"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

69504

Measurement of Shock Adiabates of Cast Trotyl, Crystalline Hexogen, and Nitromethane

S/020/60/131/04/021/073
B013/B007

free surface is equal to double the mass velocity (cf Refs 1-3). The velocity of the shock wave in the substance under consideration and the velocity of motion of the free surface of the metal were determined by electric-contact transmitters the signals of which were produced by a cathode-ray oscilloscope of the type OK-15M (developed by the Institut khimicheskoy fiziki AN SSSR (Institute of Chemical Physics of the AS USSR)). The substances mentioned in the title detonate at pressures of between ~$80 \cdot 10^3$ and $100 \cdot 10^3$ atm. For these experiments the authors used 50 mm long and 20 mm thick samples. With rising pressure P of the shock wave entering the sample to be investigated detonation occurs at different distances l from the interface between metal and the explosive under consideration (cf Table 1). This delay of detonation is also used to extend the pressure range to be measured. The velocities of the shock wave measured in all experiments are contained in table 2. From the results obtained in this manner the authors derived empirical relations between the velocity of the shock wave and mass for all substances investigated. The following data were obtained: for hexogen: D = (2.87+1.61u)km/sec (valid in the pressure range of from $67 \cdot 10^9$ to $155 \cdot 10^9$ bars); for trotyl: D = (2.93 + + 1.41 u)km/sec (valid in the pressure range of from $60 \cdot 10^9$ to $139 \cdot 10^9$ bars);

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

69504

Measurement of Shock Adiabates of Cast Trotyl, Crystalline Hexogen, and Nitromethane

S/020/60/131/04/021/073
B013/B007

for nitromethane: $D = (2.00 + 1.38\ u)$km/sec (valid in the pressure range of from $20 \cdot 10^9$ to $86 \cdot 10^9$ bars). Figure 3 shows the relations between the pressure P behind the front of the shock wave and the relative specific volume V/V_0. The extrapolation of the resulting Hugoniot curves up to the intersection with the Michelson straight carried out on the basis of the last-mentioned relations renders it possible to estimate the pressure at the chemical peak of the detonation wave as well as the ratio between the pressure at the chemical peak and the pressure in the Zhuge plane. Figure 3 shows data obtained by M. Ya. Vasil'yev, D. B. Balashov, and L. N. Mokrousov concerning isothermal static compression of trotyl and hexogen, according to which hexogen is less heated in dynamic compression than trotyl. There are 1 figure, 3 tables, and 6 references, 5 of which are Soviet.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences of the USSR)

PRESENTED: December 9, 1959, by N. N. Semenov, Academician

SUBMITTED: December 9, 1959

Card 3/3

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

21503
S/020/61/137/004/028/031
B103/B208

11,8200

AUTHORS: Apin, A.Ya., Stesik, L.N., and Shvedova, N.S.

TITLE: Shock adiabate of Ballistite powder

PERIODICAL: Doklady Akademii nauk SSSR, v. 137, no. 4, 1961, 908 - 909

TEXT: The shock adiabate represents the relationship between pressure and density of the substance in the shock wave. The laws of conservation of mass and momentum $\rho_0 D = \rho (D - U)$, $P = \rho_0 DU$ (1) relate the pressure P and the density ρ with the propagation velocity D of the shock wave and with the flow velocity U of the substance behind the front of the shock wave. The shock adiabate is determined from the measured values D and U. Shock adiabates of both inert and non-detonating explosives were determined in several recent papers. A knowledge of the shock adiabate of a non-detonating explosive is useful when studying the mechanisms of dissolution and the course of the chemical reaction in the detonation wave. Compact explosives are most interesting from this point of view, as their density deviates only slightly from the maximum. The authors have now

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21503
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B103/B208

Shock adiabate of ...

determined the shock adiabate of H (N) Ballistite powder which contains 27% nitroglycerin, and has a density of 1.58 g/cm^3. The experimental methods were previously described (Ref. 3, A.N. Dremin, G.A. Adadurov, DAN, 126, no. 2, 261, 1959). D was measured in the powder (thickness of the layer = 5 mm). The shock wave penetrated a 5-mm copper plate. The shock adiabate of copper is known. The moment when the shock wave passed through the powder layer was recorded by an OK-15M (OK-15M) cathode oscillograph. The relation between the depth where the detonation is released and the pressure in the shock wave entering into the powder was first determined. It was concluded from Fig. 1 that D in the powder N may be determined up to a pressure of about $130 \cdot 10^9$ bar. Table 1 contains experimental data. It is expressed in the coordinates D, U as follows: $D = 1.760 + 1.86\ U$ (km/sec) (2). By substituting this value in Eq. (1) one obtains a formula that interrelates pressure and density in the shock wave:

$$P = (1.76)^2 \cdot 10^{10} \cdot \rho_0 \frac{\rho/\rho_0(\rho/\rho_0 - 1)}{[\rho/\rho_0 - 1.86(\rho/\rho_0 - 1)]^2} \quad (3).$$

The limiting compression $(\rho/\rho_0)_{max}$ of the powder in the shock wave is determined there-

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21503

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B103/B208

Shock adiabate of ...

from, if the pressure approaches infinity. $(\rho/\rho_0)_{max}$ was found to be 2.16. In the pressure range of $35 \cdot 10^9$ $127 \cdot 10^9$ bar the shock adiabate of the powder N is well described by the exponential formula $P = 5.31 \cdot 10^9 \left[(\rho/\rho_0)^{7.7} - 1\right]$ (4). The resultant value of the shock adiabate may be used for estimating pressure and density of the powder in the peak of the reaction zone of the shock wave. For this purpose, the shock adiabate has to be extrapolated up to the point of intersection with the Michelson straight line: $D^2 = V_0^2 \frac{P}{V_0 - V}$, (5). To construct this straight line, the detonation velocity of the powder N must be known; it was found to be 7010 m/sec. Extrapolation gave a pressure of $312 \cdot 10^9$ bar, a density of 2.64 g/cm^3, and a mass velocity in this zone of 2820 m/sec. The pressure of the explosion products in the Chapman-Jouguet plane of the detonation wave of the powder N was $204 \cdot 10^9$ bar. The ratio of the pressure in the chemical peak to the pressure in the Chapman-Jouget plane is 1.53, which agrees with data obtained by other

Card 3/6

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

21503 S/020/61/137/004/028/031
B103/B208

Shock adiabate of ...

authors. There are 1 figure, 1 table, and 7 references: 6 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English language publication reads as follows: Ref. 7: R.E. Duff, E. Houston, J. Chem. Phys., 23, no. 7, (1956).

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

PRESENTED: October 29, 1960 by V.N. Kondrat'yev, Academician

SUBMITTED: October 26, 1960

Card 4/6

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

L 8901-65 EPA/EWT(1)/EPA(b)/EPA(s)-2/EWT(m)/EPF(c)/EPR/EWP(j)/FCS(f)/H/FCS(k)/EWA(h) Pc-4/Paa-4/Pd-4/Pr-4/Ps-4/Pt-10/Pi-4 RPL/SSD/AEDC(b)/AFWL WW/RM/JWD

ACCESSION NR: AP4044730 S/0207/64/000/004/0124/0126

AUTHOR: Stesik, L. N. (Moscow); Shvedova, N. S. (Moscow)

B

TITLE: Detonation of condensed explosives of small charge density

SOURCE: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 4, 1964, 124-126

TOPIC TAGS: explosive, detonation, detonation velocity, trotyl, tetryl, hexogen, nitrocellulose, charge density

ABSTRACT: To study the possibility of calculating the detonation velocity of explosives with very low charge densities (0.005—0.01g/cm³), the detonation velocities of nitrocellulose charges (13.3% N) in cellophane cases with densities of 0.13—0.67 g/cm³ were measured by high-speed photography. The detonation velocities of charges with lower densities (0.005—0.01 g/cm³) were then calculated with a computer, and the results were compared with the curve of detonation velocity vs charge density extrapolated from data obtained at the higher densities. The results for nitrocellulose are represented by curve 3 in Fig. 1 of the Enclosure. The results showed that the extrapolated values were in good agreement with calculated values. In the calculations, it was assumed that the heat capacity of nitrocellulose is 605.4 kcal/kg, thermodynamic equilibrium is established in the

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ACCESSION NR: AP4044730

3

detonation wave, and the explosion products obey the ideal gas law. Analogous calculations were made for trotyl, tetryl, hexogen, PETN, and picric acid at a single charge density of 0.01 g/cm³. These values together with previous experimental values obtained at higher densities are also plotted in the figure. Curves 6, 5, 4, and 2 represent trotyl, picric acid, PETN, and hexogen, respectively. Trotyl and picric acid showed good agreement between extrapolated experimental and calculated values. For PETN and hexogen, the calculated values were considerably lower than the extrapolated data. The largest discrepancy was found with hexogen. To explain this, special tests were made with hexogen of 0.53—1-g/cm³ density. The results are represented by curve 1. It was found that the present experimental data were somewhat lower than those obtained previously. This is attributed to the use of glass cases. Orig. art. has: 4 tables and 1 figure.

ASSOCIATION: none

SUBMITTED: 06Jan64 ATD PRESS: 3105 ENCL: 01

SUB CODE: WA NO REF SOV: 003 OTHER: 004

Card 2/3

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

STESIK, L.N. (Moskva); SHVEDOVA, N.S. (Moskva)

Detonation of condensed explosives at low charge densities. (MIRA 17:10)
PMTF no.4:124-126 Jl-Ag '64.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

USSR/ Organic Chemistry - Synthetic organic chemistry E-2

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 11649

Author : Korobitsyna I.K., Yur'yev Yu.K., Shvedova S.N.

Title : Synthesis of 1,4-Diaminobutanone-2.

Orig Pub : Zh. obshch. khimii, 1956, 26, No 6, 1660-1662

Abstract : 51 g of 1, 4-dichlorobutyne-2 are stirred for 8 hours with 2 liters of concentrated NH_4OH, acidified with concentrated HCl, evaporated 70 hours, extracted with ether; yield of 1,4-diaminobutyne-2 (I) 37%, BP 82-84°/ /6 mm, MP 41-43°. 5.4 g I in 360 ml 10% solution KOH are shaken for 3 hours with 18.4 g C_6H_5COCl to convert to N,N'-dibenzoyl-1, 4-diaminobutyne-2 (II), yield 90.3%, MP 210° (from alcohol); 15 g II, 900 ml 90% CH_3COOH and 6 g H_2SO_4 allowed to stand for 12 hours, heated 20 hours at 70-80°, filtered, solvent evaporated, added 300 ml water; yield of N,N'-dibenzoyl-1, 4-diaminobutanone-2 (III) 72%; 3 g III boiled 30 hours with 75 ml 98% CH_3COOH + 75 ml concentrated HCl (added four times 10 ml of HCl). Solution decolorized with charcoal, evaporated in vacuum, and extracted with ether. To almost dry residue added 35 ml alcohol; at 0° the hydrochloride of 1,4-diaminobutanone-2 separates out, yield 65%, MP 215-216° (decomposition).

Card 1/1

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDOVA, S. N.

Synthesis of 1,4-diamino-2-butanone. I. K. Korobitsyna, Yu. K. Yur'ev, and S. N. Shvedova. *J. gen. Chem. U.S.S.R.* 20, 1861-3(1950)(English translation).—See C.A. 51, 1836i. B. M. D.

4

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

[illegible], S.V., [illegible], A.I.; SHVEDOVA, E.N.

[illegible] the joint action of grillage and wall panels standing [illegible] full-scale reinforced concrete [illegible]. Osn., fund. i mekh. [illegible] 7 no.5:18-21 '65. (MIRA 18:10)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

NOVIKOV, S.S.; FAYNZIL'BERG, A.A.; SHVEDOVA, S.N.; GULEVSKAYA, V.I.

Condensation of gem-dinitroalkanes with aliphatic aldehydes and amines. Izv. AN SSSR.Otd. khim. nauk no.11;2056-2058 N '60. (MIRA 13:11)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Paraffins) (Aldehydes) (Amines)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

S/078/62/007/005/004/014
B101/B110

AUTHORS: Nisel'son, L. A., Teslitskaya, M. V., Shvedova, T. A.

TITLE: Synthesis of zirconium(IV) iodide and hafnium(IV) iodide by halogen exchange

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 5, 1962, 971 - 974

TEXT: The following reactions are discussed for preparing pure $Zr(Hf)I_4$: (A) $ZrCl_4 + 4NaI \rightleftharpoons ZrI_4 + 4NaCl$. The initial mixture was molten in an evacuated ampoule (650-700°C), and the ampoule heated on one side (initially 400°C, finally 650-700°C) to effect sublimation of the substance into the colder part. The sublimate contained 85.5% by weight of ZrI_4 and 14.5% by weight of $ZrCl_4$. Complete separation of the chloride from the iodide was not attained. (B) $ZrCl_4 + SiI_4 \rightleftharpoons ZrI_4 + SiCl_4$ (at 250-320°C) also yielded only 78% substitution of chlorine by iodine. (C) $3Zr(Hf)Cl_4$

Card 1/3

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

MEYERSON, G.A. (Moskva); YAKESHOVA, L.M. (Moskva); SHVEDOVA, T.A. (Moskva)

Reduction of titanium and niobium oxides by calcium carbide and cyanamide. Izv. AN SSSR. Otd. tekh. nauk. Met. i [illegible] delo no. 1:60-[illegible] Ja-F '63. (MIRA 16:3)

(Titanium oxide) (Niobium oxide) (Thermochemistry)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

TEODOROVICH, Georgiy Ivanovich; POLONSKAYA, Brungil'da Yakovlevna; ANDRIANOVA, Aleksandra Glebovna; MELAMEDOVA, Valentina Semenovna; PISARENKO, Irina Aleksandrovna; SHVEDOVA, Tamara Mikhaylovna; VARENTSOV, M.I., otv.red.; SHAPOVALOVA, G.A., red.izd-va; RYLINA, Yu.V., tekhn.red.

[Mineralogical-geochemical facies and conditions of the formation of petroleum-producing terrigenous Devonian strata in western Bashkiria and eastern Tatarstan] Mineralogo-geokhimicheskie fatsii i usloviia obrazovaniia nefteproizvodiashchikh terrigennykh otlozhenii devona Zapadnoi Bashkirii i Vostochnoi Tatarii. Moskva, Izd-vo Akad.nauk SSSR, 1960. 148 p. (MIRA 14:3)

1. Chlen-korrespondent AN SSSR (for Varentsov).
(Ural-Volga region--Petroleum geology)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

TEODOROVICH, G.I.; SHVEDOVA, L.M.

Solubility of iron carbonate and other minerals in hydrochloric acid. Biul.MOIP.Otd.geol. 35 no.4:100-105 Jl-Ag '60. (MIRA 14:4)
(Rocks, Carbonate) (Solubility)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

GAMALEYA, A.N.; [illegible]; [illegible], I.V.; [illegible], [illegible].

Distribution of the dosage fields in pendulum gamma therapy in tumors of the rectum and urinary bladder. Med. rad. [illegible] 19 [illegible] '65. [illegible]

1. Obsleniye luchevoy terapii Glavnogo voyennogo [illegible] [illegible] [illegible] (glavnyy radiolog gospitalya [illegible] Gamaleyi i kafedra radiatsionnoy gigiyeny TSentral'nogo [illegible] Instituta [illegible] vrachey (zav. - prof. F.G. [illegible]), Moskva.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

[illegible]

[illegible] evaluation of the methods of radiotherapy of [illegible] tumors. [illegible] Ap [illegible]

[illegible]

1. [illegible] prof. [illegible] Institutu [illegible] Zdrav [illegible] [illegible] Moskva).

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

GAMALEYA, A.N.; DONSKOY, M.D.; STAVITSKIY, R.V.; SHVEDOVA, T.Zh.

Methods of mobile large focus skin distance gammatherapy in the radiotherapy of intrathoracic tumors. Med.rad. 8 no.4:8-17 Ap'63 (MIRA 17:2)

1. Iz otdeleniya lucheveoy terapii Glavnogo voyennogo gospitalya imeni akademika N.N. Burdenko (glavnyy radiolog gospitalya A.N. Gamaleya) i kafedry radiatsionnoy gigiyeny (zav. - prof. F.G. Krotkov) TSentral'nogo instituta usovershenstvovaniya vrachey.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDOVA, V.A., redaktor

[Pamir and Tien Shan; for higher educational institutions] Pamir i Tian'-Shan'; dlia vysshikh uchebnykh zavedenii. Otvetstvennyi redaktor Shvedova, V.A. Moskva, 1952. (MLRA 7:6)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodezii i kartografii.
(Asia, Central--Maps) (Pamir--Maps).

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

L 11984-66

ACC NR: AP60000768 SOURCE CODE: UR/0243/65/000/009/0025/0027

AUTHOR: Bekhli, A. F. Braude, M. B.; Vorob'yeva, Z. G.; Shvedova, V. I.

ORG: Institute of Medical Parasitology and Tropical Medicine of the Ministry of Health SSSR, Moscow (Institut meditsinskoy parazitologii i tropicheskoy meditsiny Ministerstva zdravookhraneniya SSSR)

TITLE: Phenasal synthesis

SOURCE: Meditsinskaya promyshlennost' SSSR, no. 9, 1965, 25-27

TOPIC TAGS: organic synthetic process, drug, chlorinated aromatic compound, anthelmintic

ABSTRACT: This anthelmintic, a halogenated salicylarylamide, was synthesized according to the schematic representation which yielded the N-(2'-chloro-4'-nitrophenyl)-amide of 5-chlorosalicylic acid. (See Figure.)

Card 1/2 UDC: 615.778.475-012

Card 2/2

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

KONDRAT'YEVA, V.F.; SHVEDOVA, V.N.

Significance of protein substances in vital activities of some anaerobes. Mikrobiologiia 30 no.1:21-26 Ja-F '61. (MIRA 14:5)

1. Leningradskiy khimiko-farmatsevticheskiy institut i Gosudarstvennyy Leningradskiy institut usovershenstvovaniya vrachey.
(BACTERIA, ANAEROBIC) (PROTEINS)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVELOVA, V.N.; KONDRAT'YEVA, V.F.

Purification of the proteinase of Bac. Sporogenes. Trudy Len.khim.-inst. no.13:33-37 '62. (MIRA 15:10)

1. Kafedra biokhimii Leningradskogo khimiko-farmatsevticheskogo instituta. Zaveduyushchiy prof. S.Ye.Manoylov) i kafedra mikrobiologii Gosudarstvennogo instituta dlya usovershenstvovaniya vrachey. Zaveduyushchiy zasluzhennyy deyatel' nauki prof. P.N. Kashkin.

(CLOSTRIDIUM SPOROGENES) (PROTEINASE)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

KONDRAT'YEVA, V.F.; SHVEDOVA, V.N.

Significance of some components of the Kitt-Tarozzi medium for the growth of anaerobes. Trudy Len.khim.-farm.inst. no.13:70-76 '62. (MIRA 15:10)

1. Kafedra biokhimii Leningradskogo khimiko-farmatsevticheskogo instituta (zav. prof. S.Ye.Manoylov) i kafedra mikrobiologii Gosudarstvennogo instituta dlya usovershenstvovaniya vrachey (zav. prof. P.N.Kashkin).
(BACTERIOLOGY—CULTURES AND CULTURE MEDIA)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

KONDRAT'YEVA, V.F.; SHVELOVA, V.N.

Some characteristics of the nitrogen metabolism of saprogenic anaerobes. Trudy Len.khim.-farm.inst. no.13:77-88 '62. (MIRA 15:10)

1. Kafedra biokhimii (zav. prof. S.Ye.Manoylov) Leningradskogo khimiko-farmatsevticheskogo instituta i kafedra mikrobiologii Gosudarstvennogo instituta dlya usovershenstvovaniya vrachey (zav. prof., zasluzhennyy deyatel' nauki P.N.Kashkin).
(NITROGEN METABOLISM) (BACTERIA, ANAEROBIC)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

MANOYLOV, S.Ye.; SHVEDOVA, V.N.; RYNDINA, I.L.

Use of ion exchange resins for producing trypsin. Biokhimiia 27 no.4:698-701 Jl-Ag '62. (MIRA 15:11)

1. Khimiko-farmatsevticheskiy institut Ministerstva zdravookhraneniya RSFSR, Leningrad.
(ION EXCHANGE RESINS) (TRYPSIN)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

KONDRAT'YEVA, V.P.; SHVEDOVA, V.N.

Biochemical characteristics of some anaerobes from the genus clostridium. Mikrobiologiia 32 no.6:929-935 N-D '63 (MIRA 18:1)

1. Leningradskiy khimiko-farmatsevticheskiy institut.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

1. SHVEDSKAYA, A. G.

2. USSR (600)

4. Microorganisms

7. Some data on microbiological investigation in the psychiatric clinic. Zhur. nevr. i psikh. 52, No. 10, 1952.

9. Monthly List of Russian Accessions, Library of Congress, January 1953. Unclassified.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDSKAYA, A.G.

Some characteristics of unconditioned specific immunologic reactions in schizophrenia. Zhur. nerv. i psikh. 54 no.9:741-746 S '54. (MLRA 7:9)

1. Voyenno-morskaya meditsinskaya i Psikhiatricheskaya bol'nitsa imeni Balinskogo.
(SCHIZOPHRENIA, immunology,
unconditioned specific immunol. reactions)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDSKAYA, A.G.

Microbiological control of antibiotic therapy of infectious psychoses and some reasons for the failure of that therapy [with summary in French]. Zhur.nevr. i psikh. 57 no.9:1076-1084 '57. (MIRA 10:11)

1. Kafedra psikhiatrii Voyenno-meditsinskoy akademii imeni S.M. Kirova.

(PSYCHOSES, etiology and pathogenesis, infect., antibiotic ther., failure (Rus))
(ANTIBIOTICS, therapeutic use, psychoses of infect. origin, failure (Rus))

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

CHISTOVICH, A.S.; SHVEDSKAYA, A.G.; ZAPOL'SKIY, A.L.

Study of C-reactive protein in infectious psychoses. Zhur. nerv. i psikh. 60 no. 12:1623-1629 '60. (MIRA 14:4)

1. Kafedry psikhiatrii (zav. - prof. A.S. Chistovich) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova, Leningrad.
(GLOBULIN) (PSYCHOSES)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

KRASNIK, F.I.; MARAR'YEV, G.S.; SHVEDSKAYA, A.G.

Materials on the characteristics of a skin allergic test conducted with a Rickettsia prowazekii antigen. Trudy Len. Inst. epid. i mikrobiol. 25:14-25 '63. (MIRA 17:1)

1. Iz otdela osobo opasnykh infektsiy Leningradskogo instituta epidemiologii i mikrobiologii imeni Pastera i Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDSKAYA, A.G.

Content of C-reactive protein in the cerebrospinal fluid in inflammatory diseases of the central nervous system. Zh. nevropat. psikhiat. Korsakov 63 no.3:357-363 '63 (MIRA 17:1)

1. Kafedra psikhiatrii (nachal'nik - prof. I.F.Slucherskiy) Gigiyeno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

[illegible], A.G.

[illegible] protein in the cerebrospinal [illegible] and [illegible] in [illegible] psychoses. Zhur. nev. i psikh. [illegible] (MIRA 18:6)

[illegible] Kafedra psikhiatrii (zaveduy shchiy - prof. [illegible] Ozeretskovskiy) I Leningradskogo meditsinskogo instituta im. Pavlova i kafedra psikhiatrii Voyenno-meditsinskoy ordena Lenina akademii im. Kirova, Leningrad.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

[illegible] (Leningrad); SMIRNOVA, [illegible] (Leningrad); TARASOVA, N.N. [illegible]; [illegible]SKAYA, A.G. (Leningrad)

Toxoplasmosis in a 3 1/2-month-old infant. Arkh.pat. 27 no.[illegible]:78-79 '65. (MIRA.18:8)

1. Laboratoriya patologii nervnoy sistemy (zav. - prof. Yu.M. Zhabotinskiy) otdela patologicheskoy anatomii (zav. - akademik N.N.Anichkov) Instituta eksperimental'noy meditsiny AMN SSSR; Patologoanatomicheskoye otdeleniye (zav. - Z.A.Smirnova) i detskoye otdeleniye (zav. N.N.Tarasova) Leningradskoy Oblastnoy klinicheskoy bol'nitsy; kafedra psikhiatrii Voyenno-meditsinskoy ordena Lenina akademii imeni S.M.Kirova (zav. - prof. A.A.Fortnov).

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

Shvedskaya, Z. M.

USSR/Biology - Plant physiology

Card 1/1 Pub. 22 - 42/48

Authors : Kruzhilin, A. S., and Shvedskaya, Z. M.

Title : Physiological changes in plants of biennials in the process of development when grafted into one-year plants.

Periodical : Dok. AN SSSR 98/3, 487-490, Sep 21, 1954

Abstract : The physiological changes occurring in biennial plants in the process of development, when grafted into one-year plants, are scientifically explained. Seven USSR references (1939-1952). Graphs.

Institution : Acad. of Sc. USSR, The K. A. Timiryazev Institute of Plant Physiology

Presented by: Academician A. L. Kursanov, June 18, 1954

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDSKAYA, Z.M.

Coordinating meeting on the problem of the physiology of plant nutrition and growth in relation to growing conditions. Fiziol. rast.2 no.2 190-191 Mr-Ap'55. (MLRA 8:10)
(Botanical research)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDSKAYA, Z.M.

Coordinating conference of physiologists on the problem "Nutrition, growth and development of plants in connection with their habitat." Fiziol.rast.3 no.4:390-391 Jl-Ag '56. (Botany--Physiology) (MIRA 9:9)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

HV

KRUZHILIN, A.S.; SHVEDSKAYA, Z.M.

Effect of mineral nutrition on the properties of plants [with English summary in insert]. Zhur.ob.biol. 17 no.6:436-442 N.D. '56. (MIRA 10:9)

1. Institut fiziologii rasteniy im. K.A.Timiryazeva AN SSSR
(FERTILIZERS AND MANURES)
(BOTANY--PHYSIOLOGY)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

[illegible] Sand [illegible] -- (diss) "The Effect of mineral feeding on the variability of the physiological properties of plants" Mos, 1957. 17 pp [illegible] cm. (Acad Sci [illegible], Institute of ~~Plant~~ Physiology of Plants, im K. A. Timiryazev), 110 copies (KL, [illegible]-57, 3)

24

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

USSR/Cultivated Plants - Potatoes. Vegetables. Melons. etc. M.

Abs Jour : Ref Zhur - Biol., No 4, 1958, 15639

Author : A.S. Kruzhilin, Z.M. Shvedskaya

Inst : The Institute for Plant Physiology, Academy of Sciences, USSR.

Title : The Role of Roots in the Stage Development of Two Year Old Plants.
(Rol'kornploda v stadiynom razvitii dvukhletnogo rasteniya).

Orig Pub : Agrobiologiya, 1957, No 3, 118-122.

Abstract : In tests held at the Institute for Plant Physiology of the Academy of Sciences USSR table beets and carrots were vernalized at a temperature of 0 to + 8° for a period of 3 months which was proved possible only when the roots were preserved.

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APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDSKAYA, Z.M.

20-5-42/48

AUTHORS: Kruzhilin, A. S. and Shvedskaya, Z. M.

TITLE: Variations in the Sugar Content in the Course of Vernalisation Process in Biennial Plants (Izmeneniye soderzhaniya sakharov v protsesse yarovizatsii dvukhletnikh rasteniy)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 5, pp. 870 - 873 (USSR)

ABSTRACT: In the investigation of biological peculiarities in the development of biennial plants their sugar content was observed. The usual vernalisation methods were used (direct treatment of the plants with low temperatures). The micro-Bertran analysis showed that the sugar content in the leaves of the vernalised plants was constantly higher in comparison to the control plants. The difference between the disaccharides was greater than between the monosaccharides (table 1). The quantity of sugar (especially of the monosaccharide) in the vernalised carrot leaves was increased to a considerably greater extent than in the cabbage leaves. In January, after the vernalisation, the variations continued in this direction, however, took place considerably more quietly. Experiments were carried out in the course of 3 years and showed distinct variations. Under the influence of low temperatures during the vernalisation the sugars

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

20-5-42/48

Variations in the Sugar Content in the Course of Vernalisation Process of Biennial Plants

are stored in the leaves of the biennial plants. Analogous alterations of the sugar content (reference 1) were observed in the sprouting seedlings of biennial plants which were inoculated to one-year plants. Simultaneously with the determination of the sugar content according to micro-Bertran also the qualitative analysis was carried out by means of chromatography according to Bogarkin (reference 2). These analyses showed that the vernalised cabbage- and carrot leaves contained three sugars, i.e. glucose, fructose, and saccharose. The leaves of the vernalised plants contained more fructose than the control leaves. The analyses (table 2) showed that towards the end of the vernalisation the sugar content in the roots of the rapes and carrots and in the cabbage stalks was greater than before the vernalisation. In the case of cabbage the quantity of saccharose exceeded the quantity of the monosaccharose. The inversed ratio was the case in carrots. The authors did not investigate the problem at the cost of which carbohydrate the accumulation of the monosaccharides takes place. The chromatographic determinations on the paper showed that the storing organs of cabbage, carrots, and rapes contain glucose, fructose and saccharose. However, in contrast to the carrot, in the rapes the saccharose takes the main part, with or without vernalisation. Analogous

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

20-5-42/48

Variations in the Sugar Content in the Course of Vernalisation Process in Biennial Plants

alterations of the sugar content were also observed in the vernalisation of grain. Conclusions were drawn (references 3 and 4) that in the vernalisation of the vegetable and grain seeds the sugar content plays a specific-physiological rôle. The authors observed seed carriers during the growth and in the state of flowering after the vernalisation and found a decrease of the sugar content. This takes place especially in earlier growing, sprouting, and flowering plants. Thus the sugar in the storing organs supports - especially the disaccharides - the differentiation of the buds the sprouting and flowering of the plants. In experiments where the roots were eliminated before the vernalisation the development stages were retarded. If the roots were eliminated after the vernalisation the development of the buds was not stopped. Thus the development stages of the carrot and rape buds and the sprouting in the dark depend on the supply of nutritive substances of the root plants. Similar phenomena (references 5 - 7) were found in the case of elimination or exhaustion (reference 8) of the endosperm in the winter corn seeds before the vernalisation. The disaccharide content in vernalised root plants increased in the dark

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Variations in the Sugar Content in the Course of Vernalisation Process in Biennial Plants

at 2 - 4°. This content decreased during the growth and sprouting in the dark, however, at 20 - 25°, too. It is to be assumed that the vernalisation and the light stage in cabbage and carrots in the second year is quicker passed than in seedlings, since the sugar content in the storing organs is high. There is 1 figure, 3 tables, and 8 references, 7 of which are Slavic.

ASSOCIATION: Institute for Plant Physiology imeni K. A. Timiryazev AN USSR (Institut fiziologii rasteniy im. K. A. Timiryazeva Akademii nauk SSSR)

PRESENTED: June 22, 1957, by A. L. Kursanov, Academician

SUBMITTED: June 20, 1957

AVAILABLE: Library of Congress

Card 4/4

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

AUTHORS: Kruzhilin A. S., Shvedskaya Z. M. SOV/20-121-3-45/47

TITLE: Vernalization of ~~Isolated Buds~~ of Biennial Plants in Sugar Solutions (Yarovizatsiya izolirovannykh pochek dvukhletnikh rastoniy v sakharnykh rastvorakh)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 121, Nr 3, pp 561-564 (USSR)

ABSTRACT: In an earlier paper the authors proved (Ref 1) that the stem buds of Beta vulgaris var. hortensis and Daucus carota cannot be vernalized when they are isolated from the root. This refers to the importance of the nutritive substances for the latter organ in the course of the different stages. Other investigations carried out by the authors showed that in the course of vernalization (Ref 2) and in connection with grafting of biennial plants upon annual plants (Ref 3) a large quantity of sugar types especially of disaccharides is being accumulated in the plants as well as in the roots of biennial plants. Other scientists proved (Refs 4-6) that embryos of winter corn in case they are isolated from the endosperm are only vernalized when their nutrition is sugar. The authors carried out the attempt to vernalize isolated buds of biennial

Card 1/3

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SOV/20-121-3-45/47

Vernalization of Isolated Buds of Biennial Plants in Sugar Solutions

plants in a sugar solution. In connection with preliminary experiments it was found that in the case of isolated buds in sugar solutions (control in water) at 4-7° during 30-40 days no success could be achieved. The experiment was carried out under the following conditions: in the dark chamber of a phytotron at 1-2° during 60 and 74 days on distilled water on 2 and 5 % saccharose solution and on glucose. Beta vulgaris var. hortensis additionally on 10 % saccharose. For comparison seed carriers of the Daucus carota grown in Nantes and of Beta vulgaris var. hortensis grown in Bordeaux were used. They were harvested already before the beginning of the natural vernalizing temperature. On the day the experiment was carried out (October 25) the roots were topped, the buds together with a part of the root separated (5-8 g in the case of Daucus carota, 10-12 g in the case of Beta vulgaris var. hortensis) and bred in Koch-(Kokh) bowls on filter paper in a 30 ml solution. The bowls with the buds were left in the dark-room at 1-2° for 60 and 74 days. From the results (Table 1, Figs 1, 2) the authors were able to draw the following conclusions: 1) The branching buds of Daucus carota after having been isolated from the root undergo the normal vernalization on 2 % glucose solution at 1-2° in a period of 60 days. On

Card 2/3

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[illegible] 207/20-121-3-45/47

[illegible] biennial plants in sugar solutions

[illegible] sacc[illegible] [illegible] glucose the plants sprout one week earlier. [illegible] are [illegible] [illegible]alized on distilled water when mineral sub[illegible] [illegible]ed. This phenomenon emphasized the importance of sugar [illegible] [illegible]ion of biennial plants. 2) The method of isolating buds may be used in connection with the investigation of physiological processes which proceed in the buds in the course of vernalization. There are 2 figures, 1 table and 7 references, 6 of which are Soviet.

ASSOCIATION Institut fiziologii r[illegible] [illegible] Timiryazeva Akademii [illegible] [illegible] Fiziology imeni K. A. Timiryazev,

[illegible] [illegible] L. [illegible]nov, [illegible], Academy of Sciences,

[illegible]

[illegible] 3/3

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

KRUZHILIN, A.S.; SHVEDSKAYA, Z.M.

Accelerated seed reproduction of new varieties and hybrids of biennial plants by grafting. Fiziol. rast. 6 no.5:625-626 S-O '59. (MIRA 13:2)

1.K.A. Timiryazev Institute of Plant Physiology U.S.S.R. Academy of Sciences, Moscow.

(Seed production) (Grafting)
(Biennials (Plants))

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

17(4)

AUTHORS: Kizhelis, A. S., Shvedskaya, Z. M. SOV/20-124-6-48/55

TITLE: The Effect of Leaves and Root System on the Differentiation of Buds and Growth of 2-Year-old Seed Plants (Vliyaniye listyev i kornevoy sistemy na differentsiatsiyu pochek i rost semennikov drukhletnikh rasteniy)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 6, pp 1353-1356 (USSR)

ABSTRACT: The authors confirmed in their previous paper (Ref 1) that the buds of 2-year-old seed plants (carrots and garden turnips) do not undergo a vernalization if separated from their roots. It was further determined that the differentiation of buds in the case of seed vegetables takes place after vernalization, that is to say, during growing afresh at increased temperatures (exceeding 15°). With cabbage (Brassica) this occurs at low temperatures, however (Ref 2). Resulting from it the question mentioned in the title was raised. In order to clarify this problem turnips of the Bordeaux sort and carrots of the Nantesser sort were subjected to vernalization at their storeroom. Subsequently they were planted into flower pots on

Card 1/3

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April 9, 1958. The three primary variants were the following: 1) to retain the whole of the root (control); 2) to retain 1/3 of the root; 3) to retain 1/10 - 1/15 of the root. Leaves were removed in the case of one half of each variant. The plants were raised in a glass-house at 20°. Investigations have shown that all variants developed a stalk provided the leaves had not been removed (Figs 1, 2). Removal of leaves caused delay in the differentiation of buds even in the case of variant 1. From the results obtained the authors draw the following conclusions: Formation and development of the root system and the differentiation of normalized buds take place only in the presence of leaves. The root system exercises its effect on the differentiation of buds indirectly by way of the leaves. The leaves stimulate also in the absence of the root system the differentiation and germination of buds. This fact is only possible, however, if sufficient nutritive substance is available in the root (in the presence of about 1/3 of the root).

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

The Effect of Leaves and Root System on the Differentiation of Buds and Growth of 2-Year-old Seed Plants SOV/20-124-6-48/55

In spite of the little remaining part of the root, the latter can guarantee the formation of leaves and the vernalization processes; the differentiation of buds takes place only in the presence of leaves and the root system. There are 4 figures and 6 Soviet references.

ASSOCIATION: Institut fiziologii rasteniy im. K. A. Timiryazeva Akademii nauk SSSR (Institute of Plant Physiology imeni K. A. Timiryazev of the Academy of Sciences, USSR)

PRESENTED: October 15, 1958, by A. L. Kursanov, Academician

SUBMITTED: October 11, 1958

Card 3/3

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

KRUZHILIN, A.S.; SHVEDSKAYA, Z.M.

Role of leaves in the vernalization of winter and biennial plants. Fiziol.rast. 7 no.3:287-295 '60. (MIRA 13:6)

1. K.A. Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(Vernalization) (Leaves)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

KRUZHILIN, A.S.; SHVEDSKAYA, Z.M.

Differentiation of growing points in biennial root crops. Fiziol. rast. 7 no.4:435-438 '60. (MIRA 13:9)

1. K.A.Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(Biennials (Plants)) (Morphogenesis)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

KRUZHILIN, A.S., prof.; SHVEDSKAYA, Z.M., kand.biologicheskikh nauk

Characteristics of stage development in strawberries. Agrobiologiia no.4:525-531 Jl-Ag '61. (MIRA 14:7)

1. Institut fiziologii rasteniy AN SSSR.
(Strawberries)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

KRUZHILIN, A.S.; SHVEDSKAYA, Z.M.

Conference on the physiology of plant development in Czechoslovakia brief information. Fiziol. rast. 8 no.2:260-261 '61. (MIRA 14:3)
(Plant physiology—Congresses)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDSKAYA, Z.M.; KHUZHILIN, A.S.

Effect of inhibitors on the vernalization of plants. Fiziol.rast. 8 no.5:613-618 '61. (MIRA 14:10)

1. Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(Vernalization) (Growth inhibiting substances)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

KRUZHILIN, A.S.; SHVEDSKAYA, Z.M.

Characteristics of the phasic development and morphogenesis of common onion. Fiziol.rast. 9 no.4:466-475 '62. (MIRA 15:9)

1. K.A.Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(ONIONS) (GROWTH (PLANTS))

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDSKAYA, Z. M., SOKOLOVA, L. K., KRUZHILIN, A. S., and GLUSHCHENKO, I. YE.,

"Variability of Anthocyan in Chimera Cabbage Plants."

report submitted for the 11th Intl. Congress of Genetics, the Hague, Netherlands, 2-10 Sep 63

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDSKAYA, Z.M.; KRUZHILIN, A.S.

Characteristics of oxidative metabolism and amino acid formation in cabbage buds during vernalization. Fiziol. rast. 11 no.2: 279-286 Mr-Ap '64. (MIRA 17:4)

1. Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

KRUTILIN, A.S.; SHVEDSKAYA, Z.M.

Vernalization of vegetative buds of fruit plants. Fiziol. rast. 11 no.6:1022-1026 N-D '64. (MIRA 18:2)

1. Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDSKIY, A.

Collection of the turnover tax and accounting for goods sold. Bukhg. uchet. 15 no.8:51-56 Ag '56. (MLRA 9:10)

(Sales tax) (Russia--Commerce--Accounting)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDSKIY, A. Ye.; STAM, V.M. redaktor

[Deductions from the profits of state economic organizations and enterprises] Otchisleniia ot pribilei gosudarstvennikh khoziaistvennikh organizatsii i predpriiatii pod red. V.M. Stam. Moskva, Gosfinizdat, 1946. 34 p. (MIRA 8:8)
(Russia--Finance)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

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SHVEDSKIY, B.P.

118

The determination of thrombin and antithrombin in the blood. B. P. Shvedskii. *J. Physiol.* (U. S. S. R.) 26, 561-8(1939); *Chem. Zentr.* 1939, II, 3456.—A method is described for the detn. of thrombin and antithrombin in the blood of human beings and dogs. The results, which are reported in tabular form, are discussed at length.

W. A. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDSKIY, B. F.

"Werlhof's Symptom-Complex ('Disease')." Sub 10 Apr 51, Central Inst for the Advanced Training of Physicians.

Dissertations presented for science and engineering degrees in Moscow during 1951.

SO: Sum. No. 480, 9 May 55

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USSR/General Problems of Pathology - Tumors. Comparison Oncology. Human Neoplasms. U

Abs Jour : Ref Zhur Biol., No 1, 1959, 4242

Author : Shvedskiy, B.P., Agranenko, V.A.

Inst : -

Title : Investigation of the Spleen Intravitally by the Method of Puncture in Chronic Myelosis and Its Clinical Significance.

Orig Pub : Za sots. zdravookhr. Uzbekistana, 1956, No 2, 30-37

Abstract : Results of investigations of 21 patients with chronic myelosis, treated with ethyl urethane, are reported. A close relationship of the picture of the spleen punctate with the clinical course and the stage of the process was established. The initial stage of myelosis is characterized by prevalence in the splenogram of intermediate forms of granulocytopoiesis; erythropoiesis is somewhat decreased in the liver and in the bone marrow;

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USSR/General Problems of Pathology - Tumors. Comparison Oncology. Human Neoplasms.

Abs Jour : Ref Zhur Biol., No 1, 1959, 4242

the number of thrombocytes is markedly increased. In all the stages of chronic myelosis accompanied with a resistant anemia the hemoglobinization of the erythro- and normoblasts (the erythroblastic reaction) is arrested; lymphopoiesis is absent or significantly reduced. During the stage of acute exacerbation of chronic myelosis, immature neutrophiles and little differentiated cells predominate in the splenogram. During the stage of severe exacerbation with a sub-acute course the number of erythro- and normoblasts decreases markedly in the bone marrow and in the spleen. With the onset of remission resulting from urethane therapy the cytogram of the spleen approaches to normal; normalization of the leukocytic formula, and an increase of the number of erythrocytes and of the hemoglobin level is also noted. The changes of the splenogram during urethane therapy

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USSR/General Problems of Pathology - Tumors. Comparison Oncology. Human Neoplasms.

Abs Jour : Ref Zhur Biol., No 1, 1959, 4242

speak in favor of the reversibility of the leukemic process. -- N. Popova.

Card 3/3

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SHVEDSKIY, B.P., doktor med. nauk

Our reply to the article by Professor S.I. Sherman and S.I. Rabinovich on the "Classification of Werlhof's disease.. Probl. gemat. i perel. krovi 4 no.5: '58 (MIRA 12:8)
(PURPURA (PATHOLOGY))

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDSKIY, B.P.; KALOSHINA, G.A.

Supportive (symptomatic) treatment of patients with chronic leukoses carried out under polyclinic conditions. Probl. gemat. i perel. krovi 5 no. 10:51-55 '60. (MIRA 14:1)
(LEUKEMIA)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

DUL'TSIN, M. S., prof.; SHVEDSKIY, B. P., doktor med. nauk

Clinical classification of hemorrhagic diatheses. Terap. 34 no.1:3-13 '62. (MIRA 15:7)

1. Iz gematologicheskoy kliniki (zav. - prof. M. S. Dul'tsin) TSentral'nogo ordena Lenina instituta gematologii i pereliyaniya krovi (dir. - deystvitel'nyy chlen AMN SSSR prof. A. A. Bagdasarov[deceased])

(HEMOPHILIA)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDSKIY, B. P.; MESSINEVA, N. A.; CHERNTSOVA, T. A.; SOBOLEVA, Yu. G.; SHEL'GAS, L.Ye.

Functional study of the adrenal cortex in leucoses under treatment with hormones and chemotherapeutic preparations. Probl. gemat. i perel. krovi no.10:34-42 '61. (MIRA 14:12)

1. Iz gematologicheskoy kliniki (zav. - prof. M. S. Dul'tsin) i klinicheskoy laboratorii (zav. N. A. Messineva) TSentral'nogo ordena Lenina instituta gematologii i perelivaniya krovi (dir. - deystvitel'nyy chlen AMN SSSR prof. A. A. Bagdasarov [deceased]) Ministerstva zdravookhraneniya SSSR.

(LEUCOSIS) (ADRENAL CORTEX) (HORMONE THERAPY) (CHEMOTHERAPY)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDSKIY, M. S.

Shvedskiy, M. S. - "The origin and development of the Rostov n/D Engineering-Construction Institute", (Short survey), Nauch. Trudy (Rost. n/D Inzh.-strait. in-t), Collection 1, 1948, p. 3-6.

SO: U-3 M., 11 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 3, 1949).

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

VASIL'YEV, S.A.; GUROV, V.S.; DAVYDOV, G.B.; ZARIN, S.A.; ZAYONCHKOVSKIY, Ye.A.; IL'INA, L.D.; KIRILLOV, Ye.V.; LISHAY, K.P.; MILEVSKIY, Yu.S.; MIKHAYLOV, M.I.; NIKOL'SKIY, K.K.; PUKHAL'SKIY, A.Ch.; PUKHAL'SKAYA, N.N.; RABINOVICH, M.B.; SHVEDSKIY, S.A.; KONDRASHINA, N.M., red.; KARABILOVA, S.F., tekhn.red.

[Recommendations of international consultative committees on telephony and telegraphy] Rekomendatsii mezhdunarodnykh konsul'tativnykh komitetov po telefonii i telegrafii. Moskva, Gos.izd-vo lit-ry po voprosam sviazi i radio, 1959. 335 p. (MIRA 13:3)

1. TSentral'nyy nauchno-issledovatel'skiy institut svyazi Ministerstva svyazi SSSR (for all except Kondrashina, Karabilova).
(Telephone) (Telegraph)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDUNENKO, A.S., inzh.

The SKK-IPR and SKK-IPS crane air conditioners. Khol.tekh. 39 no.6:72-73 N-D '62. (MIRA 15:12)
(Air conditioning)
(Cranes, derricks, etc.)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

ACC NR: AP6033520 SOURCE CODE: UR/0413/66/000/018/0159/0159

INVENTOR: Selivanov, M. P.; Turbin, B. G.; Levin, L. P.; Semenov, Yu. M.; Ugryumov, M. S.; Shvedunenko, L. A.; Sosul'nikov, G. B.

ORG: none

TITLE: Electromechanic signal converter. Class 62, No. 186296

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 18, 1966, 159

TOPIC TAGS: electromechanic converter, electromechanic signal converter, electromagnetic device, servomechanism, electrohydraulic servomechanism, electropneumatic servomechanism

ABSTRACT: The proposed electromechanical signal converter is intended primarily for electrical hydraulic and pneumatic servomechanisms. It contains a housing, a permanent-magnet electromagnetic device, pole pieces with adjustment screws, a coil and a portable system unit which includes an elastic element, an armature terminal, an operating slide element, and a magnetically permeable bushing. To improve operational reliability, ensure the possibility of operating in

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ACC NR: AP6033520

corrosive liquids, and improve the dynamic properties of the converter, the operating slide element is hermetically separated from the electromagnetic device and by an air gap from the magnetically permeable bushing. The slide element and the armature are a single unit, and the sealing element also serves as the elastic element of the portable system. The adjusting screws are fixed to the poles of the permanent magnet so as to make it possible to use the converter for servo-mechanising with various output characteristics and in order to ensure the smooth tuning of converter characteristics [Translation]

SUB CODE: 09/SUBM DATE: 22Jul64/

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDUNOV, A.I.

Easily removable head with a riser. Lit.proizv. no.7:32 O '54.
(Founding) (MLRA 7:12)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEDUNOV, A.I.

Successive casting of parts in one mold box. Lit.proizv. no.8: 6 N '54. (MLRA 8:1)
(Founding)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

Shvedunov, A. I.

Melting carbon steel in acid electric furnaces with silicon-reduction process under a fire-clay slag. A. I. Shvedunov and E. I. Lopatkin. *Liteinoe Proizvodstvo* 1956, No. 2, 5-7.—A low C-scrap charge is melted in an arc furnace during which slag is built by adding crushed fire brick. The presence of Al_2O_3 in the latter reduces the degree of slag oxidation, prepg. the metal for finishing operations which are conducted without adding any slag-forming addns. other than coke which permits the reduction of FeO content without thickening the slag. Low cond. of the fireclay slag leads to a 20-60% reduction of SiO_2 in it, while a high temp. permitted by its use leads to a simultaneous degassification. Operating steps are well detailed. J. D. Gad

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEGZHDA, O.S.

Errors of a rectifying power converter caused by the distortion of the current and voltage curve form. Izv.vys.ucheb.zav.; prib. 6 no. 3:19-25 '63. (MIRA 16:9)

1. Leningradskiy elektrotekhnicheskiy institut imeni V.I. Ul'yanova, Lenina. Rekomendovana kafedroy elektroizmeritel'noy tekhniki.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

FREMKE, A.V.; MOKIYENKO, D.N.; SHVEGZHDA, O.S.

Static converter of power to a d.c. voltage with voltage stabilizing components using a piecewise linear parabola approximation. Izv. vys. ucheb. zav.; prib. 7 no.4:28-31 '64 (MIRA 18:1)

1. Leningradskiy elektrotekhnicheskiy institut imeni V.I. Ul'yanova (Lenina). Rekomendovana kafedroy elektroizmeritel'noy tekhniki.

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEINA, Ye. I.

IOTKOVSKIY, A.A.; SHVEINA, Ye.I.

For the introduction of new equipment into the pharmaceutical trade. (MIRA 11:4)
Apt.delo 7 no.2:37-41 Mr-Ap '58.

1. Iz TSentral'nogo nauchno-issledovatel'skogo aptechnogo instituta.
(DRUGSTORES--EQUIPMENT AND SUPPLIES) (VENDING MACHINES)

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"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

KOST, A. N., SHVEKHGEYMER, G. A.

Amines

Preparation of some N-derivatives of cyclopentylamine. Vest. Mosk. un., 5, No. 9, 1950.

9. Monthly List of Russian Accessions, Library of Congress, October, 1952. Unclassified.

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEKHGEIMER, G. A.

A. N. Kost, A. P. Terent'ev and G. A. Shvekhgeimer. Interaction of formamide with carbonyl-containing compounds in the presence of a nickel catalyst. P. 150.

N. D. Zelinskii Lab.
of Organic Chem.,
Moscow State Univ.
Dec. 15, 1950.

SO: Bulletin of the Acad. of Sciences, Izvestia (USSR) Section on Chemical Sciences, No. 2. (March-April 1951)

APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0"

"APPROVED FOR RELEASE: 03/14/2001 CIA-RDP86-00513R001550410005-0

SHVEKHGEYMER, G. A.

Acetylene derivatives. CLXIII. Hydration of vinylacetylene in alcoholic solutions. I. N. Nazarov, S. A. Vartanyan, S. G. Matsoyan, and V. N. Zhamagortsyan. *Zhur. Obshchei Khim.* 23, 1086-90(1953); cf. *C.A.* 43, 1333*c*; 49, 927*c*.—Passage of 175 g. CH_2:CHC:CH and simultaneous addn. of 200 ml. H_2O into a refluxing mixt. of 600 g. MeOH, 5 g. $HgSO_4$, and 4 g. H_2SO_4 over 12 hrs. during which 20 g. $HgSO_4$ was added portionwise, gave after neutralization and extn. with Et_2O, 310 g. *$AcCH_2CH_2OMe$*, b_{18} 48-50°, b_{758} 134-5°, n_D^{20} 1.4048, d_{20} 0.9235 (*2,4-dinitrophenylhydrazone*, m. 85-6°). Similarly were obtained: 81% *$AcCH_2CH_2OEt$*, b_{758} 147-8°, b_{18} 67-70°, n_D^{20} 1.4117, d_{20} 0.9016 (*2,4-dinitrophenylhydrazone*, m. 100-1°); 63% *$AcCH_2CH_2OCHMe_2$*, b_{758} 156-7°, b_{10} 65-7°, n_D^{20} 1.4092, d_{20} 0.8847 (*2,4-dinitrophenylhydrazone*, m. 220-1°); 73% *$AcCH_2CH_2OPr$*, b_{758} 163-4°, b_{18} 69-70°, n_D^{20} 1.4145, d_{20} 0.9058 (*2,4-dinitrophenylhydrazone*, m. 87-9°); 70% *$AcCH_2CH_2OCH_2CH:CH_2$*, b_{758} 167-8°, b_{18} 64-5°, n_D^{20} 1.4300, d_{20} 0.9513 (*2,4-dinitrophenylhydrazone*, m. 213-13.5°); 61% *$AcCH_2CH_2OCH_2CHMe_2$*, b_{758} 172-3°, b_{11} 64-5°, n_D^{20} 1.4130, d_{20} 0.8763 (*2,4-dinitrophenylhydrazone*, m. 214-15°); 70% *$AcCH_2CH_2OBu$*, b_{758} 180-1°, b_{20} 87-9°, n_D^{20} 1.4218, d_{20} 0.8893 (*2,4-dinitrophenylhydrazone*, m. 211-12°); 60% *$AcCH_2CH_2OCH_2CH_2CHMe_2$*, b_{758} 190-2°, b_{11} 81-2°, n_D^{20} 1.4192, d_{20} 0.8781 (*2,4-dinitrophenylhydrazone*, m. 188-90°); 55% *$AcCH_2CH_2OC_6H_{11}$*, b_{758} 224-6°, b_{18} 111-12°, n_D^{20} 1.4585, d_{20} 0.9676 (*2,4-dinitrophenylhydrazone*, m. 217-19°); 50% *$AcCH_2CH_2OC_8H_{17}$-n*, b_{758} 244-6°, b_{11} 127-8°, n_D^{20} 1.4325, d_{20} 0.8833 (*2,4-dinitrophenylhydrazone*, m. 217-18°). Heating $AcCH_2CH_2OCH_2CHMe_2$ (15 g.) with 28 ml. 30% aq. MeNH in sealed tube at 100° until the oily layer disappeared gave after treatment with HCl, extn. with Et_2O, and addn. of alkali, 9 g. *$MeCOCH_2CH_2NMe_2$*, b_{20} 65-8°, n_D^{20} 1.4320 (*picrate*, m. 107°); the mother liquor gave iso-BuOH.

CLXIV. Action of primary and secondary amines on tetrahydro-4-pyrones. I. N. Nazarov, S. G. Matsoyan, and S. A. Vartanyan. *Ibid.* 1090-4.—Heating 7 g. 2,6-dimethyltetrahydro-4-pyrone (I) and 14 ml. 24% aq. $MeNH_2$ in sealed tube 5 hrs. at 60-70°, evapn. of the soln. *in vacuo* at 50° to remove $MeNH_2$, acidification, extn. with Et_2O and addn. of K_2CO_3 gave 3.5 g. *1,2,6-trimethyl-4-piperidone*, b_{18} 78°, n_D^{20} 1.4010; *picrate*, m. 161-2°. Me_2NH similarly gave after 4 hrs. at 60-70°, *2-dimethylamino-5-methyl-5-hexen-4-one*, b_3 77-80°, n_D^{20} 1.4560 (*picrate*, m. 124-5°). Heating 10 g. I with 10 g. $PhNH_2$ and 5 ml. H_2O 8 hrs. at 130-40° under reflux condenser gave 4 g. *1-phenyl-2,5-dimethyl-4-piperidone*, $b_{0.4}$ 110-18°, n_D^{20} 1.5520 (*HCl salt*, m. 157-8°). Heating 10 g. 2-methyltetrahydro-4-pyrone with 20 ml. 24% aq. $MeNH_2$ in ampul 4 hrs. at 50-60° gave 2.3 g. *1,2-dimethyl-4-piperidone*, b_{18} 80-2°, n_D^{20} 1.4583 (*picrate*, m. 163-4°); similar reaction with aq. Me_2NH gave 5.2 g. *1,5-bis(dimethylamino)hexan-3-one*, b_8 84-6°, n_D^{20} 1.456 (*picrate*, m. 145-6°). Heating 15 g. 2,2-dimethyltetrahydro-4-pyrone and 30 ml. 24% aq. $MeNH_2$ 4 hrs. at 60-70° gave 2.5 g. rapidly darkening liquid, b_{18} 60-3°, n_D^{20} 1.4500 (*picrate*, m. 138.5-9.5°), identified as that of *1,2,2-trimethyl-4-piperidone*); similar reaction with Me_2NH soln. gave a good yield of *1-dimethylamino-5-methyl-4-hexen-3-one*, b_{18} 83-5°, n_D^{20} 1.4600 (*picrate*, m. 106-7°). Heating 28 g. 2,2-dimethyltetrahydro-4-pyrone with 30 g. $PhNH_2$ 8 hrs. at 150-60° gave 2.2 g. *4-phenylimino-2,2-dimethyltetrahydropyran* (II), b_3 109-10°, n_D^{20} 1.5413, d_{20} 1.0360. This (15 g.) heated with 50 ml. 16% HCl 2 hrs. at 50° gave *2,2-dimethyltetrahydro-4-pyrone*, identified as the *semicarbazone*, m. 164-5°; the aq. soln. gave $PhNH_2.HCl$. To 15 g. II, 30 ml. H_2O and 150 ml. Et_2O was added with stirring 15 g. Na, followed by 30 ml. H_2O; the org. layer gave 10 g. *4-phenylamino-2,2-dimethyltetrahydropyran*, m. 98-9° (*HCl salt*, m. 164.5-5.5°). CLXV.

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2/2 I. N. NAZAROV, S. A. VAN'T-NYAN, ETC.

Cyanoethylation of acetylenic alcohols and glycols. I. N. Nazarov and S. A. Shvekhgeimer. *Ibid.* 24, 157-63(1954); cf. *C.A.* 42, 7[illegible]. [illegible] of 26.5 g. CH_2:CHCN over 1 hr. at below 35° to 42 g. $Me_2C(OH)C{:}CH$ and 3 g. 40% KOH, stirring 6 hrs. at room temp., allowing the mixt. to stand overnight, neutralization with 1:1 HCl, filtration, from KCl and distn. gave 57.5 g. *$Me_2C(OCH_2CH_2CN)C{:}CH$* (I), b_{18} 96–6.5°, n_D^{20} 1.4356, d_{20} 0.9275. Hydrogenation of this (25 g.) in MeOH satd. with NH_3 over Raney Ni at 100–10° and 140 atm. H pressure gave 24.2 g. *$Me_2EtCOCH_2CH_2CH_2NH_2$* (II), b_{14} 68–70°, n_D^{20} 1.4360, d_{20} 0.8589. I (30 g.), 50 ml. H_2O and 100 ml. dioxane treated with stirring with 3 g. $HgSO_4$ and 2 drops H_2SO_4, then stirred 6 hrs. at 90° gave, after satn. with Na_2CO_3 and extn. with Et_2O, 26.8 g. *$Me_2CAcOCH_2CH_2CN$*, b_{18} 132–6°, n_D^{20} 1.4357, d_{20} 1.0033. Similar reaction of 54 g. $Me_2C(OH)CH{:}CH_2$ (III), 3.5 g. 40% KOH, and 35 g. CH_2:CHCN gave 32.5 g. *$Me_2C(OCH_2CH_2CN)CH{:}CH_2$* (IV), b_{14} 94–6°, n_D^{20} 1.4337, d_{20} 0.9056, and 33 g. initial ROH. Reaction of 42 g. III and 26.5 g. CH_2:CHCN with 0.6 g. Na catalyst gave 43.2 g. IV and 8 g. initial ROH. Hydrogenation of the product in MeOH over Raney Ni gave 100% II, b_7 56–8°. Reaction of 165 g. $Me_2C(OH)C{:}CCH{:}CH_2$, 10 g. 40% KOH, and 53 g. CH_2:CHCN gave 129.5 g. *$Me_2C(OCH_2CH_2CN)C{:}CCH{:}CH_2$*, b_7 93–4°, n_D^{20} 1.4710, d_{20} 0.9334, which hydrogenated to *$Me_2BuCOCH_2CH_2CH_2NH_2$* (V), b_{18} 102–4°, n_D^{20} 1.4485, d_{20} 0.8630. Reaction of 88 g. Me_2EtCOH, 2 g. powd. MeONa, and 53 g. CH_2:CHCN (temp. rise to 40°, followed by stirring 4 hrs. at room temp. and standing overnight) gave 14 g. *$Me_2EtCOCH_2CH_2CN$* (VI), b_{18} 92–7°, n_D^{20} 1.4247, d_{20} 0.8981, and 72.5 g. initial ROH; when 57 g. Me_2EtCOH and 4 g. 40% KOH was treated with 35 g. CH_2:CHCN no heat was evolved and the mixt. was stirred 1 hr. at 80°, cooled and neutralized, yielding 3.6 g. VI. Hydrogenation of this over Raney Ni gave 90% II, b_7 56–8°. To 120 g. Me_2BuCOH was added 1.5 g. K and 53 g. CH_2:CHCN was added with cooling; after 2 hrs. the mixt. was neutralized with HCl and treated as usual, yielding 24.3 g. *$Me_2BuCOCH_2CH_2CN$*, b_{11} 105–7°, n_D^{20} 1.4306, d_{20} 0.8825; the same reaction run with 40% KOH catalyst gave a lower yield; hydrogenation over Raney Ni gave V, b_6 78–81°, n_D^{20} 1.4482. To 101 g. $(\pm CCH_2OH)_2$, 150 ml. dioxane, and 7 g. 40% KOH was added with cooling 125 g. CH_2:CHCN below 35°; after 4 hrs. stirring at room temp., 48 hrs. standing, and neutralization with HCl there was obtained 216 g. *$(\pm CCH_2OCH_2CH_2CN)_2$*, b_1 189–95°, n_D^{20} 1.4760, d_{20} 1.0910, which hydrogenated as above in MeOH satd. with NH_3 over Raney Ni yielding *$(CH_2CH_2OCH_2CH_2CH_2NH_2)_2$*, b_4 134–6°, n_D^{20} 1.4618, d_{20} 0.9620. Addn. of 50 g. CH_2:CHCN to 59 g. $(\pm CCMe_2OH)_2$, 200 ml. dioxane, and 4 g. 40% KOH gave no thermal effect; the mixt. stirred 5 hrs. at 60–70° and 1 hr. at 70–5°, allowed to stand 40 hrs., neutralized with HCl and worked up as usual yielded 37.6 g. *$HOMe_2CC{:}CCMe_2OCH_2CH_2CN$*, b_2 111–12°, n_D^{20} 1.4530, d_{20} 0.9758, 32.1 g. *$(\pm CCMe_2OCH_2CH_2CN)_2$*, $b_{2.5}$ 142–6°, n_D^{20} 1.4553, d_{20} 0.9915, m. about 25° (after long standing), and 7.9 g. intermediate fraction. Hydrogenation as above over Raney Ni gave, resp., *$HOCH_2CH_2CH_2CH_2OCH_2CH_2CH_2NH_2$*, b_4 91–4°, n_D^{20} 1.4587, d_{20} 0.9321, and *$(CH_2CH_2OCH_2CH_2CH_2NH_2)_2$*, $b_{2.4}$ 136–8°, n_D^{20} 1.4752, d_{20} 0.9539.

C. M. Kosolapoff

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Shvekhgeymer, G.A.

USSR/Chemistry - Organic chemistry

Card 1/1 Pub. 151 - 29/36

Authors : Nazarov, I. N., and Shvekhgeymer, G. A.

Title : Acetylene derivatives. Part 165.- Cyanethylation of acetylene alcohols and glycols

Periodical : Zhur. ob. khim. 24/1, 157-163, Jan 1954

Abstract : The process of cyanethylation of dimethylethinylcarbinol, dimethylvinyl-carbinol, dimethylvinylethinylcarbinol, 1,4-butinediol, tetramethyl-butinediol and the derivation of homologous beta-cyanethyl ethers are described. The possibility of cyanethylation of tertiary saturated-alcohols under ordinary conditions is discussed. Hydrogenation of beta-cyanethyl ethers led to the derivation of gamma-aminopropyl ethers. The products obtained during the hydration of beta-cyanethyl ether of dimethylethinyl carbinol, in the presence of mercury sulfate and sulfuric acid, are listed. Four references: 2-USA and 2-USSR (1942-1952).

Institution : Academy of Sciences USSR, Institute of Organic Chemistry

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Shvekhgeymer, G.A.

USSR/Chemistry - Hydrogenation

Card 1/1 Pub. 151 - 30/36

Authors : Nazarov, I. N., and Shvekhgeymer, G. A.

Title : Cyanethylation of cyclic and heterocyclic alcohols and amines. Hydrogenation and alcoholysis of cyanethylation products.

Periodical : Zhur. ob. khim. 24/1, 163-169, Jan 1954

Abstract : The cyanethylation of cyclohexanol, 2- and 3-methylcyclohexanol, 1,2,5-trimethyl-4-piperidol and the hydrogenation and alcoholysis of the compounds obtained during cyanethylation are described. An analysis of the carbethoxy ethyl ether of piperidol, obtained during the alcoholysis of beta-cyanethyl ether, is presented. The hydrogenation of beta-cyanethyl derivatives in the presence of ammonia and the gamma-aminopropyl derivatives obtained therefrom are described. Five references: 2-USA; 2-USSR and 1-French (1936-1950).

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Shvekhgeymer, G. A.

USSR/Chemistry - Reduction cyclization

Card 1/1 Pub. 151 - 27/38

Authors : Nazarov, I. N.; Shvekhgeymer, G. A.; and Rudenko, V. A.

Title : Cyanethylation of cyclic and heterocyclic ketones. Reduction cyclization of cyanethylation products.

Periodical : Zhur. ob. khim. 24/2, 319-329, Feb 1954

Abstract : The reaction of cyanethylation of various cyclic and heterocyclic ketones was investigated. Ketones with certain substitutes in alpha-position were found to offer high yields of monocyanethyl products. The derivation of ketonitriles from 2,4-dimethyl- 4-cyclopentenone and 2,4- 2-cyclopentenone is explained. Hydrogenation of ketonitriles and ketodinitriles in an autoclave leads to the closing of the latter into corresponding piperidine systems. The results obtained through reduction cyclization of cyanethylation products, are listed. Eight references: 3-USA; 3-USSR and 2-German (1885-1951).

Institution : Academy of Sciences USSR, Institute of Organic Chemistry

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Shvekhgeymer, G. A.

USSR/Chemistry - Plastics

Card 1/1 Pub. 151 - 28/28

Authors : Nazarov, I. N.; Shvekhgeymer, G. A.; and Rudenko, V. A.

Title : Hydrolysis, alcoholysis and hydrogenation of beta-cyanethyl glycol ethers

Periodical : Zhur. ob. khim. 24/2, 329-337, Feb 1954

Abstract : The hydrogenation, hydrolysis and alcoholysis of beta-cyanethyl ethers of ethylene glycol, 1,3-butylene glycol, 1,4-butylene glycol, diethylene glycol and ethylenecyanhydrin were investigated. The obtained homologous diamines dicarboxylic acids and their esters were found to contain oxygen hetero-atoms in their chain and as such are recommended for the derivation of new polyamides of higher hydrophilic nature. The above mentioned diamines, dicarboxylic acids and their esters can also be used in the role of intermediate products for the synthesis of a new type synthetic fiber, plastics and other valuable products. Nine references: 7-USA; 1-USSR and 1-German (1943-1952). Tables.

Institution : Academy of Sciences USSR, Institute of Organic Chemistry

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SHVEKHGEYMER, G.A.

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Acetylene derivatives. CLXVI. Cyanoethylation of acetylenic alcohols. I. N. Nazarov and G. A. Shvekhgeimer (Inst. Org. Chem., Acad. Sci., U.S.S.R., Moscow). *Zhur. Obshchei Khim.* 25, 504-8; *J. Gen. Chem. U.S.S.R.* 25, 471-5(1955)(Engl. translation); cf. *C.* 1. 49, 4641*h*.—To 39.2 g. PrCH(OH)C:CH and 3 g. 40% aq. KOH was added with stirring 21.2 g. CH_2:CHCN at below 25°; after stirring 4 hrs. at room temp. and letting the mixt. stand overnight, it was neutralized with 1:1 HCl, filtered and distd. yielding 82% *PrCH(OCH₂CH₂CN)C:CH*, $b_{4.4}$ 90-1°, n_D^{20} 1.4432, d_{20} 0.9243. Similarly were obtained the following: 61% *iso-PrCH(OCH₂CH₂CN)C:CH*, $b_{3.4}$ 83-5°, n_D^{20} 1.4405, d_{20} 0.9266; 80% *PhCH₂CH₂CH(OCH₂CH₂CN)C:CH*, b_3 141-3°, n_D^{20} 1.5135, d_{20} 1.0207; 96% *MeEtC(OCH₂CH₂CN)C:CH*, $b_{3.4}$ 67-8°, n_D^{20} 1.4401, d_{20} 0.9255; 95% *Pr₂C(OCH₂CH₂CN)C:CH*, b_4 98-9°, n_D^{20} 1.4482, d_{20} 0.9078; 73% *Me₂C:CHC(OCH₂CH₂CN)MeC:CH*, b_4 98-100°, n_D^{20} 1.4647, d_{20} 0.9426; 93% *(CH₂)₅C(OCH₂CH₂CN)C:CH*, b_3 92-5°, n_D^{20} 1.4745, d_{20} 0.9926; 89% *2-C₁₀H₁₄(OCH₂CH₂CN)C:CH*, $b_{4.3}$ 150-3°, n_D^{20} 1.4976, d_{20} 1.0880 (from 2-ethynyl-2-decahydronaphthol); 97% *MePhC(OCH₂CH₂CN)C:CH*, $b_{3.4}$ 115-18°, n_D^{20} 1.5124, d_{20} 1.0356; 81% *Ph₂C(OCH₂CH₂CN)C:CH*, $b_{3.4}$ 167-75°, m. 84-5°; 77% *2,2-dimethyl-4-ethynyl-4-(2-cyanoethoxy)tetrahydropyran*, b_1 122-5°, n_D^{20} 1.4719, d_{20} 1.0984. The last 5 substances were prepd. in dioxane medium with addn. of 40% aq. KOH as above.

CLXVII. α-Oxo oxides and their transformations. 4. Oxides of 2-methyl-1,4-hexadien-3-one, 5-methoxy-2-methyl-1-hexen-3-one and 1-methoxy-2-methyl-4-hexen-3-one. I. N. Nazarov, A. A. Akhrem, and I. G. Tishchenko. *Zhur. Obshchei Khim.* 25, 708-25; *J. Gen. Chem. U.S.S.R.* 25, 677-90(1955)(Engl. translation); cf. *C.A.* 45, 8516*a*.—CH_2:CMeCOCH:CHMe (230 g.) in 1.5 l. dioxane was treated at −5° simultaneously with 830 ml. 18% H_2O_2 and 85 ml. 4*N* NaOH over 2 hrs.; after addn. the mixt. was kept under 20-5° 1.5 hrs. when the reaction was complete; neutralization with H_2SO_4, decompn. of residual H_2O_2 with MnO_2 and filtration, followed by concn. *in vacuo* and extn. with Et_2O, gave 151 g. *1,2;4,5-diepoxy-2-methyl-3-hexanone*, b_4 93°, b_1 79°, n_D^{20} 1.4510, d_{20} 1.1166; *2,4-dinitrophenylhydrazone*, m. 224-6°. The oxide is attacked by H_2O very slowly and in 45 days gave a low yield of *2,5-dimethyl-3,5-dihydroxytetrahydro-4-pyrone*, $b_{0.4}$ 212-15°, m. 167°; *semicarbazone*, m. 218-19°. A liquid remaining after sepn. of this was apparently its mixt. with the *enolic form* (I), b_3 117-19°, n_D^{20} 1.4785, d_{20} 1.2187, which on standing slowly deposits the solid pyrone. Heating the dioxide with H_2O 30 hrs. on steam bath gave a low yield of the same pyrone and some 40% *3,4,5-trihydroxy-3,6-dimethyl-3,6-dihydro-2H-pyran*, b_3 117-19°, which is the same as I. The solid pyrone with Ac_2O in the presence of H_2SO_4 gave the *diacetate*, b_4 128-30°, n_D^{20} 1.4575, d_{20} 1.1760, while similarly gave also the same diacetate. The dioxide and PhNHMe in 36 hrs. at room temp. gave a low yield of *2,5-dimethyl-2-methylphenylaminomethyl-4-hydroxytetrahydrofuran-3-one*, b_2 153-6°, n_D^{20} 1.5378, d_{20} 1.1249; while the dioxide and $PhCH_2SH$ after 6 hrs. at 125-30° gave a good yield of *2,5-dimethyl-2-benzylmercaptomethyl-4-hydroxytetrahydrofuran-3-one*, b_2 144-6°. Oxidation of 144 g. CH_2:CMeCOCH₂CHMeOMe at −10° with 215 ml. 18% H_2O_2 and 45 ml. 4*N* NaOH, the ketone being dissolved in 1 l. MeOH, gave in 40 min. 108 g. *1,2-epoxy-5-methoxy-2-methyl-3-hexanone*, b_2 57-7.5°, n_D^{20} 1.4368, d_{20} 0.9980; *2,4-dinitrophenylhydrazone*, m. 146-8°; the oxide polymerizes noticeably on standing. Heating it with H_2O 4 hrs. at 75° and 12 hrs. at 100° gave about

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I. N. NAZAROV

60% $HOCH_2CMe(OH)COCH_2CHMeOMe$ (II), b_2 100–1°, n^{20}_D 1.4608, d_{20} 1.1008, which with Ac_2O and few drops H_2SO_4 in 10 hrs. on a steam bath gave the *diacetate*, $b_{2.5}$ 116°, n^{20}_D 1.4512, d_{20} 1.1066, while the oxide with $PhNH_2$ in 12 hrs. at 75–80° gave *2-(anilinomethyl)-2,5-dimethyltetrahydrofuran-3-one* (IIa), b_2 152–3°, b_2 144.5–6°, b_1 138–40°, n^{20}_D 1.5575, d_{20} 1.1265 (*semicarbazone*, m. 203–5°); IIa with dry HCl gave the HCl salt; IIa failed to yield a solid picrate. The furanone with Ac_2O gave an *amide*, $C_{15}H_{19}NO_3$, b_1 158–60°, n^{20}_D 1.5420, d_{20} 1.1254. The furanone with $NaNO_2$ in 12% HCl gave a *nitrosamine*, $C_{12}H_{16}N_2O_3$, green, m. 120° (from Et_2O, then C_6H_6). II heated with $EtNH_2$ finally to 75–80° 4 hrs. gave a good yield of *2,5-dimethyl-2-(ethylaminomethyl)tetrahydrofuran-3-one* (III), b_3 85–6°, b_1 78–9°, n^{20}_D 1.4645, d_{20} 1.0043; *picrate*, decomp. 207°; the furanone with Ac_2O in 8 hrs. at 100° gave a low yield of *amide*, $C_{11}H_{19}NO_3$, b_2 137–9°, n^{20}_D 1.4735, d_{20} 1.0402; the furanone with $MeNH_2$ in MeOH in 2 days at room temp. and 4.5 hrs. at 70–5° gave a low yield of *2,5-dimethyl-2-methylaminomethyltetrahydrofuran-3-one*, b_4 83–5°, n^{20}_D 1.4773, d_{20} 1.0108, which gave an oily picrate and which resinified in contact with air. II with Et_2NH in 4.5 hrs. at 75–80° gave a good yield of *N*-Et deriv. of III, b_2 88–90°, n^{20}_D 1.4533, d_{20} 0.9586, which does not form a solid picrate; II and PhNHMe in 14 hrs. at 75–80° gave a moderate yield of the *N*-Me deriv. of IIa, $b_{2.5}$ 148–50°, n^{20}_D 1.5485, d_{20} 1.0752, which also failed to give a solid picrate. II and $PhCH_2SH$ in 15 hrs. at 140–5° gave a moderate yield of *2-(benzylthiomethyl)-2,5-dimethyltetrahydrofuran-3-one*, b_3 157–8°, m. 73°. II added to Na deriv. from 1.3 g. Na, 20 ml. EtOH and 7.5 g. $CH_2(CO_2Et)_2$ and refluxed 14 hrs. gave after hydrolysis with 5% H_2SO_4 and extn. with Et_2O 3.5 g. products, b_3 137–70°, which yielded 0.7 g. $EtO_2C\overline{CH.CH_2.CMe(COCH_2CHMeOMe).O.CO}$, b_3 160–3°, which slowly and partially solidifies on standing. II and Na deriv. of $AcCH_2CO_2Et$ similarly gave a low yield of $Ac\overline{CH.CH_2.CMe(COCH_2CHMeOMe).O.CO}$, b_3 153–7°, which partially solidifies on standing. II kept about a year gave a colorless polymer, m. 111–16°, whose structure was $[-CH_2CMe(OH)COCH(CHMeOMe)-]_n$, with *n* about 14. Oxidation of 60 g. $MeOCH_2CHMeCOCH{:}CHMe_2$ as above with H_2O_2-NaOH in MeOH gave in 1.2 hrs. at 20–5° 50.5 g. *4,5-epoxy-1-methoxy-2-methyl-3-hexanone* (IV), b_3 75°, n^{20}_D 1.4378, d_{20} 1.0110; *2,4-dinitrophenylhydrazone*, m. 120–2°. There also formed 2.8 g. $MeOCH_2CHMeCOCOEt$, yellow-green, b_4 87–9°, n^{20}_D 1.4438, d_{20} 1.0505; *bis-2,4-dinitrophenylhydrazone*,

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m. 219°. IV heated with H_2O 20 hrs. gave a moderate yield of *MeCH₂CHMeCOCH(OH)CH(OH)Me*, b_2 103°, n_D^{20} 1.4632, d_{20} 1.0937. Heating III with 2% H_2SO_4 on steam bath gave a 50% yield of the glycol; thus III is hydrolyzed with more difficulty than are its isomers. The glycol with Ac_2O-H_2SO_4 gave the *diacetate*, b_2 100–3°, n_D^{20} 1.45[illegible], d_{20} 1.1058. III and $EtNH_2$ and a little moisture, heated in sealed tube, finally 4 hrs. at 75–80° gave some 45% *2-(1-ethylaminoethyl)-4-methyltetrahydrofuran-3-one*, b_4 84–[illegible], n_D^{20} 1.4652, d_{20} 0.9951; *picrate*, oil. III and $PhNH_2$ in [illegible] hrs. at 105–10° gave some 30% *2-(1-anilinoethyl)-4-methyltetrahydrofuran-3-one*, b_2 142–4°, n_D^{20} 1.5620, d_{20} 1.1233; *picrate*, oil. IV and Et_2NH in EtOH after heating in ampul, finally 9 hrs. at 70–5°, gave some 40% *2-(1-diethylaminoethyl)-4-methyltetrahydrofuran-3-one*, b_2 92–5°, n_D^{20} 1.4515, d_{20} 0.9612. IV and $PhCH_2SH$ in 27 hrs. at 140–5° gave some 60% *4-methyl-2-(1-benzylthioethyl)tetrahydrofuran-3-one*, b_2 136–8°, n_D^{20} 1.4540, d_{20} 1.1018, and a low yield of apparently *2,5-dimethyl-3-benzylmercaptotetrahydro-4-pyrone*, $b_{1.4}$ 150–62°, m. 71–2°. CLXVIII. α-Oxo oxides and their transformations. 5. Oxides of 1,4-hexadien-3-one, 5-methyl-2,5-heptadien-4-one and 2-methoxy-5-methyl-5-hepten-4-one. *Zhur. Obshchei Khim.* 25, 725–34; *J. Gen. Chem. U.S.S.R.* 25, 691–8(1955)(Engl. translation).—Oxidation of 42.5 g. high-boiling isomer of 5-methyl-2,5-heptadien-4-one (b_6 69–71°) with H_2O_2-NaOH in dioxane (cf. above) at 2–3° gave a mixt. which was sepd. into: 18 g. 5,6-epoxy-3-methyl-2-hepten-4-one (I), b_2 54–4.5°, n_D^{20} 1.4762, d_{20} 0.9916 (*2,4-dinitrophenylhydrazone*, m. 178–9°), 3.5 g. 5,6-epoxy-5-methyl-2-hepten-4-one, b_2 69–71°, n_D^{20} 1.4690, d_{20} 1.0091, and 6.5 g. 2,3;5,6-diepoxy-3-methyl-4-heptanone (Ia), b_2 83–4°, n_D^{20} 1.4545, d_{20} 1.0768 (*2,4-dinitrophenylhydrazone*, decomp. 257°). I with H_2O 25 hrs. at 100° gave a very poor yield of *MeCH:CMeCOCH(OH)CHMeOH*, b_2 103°, n_D^{20} 1.4815, d_{20} 1.0494, which on standing deposits crystals of possibly *3-hydroxy-2,5,6-trimethyl-4-pyrone*. Oxidation with H_2O_2-NaOH, as above, of 46 g. CH_2:CHCOCH:CHMe gave 37.7 g. *1,2,4,5-diepoxy-3-heptanone*, b_2 74–6°, n_D^{20} 1.4545, d_{20} 1.1405 (*2,4-dinitrophenylhydrazone*, m. 212–13°). The oxide heated with H_2O 30 hrs. gave a low yield of *2-methyl-3,5-dihydroxy-4-pyrone*, m. 158°, and 11.5 g. distillable liquid (bath temp. 190°/3 mm.) which deposited a little of the above pyrone; redistn. gave 8 g. *mixed isomers* of this pyrone, b_2 103–5°, n_D^{20} 1.4903, d_{20} 1.2770, which failed to yield solid carbonyl derivs., but with Ac_2O-H_2SO_4 gave the *2-methyl-3,5-dihydroxy-4-pyrone diacetate*, b_2 118–20°, n_D^{20} 1.4660, d_{20} 1.1097. Similar oxidation of [illegible] g. $MeOCHMeCH_2COCMe$:CH_2 gave in a reaction lasting some 24 hrs. at room temp. (initial period conducted at −4°) 9.8 g. *2,3-epoxy-6-methoxy-3-methyl-4-heptanone*, b_2 67–8°, n_D^{20} 1.4575, d_{20} 1.0156 (*2,4-dinitrophenylhydrazone*, m. 109°); this heated 20 hrs. with 2% H_2SO_4 gave some 60% *MeOCHMeCH₂COCMe(OH)CHMeOH*, $b_{2.4}$ 105–7°, n_D^{20} 1.4600, d_{20} 1.0873. Oxidation at 0° of 32 g. CH_2:CMeCOCH:CHMe (II) with 52 g. 90% AcOH soln. of AcO_2H in 7 days at room temp. gave 7.2 g. *5,6-epoxy-5-methyl-2-hexen-4-one*, b_2 40°, n_D^{20} 1.4525, d_{20} 0.9929 (run in Et_2O the reaction gives much polymer and a poor yield of the oxide); the oxide with H_2O forms a water-sol. sirup; storage of the oxide in air yields a polymer. Hydrogenation of the oxide over Raney Ni gave *1,2-epoxy-2-methyl-3-hexanone*, b_2 57–8°, n_D^{20} 1.4275, d_{20} 0.9556 (*2,4-dinitrophenylhydrazone*, m. 203°). II (77 g.) oxidized with 175 ml. 15% H_2O_2 and 12 ml. 4*N* NaOH (technique in previous abstr.) at 2–3° in Me_2CO gave 16 g. *4,5-epoxy-2-methyl-1-hexen-3-one*, b_2 43°, n_D^{20} 1.4482, d_{20} 0.9615, which in air polymerizes to a solid; along with this there is formed also some *1,2,4,5-diepoxy-2-methyl-3-hexanone*, b_1 79°. Hydrogenation of monoxide over Ni gave *4,5-epoxy-2-methyl-3-hexanone*, b_{12} 62°, n_D^{20} 1.4294, d_{20} 0.9494 (*2,4-dinitrophenylhydrazone*, m. 129–30°). G. M. Kosolapoff

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SHVEKHGEYMER, G. A.

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Derivatives of acetylene. CLXXV. Alcoholysis of β-cyanoethyl ethers of acetylenic alcohols. I. N. Nazarov and G. A. Shvekhgeimer (N. D. Zelinskiĭ Inst. Org. Chem., Acad. Sci. U.S.S.R., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1956, 827–33; cf. *C.A.* 49, 8107*c*; 50, 13902*f*.—Refluxing 6 g. $HC{:}CCHMeOCH_2CH_2CN$ in 90 ml. MeOH contg. 20 g. dry HCl 2 hrs. gave on distn. of the solvent and treatment of the residue with H_2O and extn. with Et_2O, 5.7 g. $HC{:}CCHMeOCH_2CH_2CO_2Me$, b_{15} 85–6°, n_D^{20} 1.4326, d_{20} 1.0005. Similarly were prepd. the following esters (b.p., n_D^{20}, and d_{20} given): $HC{:}CCHEtOCH_2CH_2CO_2Me$, b_{14} 95–6°, 1.4347, 0.9822; $HC{:}CCHPrOCH_2CH_2CO_2Me$, b_{12} 104–5°, 1.4362, 0.9678; $HC{:}CCH(CHMe_2)OCH_2CH_2CO_2Me$, b_{10} 95–6°, 1.4345, 0.9646; $HC{:}CCMe_2OCH_2CH_2CO_2Me$, b_{12} 83–4°, 1.4290, 0.9698; $HC{:}CCMeEtOCH_2CH_2CO_2Me$, b_{11} 91–2°, 1.4338, 0.9712; $HC{:}CCMePrOCH_2CH_2CO_2Me$, b_{12} 104–5°, 1.4374, 0.9594; $HC{:}CCMe(C_6H_{13})OCH_2CH_2CO_2Me$, b_3 115–16°, 1.4423, 0.9405; $HC{:}CCMe(C_8H_{17})OCH_2CH_2CO_2Me$, b_4 146–8°, 1.4474, 0.9164; $HC{:}CCEt_2OCH_2CH_2CO_2Me$, b_{13} 105–7°, 1.4402, 0.9671; $HC{:}CCPr_2OCH_2CH_2CO_2Me$, b_{12} 125–7°, 1.4424, 0.9537; $HC{:}CC(CH_2)_5OCH_2CH_2CO_2Me$, $b_{2.5}$ 101–2°, 1.4652, 1.0262; *2-methyl-1-ethynyl-1-(2-carbomethoxyethoxy)cyclohexane*, $b_{2.5}$ 107–8°, 1.4642, 1.0079; *2,2-dimethyl-4-ethynyl-4-(2-carbomethoxyethoxy)tetrahydropyran*, $b_{2.5}$ 119–20°, 1.4647, 1.0516; *1,2,5-trimethyl-4-ethynyl-4-(2-carbomethoxyethoxy)piperidine*, b_2 123–5°, 1.4692, 1.0252; *2-ethynyl-2-(2-carbomethoxyethoxy)decahydronaphthalene*, b_4 150–2°, 1.4887, 1.0465; $Et_2NCH_2C{:}CCMe_2OCH_2CH_2CO_2Me$, b_3 116–8°, 1.4504, 0.9528; *1-(3-diethylamino-1-propynyl)-1-(2-carbomethoxyethoxy)cyclohexane*, b_2 155–7°, 1.4744, 0.9894. $HC{:}CCR_2OCH_2CH_2CN$ can be also hydrolyzed similarly in HCl-MeOH at room temp. over 3–4 days. Thus was prepd. *1-ethynyl-1-(2-carbomethoxyethoxy)cyclopentane*, b_4 98–100°, n_D^{20} 1.4625, d_{20} 1.0302, and $ZCH_2C{:}CCMe_2OCH_2CH_2CO_2Me$ (Z = piperidino), b_3 145–6°, n_D^{20} 1.4739, d_{20} 1.0056, and $Et_2NCH_2C{:}CCMeEtOCH_2CH_2CO_2Me$, b_4 135–6°, n_D^{20} 1.4520, d_{20} 0.9542, and $HC{:}CC(CHMe_2)_2OCH_2CH_2CO_2Me$, b_{14} 122–4°, n_D^{20} 1.4446, d_{20} 0.9676. The 2nd procedure often gave the higher yields. G. M. Kosolapoff

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SHVEKHGEYMER, G.A.

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Derivatives of acetylene. CLXXV. Alcoholysis of β-cyanoethyl ethers of acetylenic alcohols. I. N. Nazarov and G. A. Shvekhgeimer. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* 1956, 846-51 (English translation).—See *C.A.* 51, 1951a. B. M. R.

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NAZAROV, I.N.; SHVEKHGEYMER, G.A.

Acetylene derivatives. Part 173. Cyanoethylation of acetylene alcohols. Izv.AN SSSR Otd.khim.nauk no.2:199-204 F '56. (MLRA 9:7)

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(Cyanoethylation) (Alcohols)

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SHVEKHGEYMER, G.A

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Acetylene derivatives. CLXXIV. Synthesis of β-carboxyethyl esters of acetylenic alcohols and the corresponding chlorides and amides. I. N. Nazarov and G. A. Shvekhgeimer (N. D. Zelinskii Inst. Org. Chem., Moscow). *Izvest. Akad. Nauk S.S.S.R., Oldel. Khim. Nauk* 1956, 1221-4; cf. *C.A.* 51, 2523a.—Stirring 17 g. $Me_2C(C{:}CH)OCH_2CH_2CO_2Me$ with 25 g. NaOH in 25 ml. H_2O and 475 ml. MeOH 20 hrs. followed by neutralization with CO_2, filtration, and evapn. gave 14 g. $Me_2C(C{:}CH)OCH_2CH_2CO_2H$ (I), $b_{3.5}$ 108–10°, n_D^{20} 1.4419, d_{20} 1.0263. Similarly were prepd. $RR'C(C{:}CH)OCH_2CH_2CO_2H$ (*R,R'* shown resp.): *Et, H*, $b_{3.5}$ 117–18°, 1.4451; *Pr, H*, b_6 134–6°, 1.4460, 1.0076; *iso-Pr, H*, b_6 129–30°, 1.4453, 1.0005; *Et, Me*, b_4 118–20°, 1.4470, 1.0144; *Pr, Me*, $b_{4.5}$ 128–30°, 1.4460, 0.9939; C_6H_{13}, *Me*, b_4 155–7°, 1.4517, 0.9572; C_6H_{11}, *Me*, b_5 185–7°, 1.4523, 0.9376; *Et, Et*, b_5 131–3°, 1.4487, 1.0006; *Pr, Pr*, $b_{4.5}$ 144–6°, 1.4503, 0.9752; *iso-Pr, iso-Pr*, b_5 144–6°, 1.4505, 0.9944; $RR' = (CH_2)_4$, b_5 142–4°, 1.4725, 1.0751; $RR' = (CH_2)_5$, $b_{4.5}$ 155–6°, m. 46–7°, 1.4775, 1.0676; $RR' = CH_2CH_2CH_2CH_2CHMe$, b_5 153–5°, 1.4660, 1.0460; $RR' = o\text{-}CH_2C_6H_4CH_2CH_2$, b_5 194–5°, 1.5005, —; $RR' = CH_2CH_2OCMe_2CH_2$, $b_{4.5}$ 174–6°, m. 72–3.5°. Heating 10 g. $Me_2C(C{:}CH)OCH_2CH_2CN$ with 15 g. KOH and 100 ml. H_2O 15 hrs. at 50–60° gave 2.1 g. I. If the nitrile (10 g.) is refluxed with 12 g. KOH, 50 ml. MeOH, and 50 ml. H_2O 20 hrs. there is formed 4.5 g. $MeOCH_2CH_2CO_2H$; refluxing the nitrile (10 g.) with 8 g. KOH in 100 ml. MeOH 35 hrs. gave 3.1 g. I. I and CH_2N_2 gave the *Me ester*, b_{18} 85–7°, n_D^{20} 1.4296. I

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Nazarov, I.N.; Shrekhgeimer, G.A.

heated with $SOCl_2$ at 50–60° gave $RR'C(C{:}CH)OCH_2CH_2COCl$, (R,R′ shown resp.) *Me, Me*, b_{24} 85–7°, n_D^{20} 1.4432, d_{20} 1.0510. Similarly were prepd. in 89–99% yields: *Et, H*, $b_{1.5}$ 65–7°, 1.4471, 1.0632; *Pr, H*, b_6 88–90°, 1.4609, 1.0560; *iso-Pr, H*, b_4 72–4°, 1.4476, 1.0397; *Et, Me*, b_6 75–7°, 1.4479, 1.0355; *Pr, Me*, b_6 85–7°, 1.4493, 1.0271; C_6H_{10}, *Me*, b_6 122–4°, 1.4531, 0.9868; C_8H_{11}, *Me*, b_4 147–9°, 1.4551, 0.9606; *Et, Et*, b_5 80–2°, 1.4508, 1.0347; *Pr, Pr*, $b_{3.5}$ 98–100°, 1.4546, 1.0058; *iso-Pr, iso-Pr*, b_4 95–7°, 1.4630, 1.0226; $RR' = (CH_2)_4$, b_4 91–3°, 1.4753, 1.1101; $RR' = (CH_2)_5$, b_6 112–14°, 1.4800, 1.0896; $RR' = CH_2CH_2CH_2CH_2CHMe$, $b_{1.5}$ 109–11°, 1.4764, 1.0748; $RR' = o\text{-}CH_2C_6H_4CH_2CH_2$, b_5 152–4°, 1.5010, 1.0916; $RR' = CH_2CH_2OCMe_2CH_2$, b_6 127–9°, 1.4782, 1.1215. To 3.12 g. I and 1.6 g. pyridine in 10 ml. Et_2O was added at −5° 2.4 g. $SOCl_2$ and after 1 hr. at room temp. there was obtained 1 g. $Me_2C(C{:}CH)OCH_2CH_2COCl$, b_{24} 85–6°, and 2.1 g. $[Me_2C(C{:}CH)OCH_2CH_2CO]_2O$, $b_{3.5}$ 155–7°, n_D^{20} 1.4518, d_{20} 1.0361; the latter formed also from I, $SOCl_2$, and pyridine in Et_2O in 18 hrs. at room temp. Passage of NH_3 into the above chlorides with ice cooling in Et_2O gave $RR'C(C{:}CH)OCH_2CH_2CONH_2$ in 93–100% yields (R,R′ shown resp.): *Et, H*, b_1 147–9°, n_D^{20} 1.4711; *Pr, H*, b_4 158–61°, 1.4601; *Me, Me*, m. 51–2.5°; *Et, Me*, b_6 153–4°, 1.4710; *Pr, Me*, b_4 154–6°, 1.4680; C_6H_{10}, *Me*, b_4 179–81°; *Et, Et*, b_4 153–6°, 1.4703; *Pr, Pr*, b_5 169–72°, 1.4699; $RR' = (CH_2)_4$, m. 57–8°; $RR' = (CH_2)_5$, m. 71–2°; $RR' = o\text{-}CH_2C_6H_4CH_2CH_2$, m. 75.5–7°; $RR' = CH_2CH_2OCMe_2CH_2$, b_4 194–6°. Reaction of the acyl chlorides with corresponding

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Nazarov, I.N.; Shvekhgeimer, G.A.

amines with ice cooling in Et_2O gave: $Me_2C(C{:}CH)OCH_2CH_2CONHMe$, b_3 133–7°, n_D^{20} 1.4322, d_{20} 1.0002; $Me_2C(C{:}CH)OCH_2CH_2CONMe_2$, b_3 117–21°, 1.4630, 0.9363; $Me_2C(C{:}CH)OCH_2CH_2CONEt_2$, b_4 127–31°, 1.4575, 0.9534;

$Me_2C(C{:}CH)OCH_2CH_2CON.(CH_2)_5$, b_3 154–7°, n_D^{20} 1.4870;

$Me_2C(C{:}CH)OCH_2CH_2CONHPh$, m. 87–8°; $(CH_2)_5.C(C{:}CH)OCH_2CH_2CONHMe$, b_4 170–3°, n_D^{20} 1.4914; $MeEtC(C{:}CH)OCH_2CH_2CONHPh$, m. 54–5°; $(CH_2)_5.C(C{:}CH)OCH_2CH_2CONHPh$, undistillable, m. 74.5–6°; $EtCH(C{:}CH)OCH_2CH_2CONHPh$, unpurifiable; $o\text{-}CH_2C_6H_4.CH_2.CH_2.C(C{:}CH)OCH_2CH_2CONHPh$, unpurifiable; $CH_2.CH_2.O.CMe_2.CH_2.C(C{:}CH)OCH_2CH_2CONHPh$, unpurifiable. To 200 ml. 5% H_2O_2 and 1.5 g. KOH, well stirred, was added 13.5 g. $Me_2C(C{:}CH)OCH_2CH_2CN$ under 40°, after 3 hrs. at 45–50°, the clear soln. satd. with K_2CO_3, and extd. with EtOAc yielding 13.4 g. $Me_2C(C{:}CH)OCH_2CH_2CONH_2$, m. 49–51°; similarly was prepd. $(CH_2)_5.C(C{:}CH)OCH_2CH_2CONH_2$, m. 68–71°. G. M. K.

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