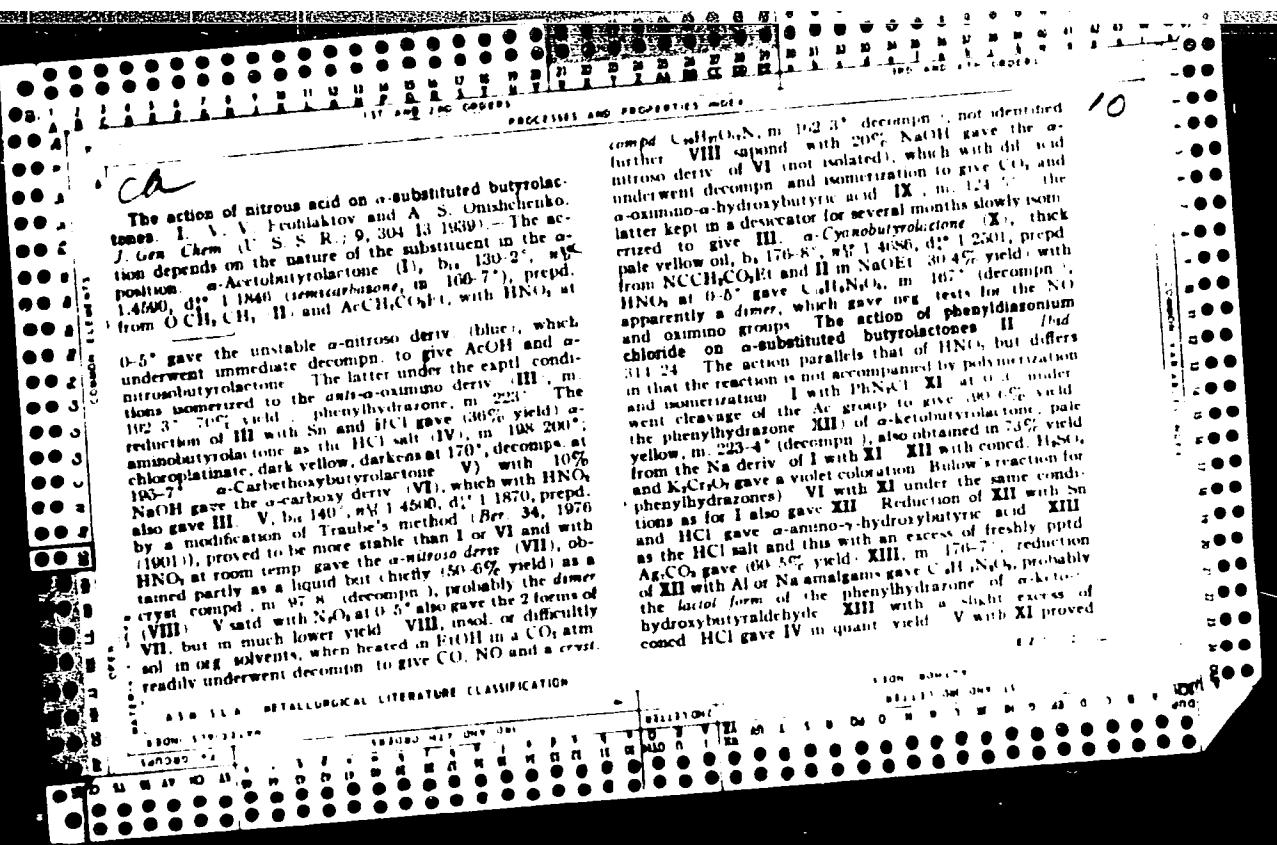
ESD-SEA METALLURGICAL LITERATURE CLASSIFICATION



Action of  $N_2O_4$  on 1,3-cyclohexadiene. A. S. Omishchenko, Bull. Acad. sov. URSS, Classe des math. nat., Ser. chim. 1937, No. 40, cf. C. A. 31, 5341<sup>a</sup>. The purpose of this work is to study the interaction of the di-olefin with the oxides of N<sub>2</sub>. Couturier (Ann. de chimie et ses appl. 20, 493 (1902)) found  $C_6H_6N_2O_4$  was produced when  $NO_2$  acted on dimethylbutadiene. Wieland (Ber. 40, 4825 (1907)) studied the action of  $NO_2$  on diphenylbutadiene. Wieland and Stenzl (Ann. 360, 289 (1908)) studied the action of  $NaO_2$  on cyclopentadiene. Dem'yanov et al. (Zh. obshch. khim. 28, 43, 47) studied the action of  $NaO_2$  on butadiene and dimethylbutadiene. The latter gave  $C_6H_6N_2O_4$  in 104% and another liquid, which were reduced to 1,4-diamino-2,3-dimethyl-2-butene. Similarly, 1,3-cyclohexadiene plus  $NaO_2$  gives 1-nitroso-4-nitro-2-cyclohexene which gives upon reduction 1,4-diamino-2-cyclohexene plus hydroxylamino cyclohexene, a by-product.  $NaO_2$  is passed into an ether or  $CHCl_3$  soln. of 1,3-cyclohexadiene, at -5°. A slight excess of the diene is used. Light yellow blocks of crystals are formed in the colorless medium. If the mix. comes to 20°, the oxides of N<sub>2</sub> escape; the medium turns brown, the ppt. turns into a brown greasy mass, then into a tar, and finally solidifies. If the ppt. is filtered, the

change is very rapid, thus defeating further identification. A positive Liebermann reaction is produced by the nitro group. These crystals combine with amine, giving an un-identified crystalline substance in 20%. Other media gave similar results. Reduction of 1-nitroso-4-nitro-2-cyclohexene was performed with 200 g. Sn and 700 cc. concentrated HCl acting on 14 g.  $NaO_2$  and 15 g. 1,3-cyclohexadiene in ether at -10°. After 4 hrs., the flask was warmed for 2 days. The Sn with  $H_2S$  removed and the filtrate was evapd. in vacuo. The residue was dissolved in 30 cc.  $H_2O$  and made strongly alk. with KOH. Extrn. with ether yielded 8 g. of crude amine which was a brown oily viscous liquid. After fractionation the distillate was dissolved in abs. EtOH and dry HCl passed in. The white crystalline hydrochloride  $C_6H_6(NH_2)_2 \cdot 2HCl$  was the main product while the soln. contained  $C_6H_6NH_2OH \cdot HCl$ ,  $C_6H_6(NH_2)_2 \cdot 2HCl \cdot PtCl_4$ ,  $C_6H_6(NH_2)_2 \cdot 2HCl \cdot 2AuCl_4$  and  $C_6H_6(NH_2)_2 \cdot HCl \cdot H_2O$ . AuCl<sub>4</sub> was prep'd. S. K.





to be stable and gave the  $\alpha$ -phenylazo derris (XIV), not purified. To prove its structure XIV, which gave a neg. Bölow reaction, was saponified with dil NaOH and the sapon. product decarboxylated with dil  $H_2SO_4$  to give the phenylhydrazone (XV) of  $\alpha$ -keto- $\gamma$ -hydroxybutyric acid, bright yellow, m. 162° (decomp.), also obtained by the sapon. of XIII. XV gave a pos. Bölow reaction. The reaction of  $\alpha$ -cyanobutyrolactone with phenyldiazonium chloride III. *Ind.* 323-30-X with XI behaves in a manner analogous to that of the monoalkylkyanoacetic esters studied by Favrel (*Bull. soc. chim.* [3], 27, 103 (1902)). X added to a soln. of XI at 0° gave (88.0%) yield of  $\alpha$ -phenylazo- $\alpha$ -cyanobutyrolactone (XVI), bright yellow, m. 101.2° (decomp.), which gave a neg. Bölow reaction. XVI with alc. or eq. NaOH underwent ring cleavage and loss of  $CO_2$  to give the phenylhydrazone (XVII) of  $\alpha$ -keto- $\gamma$ -hydroxybutyryonitrile, pale yellow, m. 108.2°. XVII gave a pos. Bölow reaction. XVII with 10% HCl gave a HCl salt (XVIII), emerald yellow, m. 147.8° (decomp.), which probably exists in 2 tautomeric forms, as the HCl salt of XVII and as the HCl salt of 2-imino-3-oxotetrahydroan phenylhydrazone. XVIII neutralized with eq. KOH gave XVII, but with boiling water the product was XII. XVII with boiling water gave the amide of XV, m. 102-3°, which heated with dil HCl gave XII. *Synthesis of hydroxypyroline ( $\gamma$ -hydroxy pyrrolidine- $\alpha$ -carboxylic acid)* IV. *Ind.* 331-9. See John Livak  
A 33, 1725.

30

(A) Action of hexamethylenium chloride on substituted  $\gamma$ -butyrolactones. (B) Interaction of  $\alpha$ -cyno- $\omega$ -phenylketones with hexamethylenium chloride. V. V. TROFIMOV and A. S. OZMAKOVICH. *J. Russ. Chem. Soc.*, 1930, 9, 314—324, 326—327. (A)  $\alpha$ -Amido- $\gamma$ -butyrolactone or  $\gamma$ -butyrolactone- $\alpha$ -carboxylic acid and eq.  $PbN_3Cl$  at 0° yield the phenylhydrazine (I) of  $\alpha$ -keto- $\gamma$ -butyrolactone, which with  $NaOH$  yields  $\gamma$ -butyrolactone, the product of  $\alpha$ -cyno- $\omega$ -phenylketone- $\gamma$ -butyrolactone, and  $CH_3CO_2H$  treated by eq.  $NaOH$  to the phenylhydrazine of  $\alpha$ -phenyl- $\omega$ -butyric acid. (I) is reduced to  $\alpha$ -amino- $\gamma$ -butyrolactone acid by tin in eq.  $HCl$ , and to the phenylhydrazine of 2-hydry-3-aminobutyrolactone, m.p. 104—105°, by Al-Hg in  $H_2O$ . (B)  $\alpha$ -Cyno- $\omega$ -butyrolactone and  $PbN_3Cl$  at 0—3° yield  $\alpha$ -diazirino- $\alpha$ -cyno- $\omega$ -butyrolactone, m.p. 101—102° (decomp.), which with  $NaOH$  in  $EtOH$  at room temp. gives the phenylhydrazine of  $\gamma$ -hydry- $\alpha$ -keto- $\beta$ -butyrate (II), m.p. 168—170°, the Apiezonchloride,  $m.p. 167—168^{\circ}$  (decomp.), of which yields (I) with boiling  $Hg_2O$ . (II) and  $H_2O$  at the b.p. give the phenylhydrazine of  $\gamma$ -hydry- $\alpha$ -butyric acid, m.p. 162—163°, converted into (I) by heating with dil. eq.  $HCl$ .

R. T.

ONISHCHENKO, A. S., FEOFILAKTOV, V. V.

"Synthesis of Oxyproline ( $\gamma$ -Pyrrolidine- $\overset{1}{\text{C}}$ arboxylic Acid)," Zhur. Obshch. Khim., 9, No. 4, 1939. Institute of Organic Chemistry, Academy of Sciences USSR, Laboratory of Academician N. Ya. Dem'yanov. Received 3 June 1938.

Report U-1517, 22 Oct 1951

CONFIDENTIAL, EXCISE NO. 3

"On the morning of 12 Dec 1967, I was at the office of the Director, DIA.  
Gandy, Rains, etc., etc. I first saw [redacted] on 12 Dec 1967,  
[redacted] was military attaché to [redacted]. [redacted] [redacted]

Report DIA-12, 22 Oct 1967

ONISHCHENKO, A. S., FEOFILAKTOV, V. V.

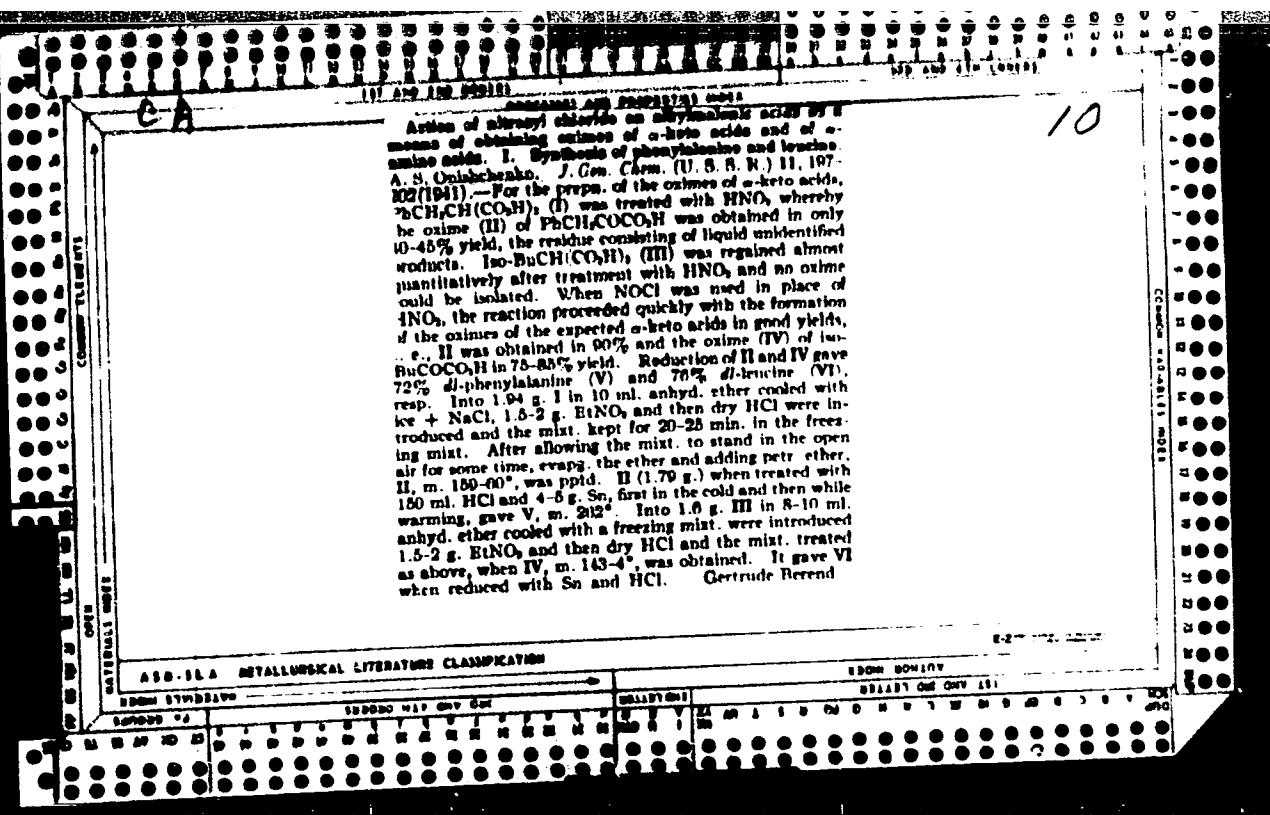
"On the Action of Phenyl diazonium Chloride  $\alpha$ -Replaced Butyrolactones,"  
Zhur. Obshch. Khim., 9, No. 4, 1939. Institute of Organic Chemistry  
Academy of Sciences USSR, Laboratory of Academician N. Ya. Dem'yancv.  
Received 7 June 1938

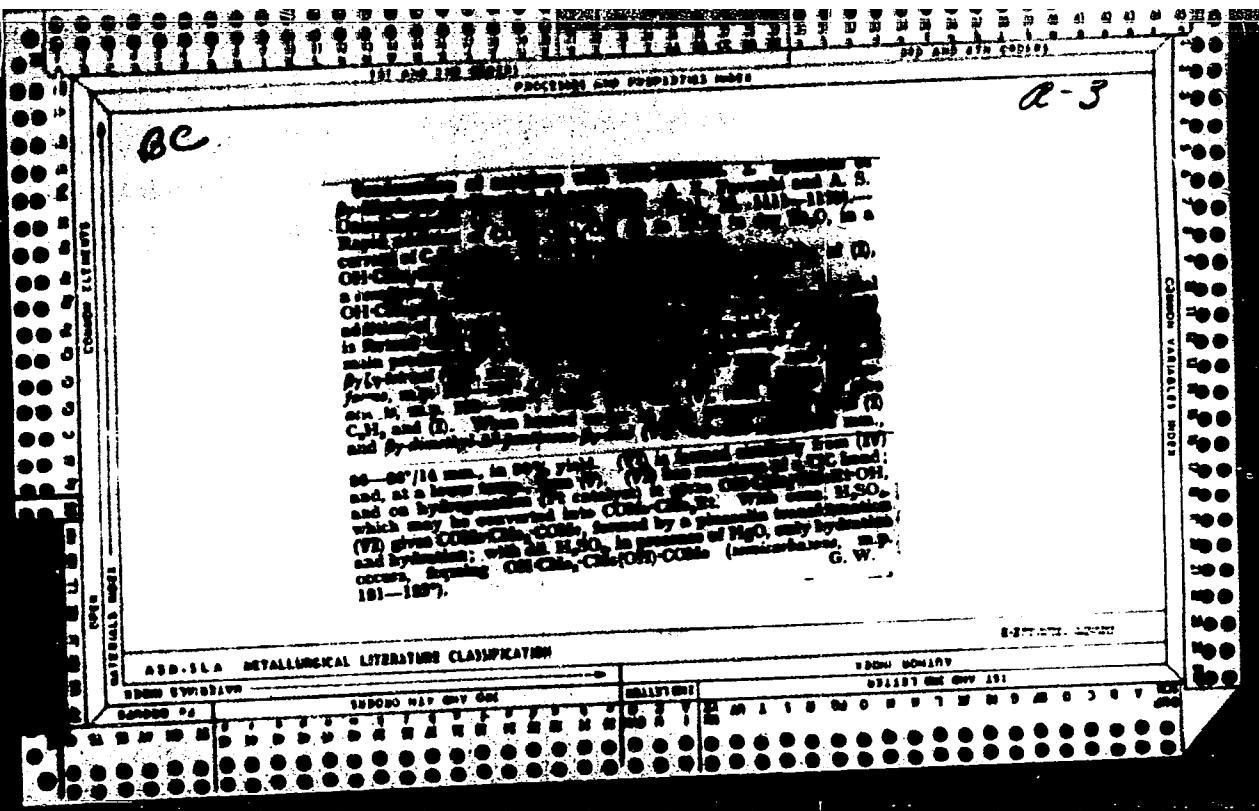
[redacted] Report U-1517, 22 Oct 1951

RECORDED IN, T. T., WICHITA, K. S.

"On the 11th of May, 1945, I was sent to the "Wichita Falls" prison  
camp, Wichita Falls, Texas, to conduct a search for information concerning  
the Japanese间谍 (spy) in the camp."

Report 1 - Page 1 of 1





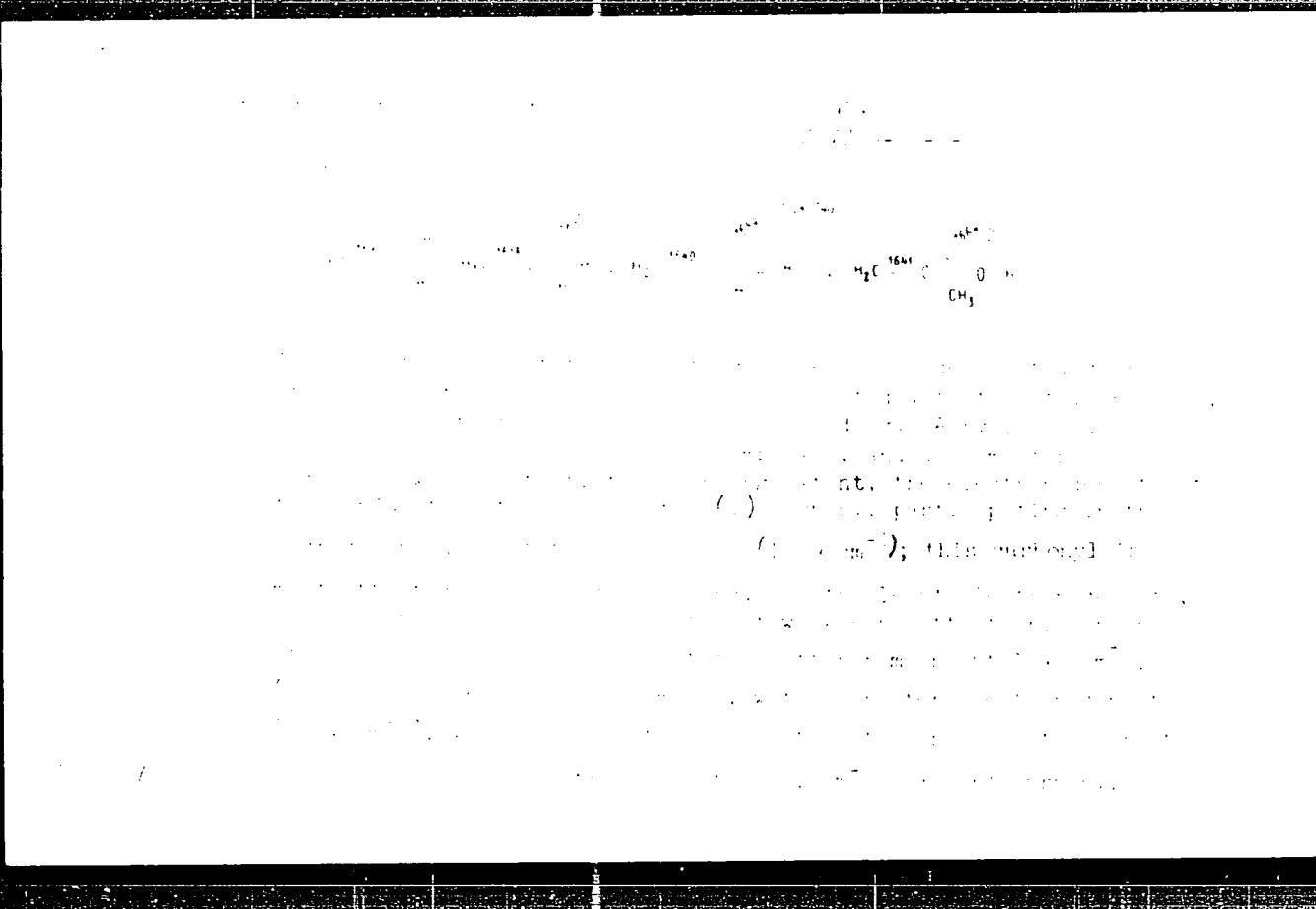
Condensation of acetylene with keto alcohols. II.  
A. S. Onishchenko. *J. Gen. Chem. (U. S. S. R.)* 13, no. 207 (1943) (English summary); cf. *C. A.* 37, 3735.  
Dry Et<sub>2</sub>O (700 cc.) and 50 g. powdered KOH is treated with ice-cooling with a stream of dry  $\text{C}_2\text{H}_2$ ; after 10-20 min., 40.4 g. MeEtC(OH)Ac is added over a period of 3 hrs., while the  $\text{C}_2\text{H}_2$  stream is continued for 6-7 hrs. After standing overnight the mixt. is treated with ice, the aq. soln. ext'd. with Et<sub>2</sub>O and the combined org. soln. acidified with  $\text{CO}_2$ , which causes pptn. of potassium and the erythritol; the latter is ext'd. from the gpt. by  $\text{EtOAc}$ ; the mother liquor ( $\text{Et}_2\text{O}$ ) is evapd. and the total yield of cryst. product is erythritol, from  $\text{EtOAc}$ , to yield 34-7 g.  $\delta, \delta'$ -tetramethyl- $\beta, \beta', \beta$ -trihydroxy- $\delta$ -acryne, m. 111-12° (for the benzene-acet. portion) and m. 155.6° (for original crude mixt.); heated with KOH soln. it smoothly decomposes into  $\text{C}_2\text{H}_2$  and the original carbinol. The mother liquor, after removal of the erythritol, on distil., yields 8-8 g.  $\beta, \beta'$ -dimethyl- $\beta, \beta$ -dihydroxy-1-acyne,  $\delta_1$  92.3°,  $\delta_2^{\text{D}} 146.08$ ,  $d_2^{20} 0.9004$ . The same glycidol results from heating the erythritol to 200° under 8 mm. vacuum, with gradual lowering of the temp. to 150°. The 2nd decompos. product is the initial carbinol. The glycid hydrogenates readily (Pt catalyst) to the dimethylidobis(ether) glycidol,  $\delta_1$  103.1°,  $\delta_2^{\text{D}} 146.42$ ,  $d_2^{20} 0.9040$ . MeEtC(OH)Ac, (b

160 °,  $\eta^* = 1.4210$ ,  $\delta^2 = 0.0212$ , *semicarbazone*, m. 103-4° (65 g.) was reacted in the above manner with  $\text{CuI}$  to yield 20 g.  $\text{E}, \eta^* = 0.97$ -*tert*- $\alpha, \beta, \gamma, \delta$ -tetrahydroxy- $\alpha$ -dodecene, m. 123-4° (from  $\text{EtOAc}$ ), which shows reactions analogous to the above cyclohexyl, on thermal decomposition,  $\Delta H = 3.02 \pm 0.02$  kcal./mole,  $\delta^2 = 0.0191$ ,  $\eta^* = 0.95 \pm 0.01$ ,  $\delta^2 = 1.4653$ ,  $\delta^2 = 0.0722$

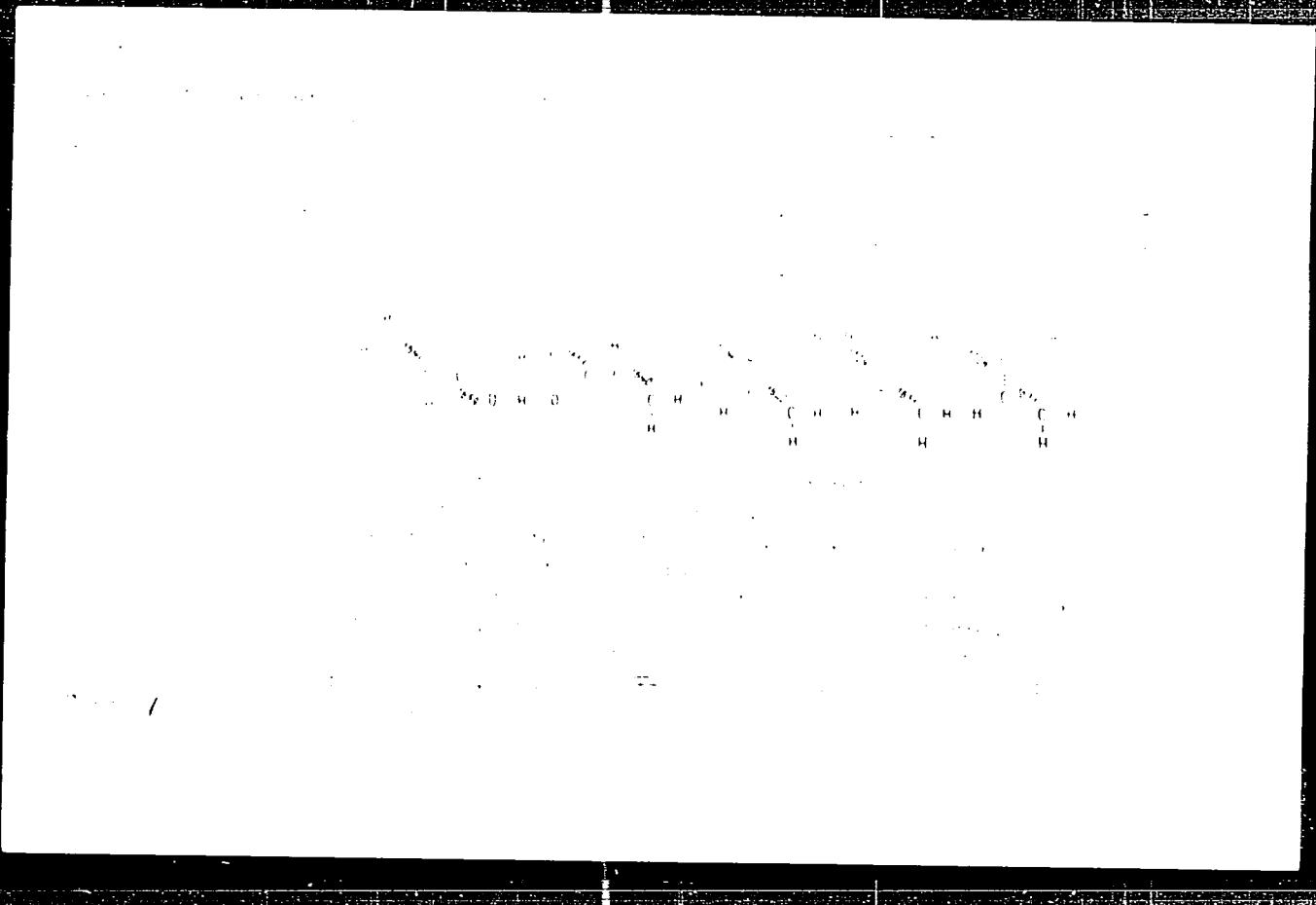
APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0012381

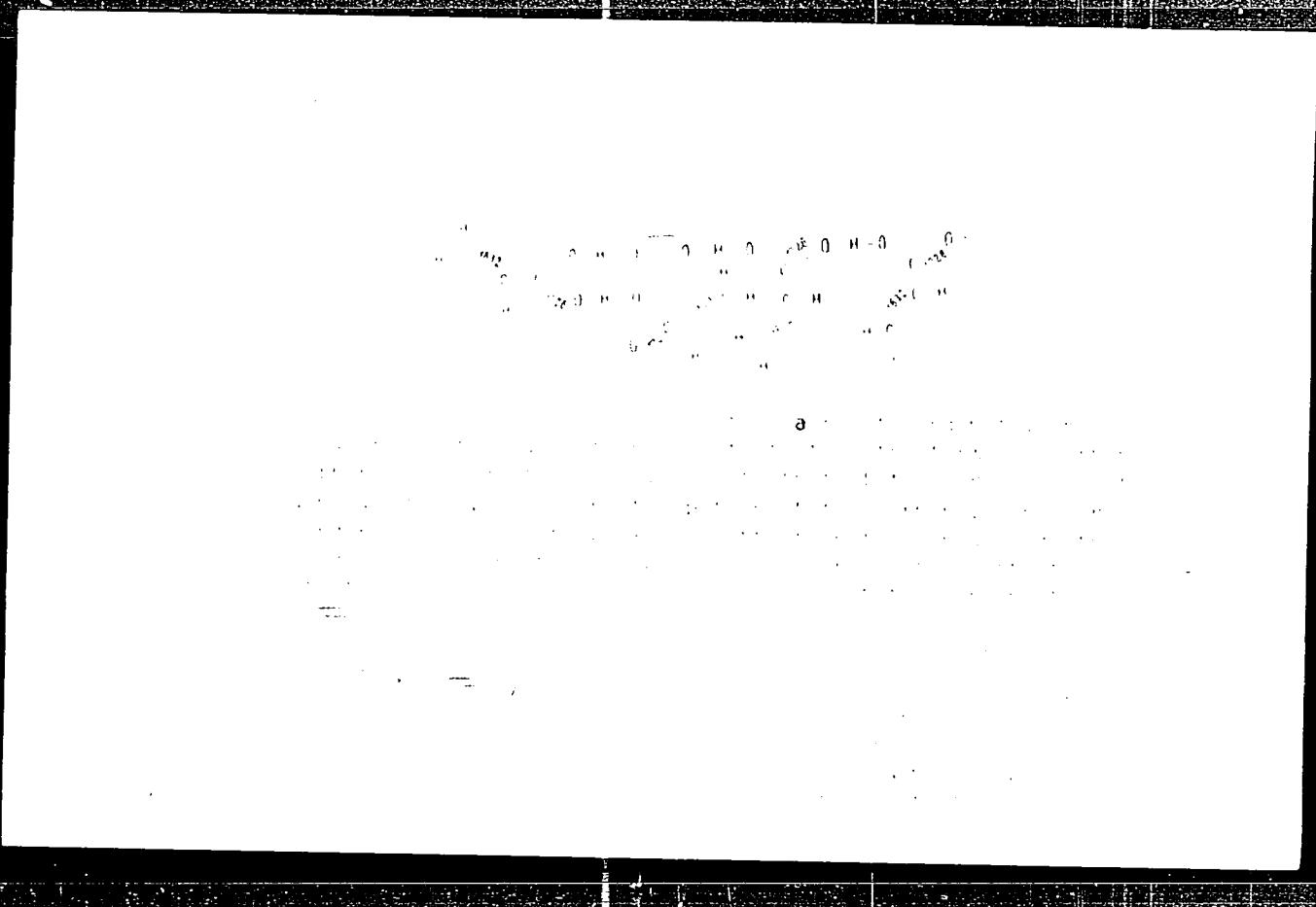


"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001238



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Opposition to the Soviet Union  
Khrushchev's policies  
AIDS

ASSASSINATION

CONFIDENTIAL

Re: [redacted]

5-3600

80062

S/020/60/132/01/36/064  
B011/B126

AUTHORS: Onishchenko, A. S., Aronova, N. I.

TITLE: Cis- and Trans-1-halobutadienes and Their Relation to the Diene Synthesis

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 1, pp. 138-140

TEXT: Until now nothing was known about the geometric isomerism of 1-halo-butadienes. According to several signs it can be concluded that they represent trans-isomers. The authors have established that 1-chloro-butadiene, which is produced by the dehydrochlorination of 1,4-dichlorobutene-2 (Refs. 2, 3, 16), represents a mixture of cis- and trans-isomers (about 9:1), which are inseparable. If this mixture is allowed to react with maleic anhydride (at 50-55°, 12 h long), then a normal product of diene synthesis is produced (yield 10%). The structure of the latter was proved by dehydrogenation to phthalic anhydride. From this it is quite certain that the mixture used contains about 10% of trans-1-chloro-butadiene, from which the adduct is produced. The cis-isomer that is left behind after the separation of the adduct does not react on diene synthesis. Even so, cis-1-chloro-butadiene is changed into the trans-

Card 1/2

80062

Cis- and Trans-1-halobutadienes and Their Relation to  
the Diene Synthesis S/020/60/132/01/36/064  
B011/B126

isomer relatively easily in the presence of iodine. An equilibrium mixture of the cis- and trans-forms is produced by this, just as in the case of cis-piperylene (Ref. 17). The Raman spectra of the isomeric mixture of 1-chloro-butadiene-1,3 were taken and studied (Ref. 18). Analogously 1-bromine-butadiene-1,3 is a mixture of cis- and trans-isomers. The cis-form was also isomerized to a trans-form by the effect of iodine. It forms an adduct with maleic anhydride. HBr was already split off from this adduct at  $\sim 70^\circ$  and after 100 h. A molecule of maleic anhydride was added so that a bis-anhydride  $C_{12}H_8O_6$  was formed. It has a melting point of  $364^\circ$  and is hydrolyzed as an anhydride of a tetra-basic acid with alkali. There are 19 references, 7 of which are Soviet. 4

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskogo of the Academy of Sciences, USSR)

PRESENTED: January 8, 1960, by B. A. Kazanskiy, Academician

SUBMITTED: January 2, 1960

Card 2/2

S/020/60/132/03/25 Or,  
B011/B008

AUTHORS: Batuyev, M. I. Onishchenko, A. S. Matveyeva, A. D.  
Aronova, N. I.

TITLE: Optical Investigation of Geometric and rotatory Isomerism  
of Some Dienes

PERIODICAL. Doklady Akademii nauk SSSR. 1960, Vol 132, No 3,  
pp. 581-584

TEXT. The authors state on the basis of Refs 1-4 that the flat trans-form (II) is absolutely prevalent up to 95% in 1,3-butadiene at room temperature. The cis-form (I) possesses no center of symmetry. At room temperature it is only admixed to the trans-form. These statements are confirmed chemically. 1,3-butadiene enters into the Diels-Alder synthesis only slowly at room temperature. This reaction takes place much more easily at a temperature rise which corresponds to the transition of the trans-form into the cis-form. Rotatory isomerism is also possible in the mono- and di-substituted 1,3-butadienes investi-

Card 1/3

Optical investigation of Geometric and  
Rotatory Isomerism of Some Dienes

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B011/B008

gated by the authors. In some cases, however, it is superimposed to the geometric isomerism, as for example in 1-chloro-1,3-butadiene and piperylene (1,3-pentadiene). On the basis of such a superimposition the authors presume the existence of the following 4 isomers (III), (IV), (V) and (VI) (see Scheme). The trans-forms (III) and (V) predominate here too at room temperature in the liquid phase. They possess no center of symmetry. The symmetric as well as the asymmetric frequencies of their double bonds must therefore appear in their Raman- and IR-absorption spectra. The frequencies must be higher in (V) than in (III). All this was actually established by the authors. They state that the oscillation frequencies of the double bonds of the trans-configurations are higher than those of the cis-configurations. The chemical data are in agreement with these statements. Thus, the cis-configurations of the trans-form (III) do not enter into the Diels-Alder synthesis at  $X = \text{Cl}, \text{CH}_3$  even at a temperature rise, since in this case (III) can only proceed into the cis-configuration of the cis-form (IV), the formation of which is, however, limited sterically. The trans-configurations of the trans-form (V), on the other hand, enter into the Diels-Alder synthesis at temperature rise. They proceed thereby to the trans-

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Rotatory Isomerism of Some Dienes

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configuration of the flat cis form (VI) which favors the said reaction. The authors presume 2 flat forms for chloroprene and isoprene (a trans-form (VII) and a cis-form (VIII) ( $X = Cl, CH_3$ ) exactly as with 2 dimethyl-butadiene (IX) and (X). Of these forms, (VII) and (IX) are prevalent at room temperature. The authors discuss the correlations of these forms with the Raman- and IR-spectra (Table 2) which were recorded on the Soviet spectrograph of type V-57 (ISP 51) and Hilger spectrometer of type E 6'2 (Ye-612). The physical properties of the substances investigated are mentioned finally. There are 1 table and 8 references 4 of which are Soviet

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