MOCANU, V.; STAISU, S.

"Advantages and disadvantages of sowing conifers in ordinary furrows and in wide furrows." p. 26. (REVISTA PADURILOR, Vol. 68, no. 12, Dec. 1953, Bucuresti, Rumania)

SO: Monthly List of East European Accessions, L. C., Vol. 3, No. 4, April 1954, Uncl.

MOCANU, V.; GEORGESCU, C.

"Contributions to the knowledge of diseases in forest cultivation. p. 23.
(REVISTA PADURILOR, Vol. 70, no. 1, Jan. 1955. Bucuresti, Rumania.)

SO: Month y List of East European Accessions, (EEAI), LC.
Vol. 4, No. 5, May 1955. Uncl.

RUMANIA/Plant Diseases. Diseases of Forest Species. C

Abs Jour: Ref Zhur-Biol., No 5, 1958, 20661.

Author : Georgescu, C.C.; Mocanu, Victoria; Orenski, St.
Inst : Rumanian Academy.
Title : The Elaeagnus angustifolia tracheomycosis Caused by the Fusarium oxysporum Schlecht. var. orthoceras (App. et Wr.) Bilai Comb. Nova.

Orig Pub: Bul. stiint. Acad. RPR. Sec. biol. so. stiinte agric., 1956, 8, No 3, 697-707.

Abstract: The F. oxysporum was isolated in specimens of E. angustifolia infected with tracheomycosis. Observations were made of the growth of the fungus, its morphological and physiological characteristics in different nutritive media, and the dynamism of the

Card : 1/2

MOCANU, V G.

I-3

RUMANIA/Plant Physiology - Water Regime.

Abs Jour : Ref Zhur - Biol., No 6, 1958, 24661

Author : Georgescu S.S., Mocanu V.G., Catrina I.

Inst :

Title : On the Study of Normal and Pathological Transpiration, Withering, and Moisture in Shoots cut from Healthy and Damaged Black Pine.

Orig Pub : Bul. shtiint. Acad. RPR. Sec. biol. shi shtiintse agric. 1956, 8, No 4, 739-753

Abstract : The objects of study were black pines of the Mediash region fifty years old, 28-29 cm in diameter and 13-14 m in height. The variations in transpiration intensit (by the Huber-Ivanov method) were studied in shoots cut from healthy and artificially damaged (mostly through boring) trees. The curve of the daily course of transpiration intensity had at the end of the vegetation period only one maximum between 12 noon and 3 p.m. During the withering of the cut

Card 1/2

RUMANIA/Diseases Plants - Diseases of Forest Species. 0-2

Abs Jour : Ref Zhur - Biol., No 7, 1958, 30185

Author : Mocanu, Vitoria

Inst :

Title : Contribution to Poplar Black Hybrid Phytopathology

Orig Pub : Rev. padurilor, 1957, 71, No 1, 23-26.

Abstract : A description of a series of new myxomycetes (Macrophoma penzigii Ferraris, Fusicoccum aesculi Corda, Diplodia gongrogena Temme) which were discovered in 1954 on four poplars in Rumania.

Card 1/1

MOCANU, T.

An attack of [illegible] (Desm) Kieke on pine stems and needles injured by late frosts. p. 3 3, REVISTA PADURILOR. (Asociatia Stiintifica a Inginerilor si Tehnicienilor din Romania si al Ministerului Agriculturii si Silviculturii) Bucuresti. Vol. 70 (i.e. 71) no. 6, June, 1956

SOURCE: East European Accessions List, (EEAL) Library of Congress, Vol. 5, No. 11, November, 1956

MOCANU, V. - CATRINA, I.

Contributions to the study of humidity of standing timber of certain forest species. p. 535

REVISTA PADURILOR. (Asociata Stiintifica a Inginerilor si Technicienilor din Romania si Ministerul Agriculturii si Silviculturii) Bucuresti, Rumania. Vol. 73, no. 9, Sept. 1958

Monthly list of East European Accessions (EEAI) LC Vol 9, No. 6, June 1959 Uncl.

RUBTOV, S.; MOCANU, V.G.

Contributions to the knowledge of the ecology of Rumanian larches.
Studii cerc biol veget 12 no.1:121-134 '60. (EEAI 10:1)

1. Comunicare prezenta de T.Bordeianu, membru corespondent al Academiei Republicii Populare Romine.
(Rumania--Larch)

POPESCU-ZELETIN, I.; PUIU, S.; MOCANU, V.

Contributions to the knowledge of the radial growth of locust plantations during the period of vegetation. Studii cerc biol veget 12 no.4:461-474 '60. (EEAI 10:5)

1. Membru corespondent al Academiei R.P.R. (for Popescu-Zeletin).
(Locust (Tree))

POPESCU-ZELETIN, I.; MOCANU, V. C.; PUIU, S.

Evolution of the trees defoliated by Lymantria monacha L. Studii cerc biol veget 13 no.3:283-403 '61.

1. Membru corespondent al Academiei R.P.R. (for Popescu-Zeletin).

POPESCU-ZELETIN, I.; MOCANU, V. G.; PUIU, S.

Structure and dynamics of the radial growth during the vegetation period of a population of Populus x euramericana (Dode) Guinier (cv. 'marilandica'). Studii cerc biol veget 13 no.4:477-506 '61.

1. Membru corespondent al Academiei R.P.R.(for Popescu-Zeletin).

BINDIU, C.; DONITA, N.; TUTUNARU, V.; MOCANU, V.

Water economy of some plant associations on the Babadag Plateau, Dobruja. Rev biol 7 no.3:325-348 '62.

1. Biologisches Institut "Tr. Savulescu" der Akademie der RVR, Laboratorium für Geobotanik.

POPESCU-ZELETIN, I.; MOCANU, V. G.

Contributions to the knowledge of the growth conditions in the most important forestry association of the Babadag Plateau. Rev biol 7 no. 4: 513-536 '62.

1. Institut fur Biologie "Traian Savulescu".
2. Korrespondierendes Mitglied der Akademie der RVR (for Popescu-Zeletin.

AUTHOR: Mocek, Jiří, Ing.

TITLE: Desulphuring in a Basic Open-hearth Furnace (Odsíření v zasadite Martinove peci)

CZECH/34-59-5-5/19

PERIODICAL: Hutnické Listy, 1959, Nr 5, pp 405-409 (Czechoslovakia)

ABSTRACT: The author evaluates published experimental results from the point of view of the basic conditions of desulphurization. On the basis of literary data, in Fig 1 the dependence is graphed of the $(S)/[a_s]$ ratio on the content of free N_{CaO}'. Two straight lines are drawn in the diagram corresponding to 5 mol.% and 10 mol.% FeO respectively. In the above ratio a_s expresses the activity of the sulphur which is dissolved in the liquid iron. Generally in the paper the author uses square brackets for denoting elements or compounds which are dissolved in the liquid iron and round bracks for denoting elements or compounds dissolved in the slag. In the view of the author, in addition to the basicity, the fluidity of the slags is an important factor for desulphurization. The influence of iron oxide in open-hearth furnace slags is negligible except for its effect as a fluxing medium.

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Desulphuring in a Basic Open-hearth Furnace

172 analyses of the metal in the slag published in the work of Harders et al. (Ref 13), P. Herasymenko and G. E. Speight (Ref 11), I. I. Bornakhiy (Ref 14) and K. F. Ludemann (Ref 15) were evaluated on the basis of theoretical views relating to the basic conditions of desulphurization. For each specimen the value of the $(S)/[a_S]$ ratio was calculated from the respective S content in the slag and the composition of the metal. For calculating the active coefficients the results published by J. Chipman and C. W. Sherman (Ref 16) and C. Wagner (Ref 17) were applied. From the slag composition the content (molar fraction) of free calcium was calculated ($N_{CaO'}$). The results were divided into three groups with the following contents of FeO: 4 to 6 mol.%, 8 to 12 mol.% and over 12 mol.%. The bath temperature has not been considered. Results of production heats in basic open-hearth furnaces produced in the ZVIL Steelworks, Pilsen, were evaluated in the same way. A total of sixteen heats were investigated, of which six heats consisted of carbon steel, six heats were pre-molten for subsequent use in the acidic furnace

Desulphuring in a Basic Open-hearth Furnace CZECH/34-59-5-5/19

and four produced in a basically lined electrical furnace. The analytical and the calculated results for three heats are entered in Table 1. In Figs 4,5 and 6 the progres is graphed of desulphurization for three melts. The results obtained in these experiments are also entered in the (S)/$[a_s]$ diagram, Fig 1. The desulphurization capacity in the furnace cannot be intensified excessively without affecting other optimum features and also the economy of the manufacture and, therefore, the ZVIL Steelworks will have to pay more attention to desulphuring prior to charging into the furnace or desulphuring after tapping.
There are 6 figures, 1 table and 28 references, 5 of which are Czech, 4 German, 13 English, 4 Soviet, 2 French.

ASSOCIATION: Výzkumný z zkušební ústav Závodu V.I.Lenina, Plzeň (Research and Test Institute, V. I. Lenin Works, Pilsen)

SUBMITTED: February 7, 1959

Card 3/3

CZECHOSLOVAKIA/Human and Animal Physiology (Normal and Pathological). T
Blood Circulation. Heart

Abs Jour: Ref Zhur-Biol , N 17, 1958, 79541

Author : Macek, Jiri; Orel, Jan.
Inst :
Title : Electrocardiographic and Vectorcardiographic Signs of Hypertrophy of the Left Ventricle With Full Block of the Left Pedicle.

Orig Pub: Vnitrni lekarstvi, 1957, 3, No 8, 709-714

Abstract: A direct dependence is shown between the degree of expansion of the left ventricle, determined roentgenographically, and the electrocardiographic signs of hypertrophy of the left ventricle

Card : 1/1

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CZECHOSLOVAKIA/Human and Animal Physiology (Normal and Pathological). Blood Circulation. The Heart. T-5

Abs Jour : Ref Zhur - Biol., No 11, 1958, 50818

Author : Mocek, Jiri; Orel, Jan
Inst :
Title : Changes of the Stomach Gradient at the Presence of a Complete Block of the Left Pedicle of Tavar in Myocardial Infracts.

Orig Pub : Vnitrni lekarstvi, 1957, 3, No 8, 715-723.

Abstract : No abstract.

Card 1/1

CZECHOSLOVAKIA / Pharmacology, Toxicology. Cardiovascular Drugs. V

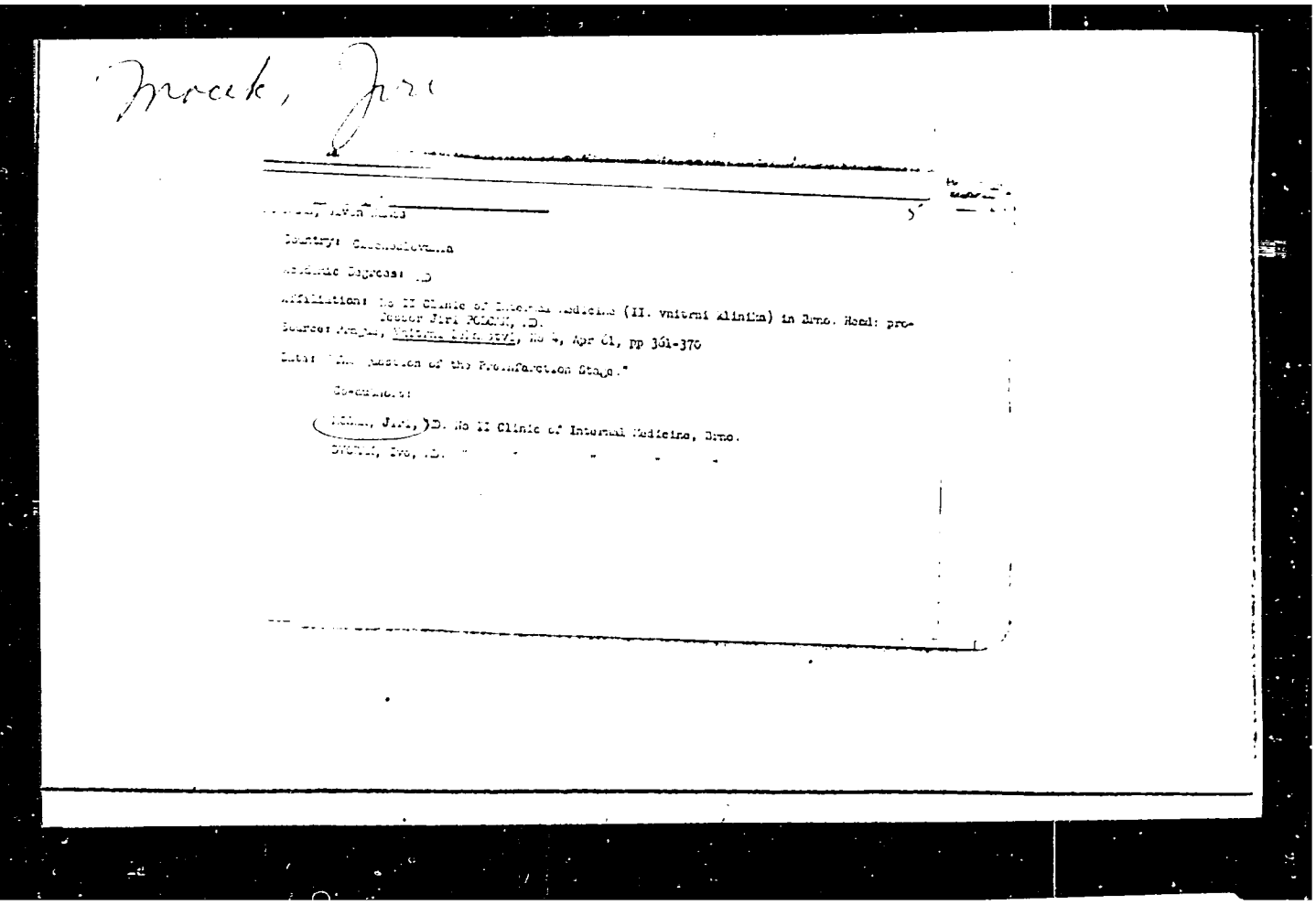
Abs Jour: Ref Zhur-Biol., No 9, 1958, 42400.

Author : Sel, B.; Mocek, J.; Orel, J.
Inst : Not Given.
Title : Bigeminy Caused by Reserpine.

Orig Pub: Vnitzni lekarstvi, 1957, 3, No 8, 740-744.

Abstract: A hypertensive patient was given 0.1 mg doses of reserpine (I) 3 times daily. Within 12 days after the beginning of the drug the patient reported to the clinic in an excited state, complaining of shortness of breath, a sensation of heart standstill and a tendency to fainting for the past few days. The ECG revealed bigeminy, caused by ventricular extra-systolies. One week after discontinuation of I the bigeminy ceased, but within 5 days

Card 1/2



Mracek, Jiri

Country: Czechoslovakia

Academic Degrees: MD

Affiliation: No II Clinic of Internal Medicine (II. vnitrni klinika) in Brno. Head: prof Doctor Jiri MRACEK, MD.

Source: Praha, Vnitrni Lekar 1974, No 4, Apr 74, pp 361-370

Title: "The Question of the Proliferation Stage."

Submitted:

(Mracek, Jiri, MD. No II Clinic of Internal Medicine, Brno.

Dvorak, Ivo, MD. " " " "

[illegible], [illegible], dr; MOCEK, Ji[illegible]

[illegible]

[illegible], [illegible]

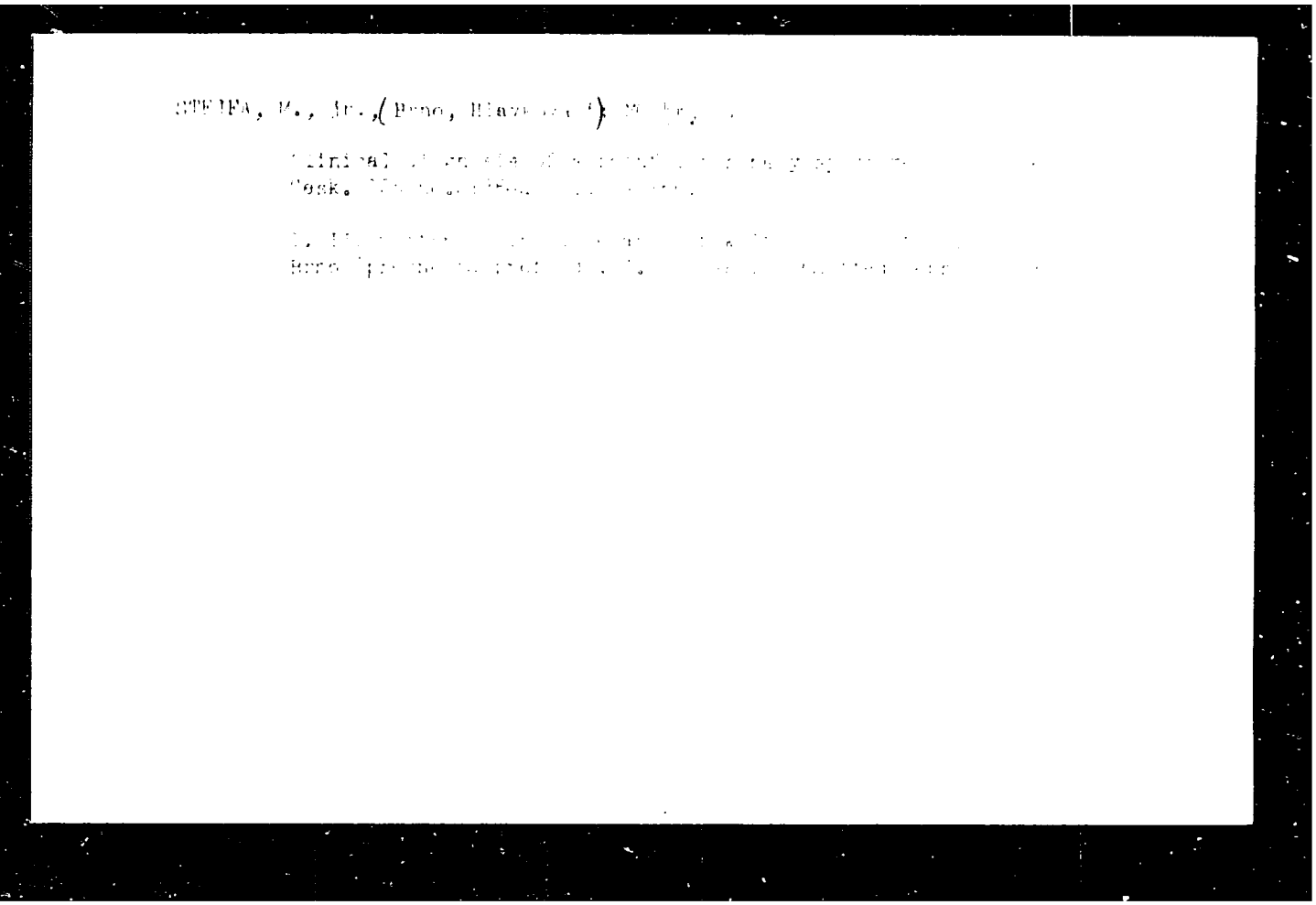
Electrocardiographic changes during tooth extraction in normal subjects. Vnitrni lek. 11 no.11:1077-1081 N '65.

1. II. vnitrni klinika (prednosta prof. dr. Jiri Polcak), II. stomatologicka klinika (prednosta prof. dr. Josef Svejda, CSc.).

MOCEK, Jiri; STEFFA, Milos, ml.; DVORAK, Ivo

Pathological and anatomical aspects of the ischemic cardiac pain in intermediate coronary syndrome. Vnitrni lek. 11 no.12:1152-1157 D '65.

1. II. vnitrni klinika lekarske fakulty University J.E. Purkyne v Brne (prednosta - prof. Dr. Jiri Polcak).



MOCEVIC, M.

Some experiences in the construction of forest roads. p. 226.

NARODNI SUMAR. (Drustvo sumarskih inzenjera i tehnicara Bosne i Hercegovine) Sarajevo, Yugoslavia. Vol. 12, no. 4/6, Apr./June 1958.

Monthly List of East European Accessions (EEAI) LC Vol. 9, no. 2, Feb. 1960.

Uncl.

MOCEVIC, M.

Use of explosives in the construction of forest roads. p. 274.

NARODNI SUMAR. (Drustvo sumarskih inzenjera i tehnicara Bosne i Hercegovine) Sarajevo, Yugoslavia. Vol. 12, no. 4/6, Apr./June 1958.

Monthly list of East European Accessions (EEAI) LC Vol. 9, no. 2, Feb. 1960.

Uncl.

KOBAKHIDZE, David Nesterovich; MOCHABELI, A.I., red.; IMIADZE, K.I., red.izd-va; BOKERIYA, E.B., tekhn. red.

[Structural characteristics of insect communities of some natural zones of the Georgian S.S.R.] Strukturnye osobennosti entomokompleksov nekotorykh landshaftnykh zon Gruzinskoi SSR. Tbilisi, Izd-vo AN Gruz.SSR. 1963. 90 p. (MIRA 16:11)

(Georgia--Insect populations)

MOCHACKI, Adam, inz.

Products of the Polfer Magnetic Materials Work. Wiad elektrotechn 31 no. 5:119-121 My '63.

ZAGULYAYEV, A.K.; PAVLOVSKIY, Ye.N., akademik, otv. red.[deceased]; BYKHOVSKIY, B.Ye., akademik, red.; GROMOV, I.M., red.; MOCHADSKIY, A.S., red.; SKARLATO, O.A., red.; STRELKOV, A.A., prof., red.; SHTAKEL'BERG, A.A., red.

[Moths and pyralids attacking grain and foodstuffs] Moli i ognevki - vrediteli zerna i prodovol'stvennykh zapasov. Moskva, Nauka, 1965. 270 p. (MIRA 19:1)

MOCHALAVA, T. P.

"Scientific Conference of the Moscow Oblast' Scientific Research Tuberculosis Institute," Problemy Tuberk., No. 3, pp 81,82, 1954

Translation M-617, 7 July 1955

MOCHALIN, A.

AID P - 2223

Subject : USSR/Aeronautics

Card 1/1 Pub. 58 - 6/19

Author : Komov, B., Mochalin, A. and Pransketis, A.

Title : Gliders should be given to the primary organizations

Periodical: Kryl. rod., 5, 6-7, My 1955

Abstract : This article belongs to the series of answers to the question "What kind of mass-produced glider is needed?" The authors give the characteristics of a glider which they suggest should be given to all primary aviation organizations. Gliders M-3, M-4, M-5, M-6, a glider transport truck, and some names are mentioned. Photo.

Institution: (DOSAAF)

Submitted : No date

KOTOV,B.; MOCHALIN,A., instruktor-letchik-planerist; PRANSKETIS,A., chlen byuro planernoy sektsiy

Let's give gliders to groups in primary organizations. Kryl. rod. 6 no.5:10-11 My '55. (MLRA 8:9)

1. Predsedatel' planernoy sektsii Litovskogo aviatekhkluba (for Kotov) (Gliders (Aeronautics))

[illegible]LIN, A.I., [illegible] Phys-Math Sci--, [illegible] "[illegible] function in the [illegible] of [illegible]t-c[illegible] [illegible]." [illegible]

(Acad Sci BSSR. Inst of Lower [illegible]), [illegible]

MOCHALIN, A.I.

PHASE I BOOK EXPLOITATION SOV/1439

Akademiya nauk SSSR. Energeticheskiy institut

Teplo- i massoobmen v protsessakh isparenlya (Heat- and Mass-Transfer in Evaporation Processes) Moscow, Izd-vo AN SSSR, 1953. 254 p. 5,000 copies printed.

Resp. Ed.: Lykov, A.V., Academician, USSR Academy of Sciences; Eds. of Publishing House: Tal', A.A. and Smirnov, V.A.

PURPOSE: This book is intended for scientists and engineers in heat engineering and chemical technology and for students and teachers of higher educational institutions in these fields.

COVERAGE: This collection contains articles relating to analytical and experimental investigations of heat - and mass-transfer under conditions of phase and chemical transformations. A new method of solving unsteady-state heat-flow problems is presented. Methods of determining heat - and mass-transfer coefficients during the heating and drying of a composite substance are given. New experimental principles of surface heat- and mass-transfer in vaporization processes are explained and new

Card 1/5

Mochalin, A.I. Employing Dirac's Delta-function for Solving Differential Equations in Partial Derivatives of the Parabolic Type 181

MOCHALIN, A.I.

Use of the Dirac function to solve heat conductivity problems. Inzh.-fiz.zhur. no.5:76-83 My '58. (MIRA 12:1)

1. Tekhnologicheskiy institut, g. Yaroslavl'.
(Heat--Conduction)

AUTHOR: Mochalin, A. I.

S/170/59/002/10/013/020
B115/B007

TITLE: The Joint Use of the Dirac Equation and the Integral Transforms

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1959, Vol 2, Nr 10, pp 76-81 (USSR)

ABSTRACT: In the present paper a possibility is shown of using the Dirac delta-function for the solution of tasks to be performed in connection with the calculation of heat conductivity and diffusion together with integral transforms for two-layer media. In this method, infinite integral transforms are used for the solution of problems connected with bodies of limited dimensions, but new terms are introduced into the differential equation, which have been derived on the basis of boundary conditions. The method may be used advantageously in the solution of problems with non-zero boundary conditions. It is also well suited for other more simple fields of the variation of spatial variables (cylinder, sphere). There are 4 Soviet references.

ASSOCIATION: Tekhnologicheskiy institut, g. Yaroslavl' (Technological

Card 1/2

The Joint Use of the Dirac Equation and the Integral Transforms

S/170/59/002/10/013/020
B115/B007

Institute, City of Yaroslavl'

Card 2/2

S/170/59/002/11/018/024
B014/B014

24.5200
AUTHOR: Mochalin, A. I.

TITLE: The Problem of Heat Conduction for an Infinite Cylinder

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1959, Vol 2, Nr 11, pp 109-113 (USSR)

ABSTRACT: This article deals with the problem of heat conduction of an infinite cylinder which contains a cylindrical heat source. The boundary conditions are assumed to be inhomogeneous. The problem is solved by the application of the Dirac δ-function and the integral transformations suggested by the author in an earlier paper (Ref 3). With the help of these transformations the author deduces equation (6) from equation (1). The variable r is eliminated by means of a Hankel transformation, and equation (7) is obtained from equation (6). On the basis of a further Laplace transformation and a formula by N. Ya. Sonin (Ref 4), equation (16) is then obtained for the temperature curve. Equation (17) describes the temperature curve for the case of continuous action of the heat source. In conclusion, the general applicability of the above-described solution is outlined in a special note. There are 4 Soviet references.

Card 1/2

68770

The Problem of Heat Conduction for an Infinite Cylinder S/170/59/002/11/018/024
B014/B014

ASSOCIATION: Tekhnologicheskiy institut, g. Yaroslavl'
(Institute of Technology, City of Yaroslavl')

Card 2/2

S/170/61/004/001/013/020
B019/B056

24,5200 (1498, 1537, 1103)

AUTHOR: Mochalin, A. I.

TITLE: Heating of a Sphere by an Instantaneous Heat Source on the Surface

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1961, Vol. 4, No. 1, pp. 124-126

TEXT: The temperature distribution in a sphere of radius R is sought, when at the instant $t = t_o$ a heat source acts with the energy density Q, distributed over the spherical surface $r_1 < R$. The Dirac function permits the description of instantaneous effects, and thus the solution is obtained. The differential equation

$$\partial v/\partial t - a^2 \partial^2 v/\partial r^2 = \frac{Q}{4\pi r_1^2} \delta(r-r_1)\,\delta(t-t_o) + \frac{A}{4\pi r}\,\delta(r)\,\delta(t-t_o)$$

$$+ Br\,\delta(r-R)\,\delta(t-t_o) \qquad (6)$$

is set up, where A and B are the energy densities of heat sources assumed to be in the center of the sphere and

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Heating of a Sphere by an Instantaneous Heat Source on the Surface

S/170/61/004/001/019/020
B019/B056

on its surface. The solutions

$$u(r,t) = \frac{Q}{8\pi^2 r r_1 i} \int_{\sigma-i\omega}^{\sigma+i\omega} \frac{e^{s(t-t_0)}}{\sqrt{as}} \frac{\operatorname{sh}\sqrt{s/a}\, r}{\operatorname{sh}\sqrt{s/a}\, R} \operatorname{sh}\sqrt{s/a}\,(R-r_1)\,ds \quad (r < r_1)$$

$$u(r,t) = \frac{Q}{8\pi^2 r r_1 i} \int_{\sigma-i\omega}^{\sigma+i\omega} \frac{e^{s(t-t_0)}}{\sqrt{as}} \frac{\operatorname{sh}\sqrt{s/a}\, r_1}{\operatorname{sh}\sqrt{s/a}\, R} \operatorname{sh}\sqrt{s/a}\,(R-r)\,ds \quad (r > r_1)$$

are obtained. There are 12 Soviet references.

ASSOCIATION: Tekhnologicheskiy institut, g. Yaroslavl' (Technological Institute, Yaroslavl')

SUBMITTED: February 23, 1960

Card 2/2

88626
S/170/61/004/002/004/018
B019/B060

11.9000

AUTHOR: Mochalin, A. I.

TITLE: Heating of a Finite Cylinder by an Instantaneous Point Source of Heat

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, 1961, Vol. 4, No. 2, pp. 44-51

TEXT: The heat source was assumed to be placed in the cylinder axis. As in Refs. 6 and 7, the author used the Dirac function and suitable integral transforms to solve the problem. Spatial variables, varying within finite limits, were eliminated from the differential equation by using an integral transform with infinite limits. In order that the boundary conditions be satisfied additional terms were added to the right side of the differential equation, which contained the Dirac function. The application of this method to a two-dimensional problem is shown here. In accordance with the earlier developed method, the author assumed undefined heat sources with energy densities A(r), B(r), and C(x) on the

Card 1/4

Heating of a Finite Cylinder by an Instantaneous Point Source of Heat

cylinder surfaces, and obtained the following differential equation for the problem studied here:

$$\partial u/\partial t - a\left\{\partial^2 u/\partial x^2 + \frac{1}{r}\frac{\partial}{\partial r}\left(r\frac{\partial u}{\partial r}\right)\right\} = \frac{\Delta Q}{2\pi r}\delta(x-\varepsilon)\delta(r)\delta(t-t_o) + A(r)\delta(x)\delta(t-t_o) + B(r)\delta(x-l)\delta(t-t_o) + C(x)\delta(r-R)\delta(t-t_o) \quad (4),$$

where the following boundary conditions hold: $\left\{u(x,r,t)\right\}_{x=o} = 0$; $\left\{u(x,r,t)\right\}_{x=l} = 0$; $\left\{u(x,r,t)\right\}_{r=R} = 0$. and the following initial conditions: $\left\{u(x,r,t)\right\}_{t=o} = 0$. A Hankel transformation of zeroth order and two Laplace transformations were applied to obtain an algebraic equation, from whose solution the function $u(x,r,t)$ was determined. The calculation of the integrals contained in this solution occupies most part of the paper. The following formula was obtained for a solution:

Heating of a Finite Cylinder by an Instantaneous Point Source of Heat

$$u(x, r, t) = \frac{\Delta Q}{8\pi^2 a} \int_{\varepsilon-l\infty}^{\varepsilon+l\infty} e^{r_1(t-t_0)}\, ds_1 \sqrt[4]{\frac{s_1}{a}} \times$$

$$\times \left\{ \frac{K_{1/4}\left(\sqrt{s_1/a}\,\sqrt{(\varepsilon-x)^2+r^2}\right)}{\sqrt[4]{(\varepsilon-x)^2+r^2}} - \frac{K_{1/4}\left(\sqrt{s_1/a}\,\sqrt{(\varepsilon+x)^2+r^2}\right)}{\sqrt[4]{(\varepsilon+x)^2+r^2}} + \right.$$

$$+ \sum_{n=1}^{\infty} \left[\frac{K_{1/4}\left(\sqrt{s_1/a}\,\sqrt{(2nl+\varepsilon+x)^2+r^2}\right)}{\sqrt[4]{(2nl+\varepsilon+x)^2+r^2}} - \right.$$

$$\left. - \frac{K_{1/4}\left(\sqrt{s_1/a}\,\sqrt{(2nl-\varepsilon+x)^2+r^2}\right)}{\sqrt[4]{(2nl-\varepsilon+x)^2+r^2}} \right] -$$

$$- \sum_{n=1}^{\infty} \left[\frac{K_{1/4}\left(\sqrt{s_1/a}\,\sqrt{(2nl-\varepsilon-x)^2+r^2}\right)}{\sqrt[4]{(2nl-\varepsilon-x)^2+r^2}} - \right.$$

$$\left. \left. - \frac{K_{1/4}\left(\sqrt{s_1/a}\,\sqrt{(2nl+\varepsilon-x)^2+r^2}\right)}{\sqrt[4]{(2nl+\varepsilon-x)^2+r^2}} \right] \right\}. \qquad (28)$$

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Heating of a Finite Cylinder by an Instantaneous Point Source of Heat

Here, $K_{1/2}$ is a modified Bessel function of second kind:

$K_{1/2}(v) = K_{-1/2}(v) = \sqrt{\pi/2v}\, e^{-v}$. There are 10 Soviet references.

ASSOCIATION: Tekhnologicheskiy institut, g. Yaroslavl' (Institute of Technology, Yaroslavl')

SUBMITTED: April 6, 1960

X

KHOLLICHER, Val'ter [Hollitscher, Walter]; AKCHURIN, I.A. [translator]; ARKHANGEL'SKIY, N.S. [translator]; MOCHALIN, D.N. [translator]; OMEL'YANOVSKIY, M.E., akademik, red.; OPARIN, A.I., akademik, red.; MASKVICH, A.G., doktor fiziko-matem.nauk, red.; OVCHINNIKOV, N.F., kand.filosof.nauk, red.; TYURYUKANOV, A.N., kand.biolog.nauk, red.; GAL'PERIN, P.Ya., dotsent, red.; URYSON, M.I., kand.biolog.nauk, red.; MAKAROV, A.A., red.izd-va; ZOTOVA, N.V., tekhn.red.

[Nature in the scientific picture of the world] Priroda v nauchnoi kartine mira. Obshchaia red. i vstupitel'naia stat'ia M.E. Omel'ianovskogo. Moskva, Izd-vo inostr.lit-ry, 1960. 469 p. (MIRA 14:3)

1. AN USSR (for Omel'yanovskiy).
(Science--Philosophy)

MOCHALIN, M. P.

MOCHALIN, M. P.: "Methods of increasing the effectiveness of horizontal delivery of mined material in working large deposits of hard ores". Moscow, 1955. Inst of Mining, Acad Sci USSR. (Dissertation for the Degree of Candidate of TECHNICAL Sciences)

SO: Knizhnaya Letopis' No. 51, 10 December 1955

MOCHALIN, M.P.

Ore transportation on scraper levels and ways to improve it. Trudy Inst.gor.dela no.2:26-31 '55. (MLRA 9:3)
(Mining machinery)

GULIY, V.M.; SHENDAROVICH, D.Kh., brigadir sharoshechnogo bureniya (Sokol'nyy rudnik); BEKETOV, P.Ye.; DZHEMARDZHIDZE, N.M.; MOCHALIN, M.P.; PRIGOZHIN, Ye.I., gornyy inzhener (Metallicheskiy rudnik); POLISHCHUK, A.D.

Speeches by participants in a conference. Gor.zhur. no.1:20-24 Ja '56. (MLRA 9:5)

1. Nachal'nik Proizvodstvenno-tekhnicheskogo otdela Dzhezkazganskogo rudoupravleniya (for Dzhemardzhidze); 2. Nauchnyy sotrudnik Instituta gornogo dela AN SSSR (for Mochalin); 3. Glavnyy inzhener Ukrglavrudy (for Polishchuk); 4. Glavnyy inzhener Bystrushinskogo rudnika (for Guliy); 5. Glavnyy inzhener Salairskogo rudnika (for Beketov).
(Mining engineering) (Mining machinery)

MOCHALIN, M.P.

KOBAKHIDZE, V.N., gornyy inzhener; MOCHALIN, M.P., kandidat tekhnicheskikh nauk.

Ore deliveries directly from the stope. Gor.zhur. no.9:12-14 S '57.
(Ore handling) (Mining engineering--Safety measures)

AGOSHKOV, Mikhail Ivanovich; MOCHALIN, Mikhail Panteleymonovich, kand. tekhn.nauk; ISLANKINA, T.F., red.; SAVCHENKO, Ye.V., tekhn.red.

[Mechanization of underground ore mining] Mekhanizatsiia podzemnoi dobychi rud. Moskva, Izd-vo "Znanie," 1958. 44 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser. 4, no.36) (MIRA 12:7)

1. Chlen-korrespondent AN SSSR (for Agoshkov).
(Mining machinery)

MOCHALIN, M.P.

Problems in the Exploitation (Cont.) 879
of Mineral Ore Deposits, Moscow, Izd-vo AN SSSR, 19[illegible], [illegible].

Golushkevich with reference to statically determined masses. A practical case is considered to illustrate the hiatus between empirical formulas and well-developed theories. There are 27 figures, 2 tables, and 19 references of which 13 are Soviet, 4 German, 1 Rumanian, and 1 Hungarian.

PART II. SUBSURFACE EXPLOITATION OF MINERAL DEPOSITS

Agoshkov, M.I., Corresponding Member of the Academy of Sciences, USSR, and Mochalin, M.P., Candidate of Technical Sciences. The Effect of Broken Ore Size on the Rate of Output 73

In mining hard ores the productivity of a mine can be considerably increased by the efficiency of drilling and blasting operations. To reach high production levels the problems of haulage and hoisting must be satisfactorily solved. Scraping time, idling, secondary crushing, the effect of the size of broken rock on the efficiency of transportation, etc. are analytically examined. There are 6 figures and 7 bibliographic references, of which 6 are Soviet

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AGOSHKOV, M.I.; BRONNIKOV, D.M.; KOVAZHENKOV, A.V. [deceased]; NIKANOROV, V.I.; MOCHALIN, M.P.; VORONYUK, A.S.. Prinimali uchastiye: KRASAVIN, G.A.; GAGULIN, M.V.; BARSUKOV, F.A.. TERPOGOSOV, Z.A., kand. tekhn.nauk, otv.red.; NIKOLAYEVA, I.N., red.izd-va; DOROKHINA, I.N., tekhn.red.

[Investigating the main technological processes of underground mining of thick hard ore deposits] Issledovanie osnovnykh tekhnologicheskikh protsessov pri podzemnoi razrabotke moshchnykh mestorozhdenii krepkikh rud. Moskva, Izd-vo Akad.nauk SSSR, 1959. 359 p. (MIRA 13:2)

1. Chlen-korrespondent AN SSSR (for Agoshkov).
(Mining engineering) (Ore dressing)

MOCHALIN, Mikhail Panteleymonovich; ZVEKOV, Vladimir Afanas'yevich; AGOSHKOV, M.I., nauchnyy red.; ASTAKHOV, A.V., red. izd-va; BOLDYREVA, Z.A., tekhn. red.

[Self-propelled equipment in mines] Samokhodnoe oborudovanie na rudnikakh. Pod nauchn. red. M.I.Agoshkova. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1961. 391 p. (MIRA 14:12)

1. Chlen-korrespondent AN SSSR (for Agoshkov).
(Mining machinery)

MOCHALIN, M.P., kand.tekhn.nauk; MARSHEV, A.S., inzh.; YAKOVLEV, V.G., inzh.

SBU-2 and SBu-4 self-propelled drilling rigs. Gor. zhur. no.6:56-58 Je '62. (MIRA 15:11)

1. Institut gornogo dela im. Skochinskogo (for Mochalin).
2. TSentral'nyy nauchno-issledovatel'skiy i proyektno-konstruktorskiy institut podzemnogo shakhtnogo stroitel'stva, Moskva (for Marshev, Yakovlev).
(Boring machinery)

MOCHALIN, M.P., kand. tekhn. nauk

Mechanization of loading at the bottom blocks in the Union ore deposit mining. Gor. zhur. no.7:33-36 Jl '65. [illegible]

1. Institut gornogo dela im. A.A.Skochinskogo.

AUTHORS: Nazarov, I. N. Member, Academy of Sciences, 20-114-4-32/63
USSR, Gusev, B. P., Makin, S. M., Mochalin, V. B., Nazarova, I.I., Vinogradov, V. P., Kruptsov, B. K., Shavrygina, O A., Nazarova, D. V.

TITLE: The Condensation of Acetylene With Methylheptanone and Its Analogues (Kondensatsiya atsetilena s metilgeptanonom i yego analogami) The Synthesis of Linalool and Its Analogues (Sintez linalola i yego analogov)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 114, Nr 4, pp. 796-799 (USSR)

ABSTRACT: Several years ago a simple method of synthesis of different acetylene alcohols was worked out in the laboratory of the authors by means of condensation of aldehydes and ketones under the influence of powdery caustic potash with acetylene at high pressure (5-10 at superpressure). It was of interest to employ this method in the condensation of acetylene with methylheptanone and similar ketones, in order to obtain the corresponding acetylenealcohols. Linalool and some analogues may then be obtained easily by partial hydrogenation with a Pd-catalyst. Hitherto such condensations have usually been carried out under the influence of metallic sodium in a solution of liquid ammonia.

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The Condensation of Acetylene With Methylheptanone and Its Analogues. The Synthesis of Linalool and Its Analogues 2o 114-4-32/63

It was found that methylheptanone and its various analogues may be condensed very easily with caustic potash and acetylene at the above-mentioned pressure. At o-2o°C they give as a result the corresponding tertiary acetylene alcohols with an almost quantitative yield (more than 9o%). This reaction may also be carried out without acetylene pressure, however, somewhat more slowly and with a yield of only 6o-8o%. It has been previously shown in the same laboratory that acetylene alcohols which contain a non-substituted acetylenehydrogen may be hydrated highly selectively in the presence of palladium over calcium carbonate or copper coated zinc powder. Thereby vinylalcohols with an almost theoretical yield are obtained. The acetylene alcohols may not be selectively hydrated with other catalysts (Ni, Pt) and are therefore useless in the production of pure vinyl alcohols. An analogous picture may also be noticed with the hydrogenation of the above-described acetylene alcohols which are obtained by condensation of acetylene with methylheptanone and its analogues. These acetylene alcohols may also be highly selectively hydrated in the presence of a Pd-catalyst. They form linalool and its analogues

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The Condensation of Acetylene with Methylheptanone and Its Analogues. The Synthesis of Linalool and Its Analogues 2a -114-4-32/63

with an almost theoretical yield. The purity control of the vinylalcohols (linalool and its analogues) was carried out by means of the acetylene test (with ammonia solution of silver or copper oxide), whose sensitiveness was determined by special tests and amounted to 0,2-0,3%. At the hydrogenation of the acetylene alcohols with a Pd-catalyst the acetylene test always disappears at the theoretical point, that is, as only one hydrogen molecule is strongly attached. The acetylene alcohols obtained in the course of this work are summarized in table 1. Linalool and its analogues (table 2) were obtained by a partial hydrogenation of the above-mentioned acetylene alcohols with Pd-catalysts. In the experimental part the methods and yields of the said substances are described in detail. There are 2 tables and 5 references, 3 of which are Soviet.

ASSOCIATION: Institute for Organic Chemistry imeni N.D. Zelinskiy of the AN USSR and Moscow Institute for Refined Chemical Technology imeni M.V. Lomonosov (Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR i Moskovskiy institut tonkoy khimiches-

Card 3/4

The Condensation of Acetylene With Methylheptanone and Its Analogues. The Synthesis of Linalool and Its Analogues 114-4-32/63

koy tekhnologii im. M.V. Lomonosova)

SUBMITTED: March 12, 1957

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AUTHORS: Nazarov, I. N., Academician, Makin, S. M., Mochalin, V. B., Nazarova, D. V., Vinogradov, V. P., Kruptsov, B. K., Nazarova I. I. and Shavrygina, O. A. 20-114-6-29/54

TITLE: The Synthesis of Methylheptenone and Methylheptadienone Analogues (Sintez analogov metilgeptenona i metilgeptadiyenona)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 114, Nr 6, pp. 1242-1245 (USSR)

ABSTRACT: This synthesis is of interest for the production of a number of corresponding analogues of natural isoprenoid compounds. The initial acetylene-alcohols for this purpose were produced according to the authors' method (reference 1). By a selective hydrogenation in the presence of palladium on calcium-carbonate acetylene alcohols are almost quantitatively converted to analogous vinyl alcohols (reference 2). These latter yield the corresponding analogues of methylheptenone in three different ways (reference 3). Method A. By the influence of gaseous hydrogen chloride or hydrogen bromide upon tertiary vinyl alcohols at 0 - 20°C primary haloid-derivatives of an allyl--type easily form (reference 4). Their condensation with sodium-acetate-acetic-ether with a subsequent saponification

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leads to methylheptenone analogues. Method B. At 14o - 19o°C tertiary vinyl alcohols directly react with the same ether. An almost theoretical quantity of ethanol and CO_2 is separated and the same analogues as in A) are obtained. Method V. By the action of diketene upon tertiary vinyl alcohols in the presence of small amounts of triethylamine or piperidine, acetonacetic ethers of these alcohols are obtained (table 2). Their pyrolysis also leads to the above--mentioned analogues (reference 6). The 2,3-dimethyl-2--heptene-6-on (IV) necessary for the synthesis of irone was produced all three ways mentioned. Dimethylisopropenyl-carbinol (initial substance) was produced by the influence of methyl-lithium upon methyl-metacrylate. All methyl-heptenone analogues produced are comprised in table 1. The authors further produced: allyl- (I) (reference 9), crotyl- (II) and chlorocrotyl-acetone (III) (reference 8), dimethyl-isopropenyl-carbinol-acetoacetate, dimethylheptenone (IV), cyclohexylidenpentanone (IX) and tertiary butylheptadienone (XIII). The production methods and constants of these substances are given. There are 2 tables and 12 references, 6 of which are Slavic.

MOCHALIN, V. B.: Master Chem Sci (diss) -- "Investigation of the synthesis and cyclization of terpene compounds". Moscow, 1958. 14 pp (Min Higher Educ USSR, Moscow Inst of Fine Chem Technology im M. V. Lomonosov), 150 copies (KL, No 4, 1959, 122)

5 (3) SOV/79-29-3-4/61

AUTHORS: Nazarov, I. N. (Deceased), Makin, S. M., Mochalin, V. B., Shavrygina, O. A., Nazarova, D. V., Kruptsov, B. K.

TITLE: Synthesis of Analogues of Geranyl Acetone and Pseudoionone (Sintez analogov geranilatsetona i psevdoionona)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 3, pp 744-753 (USSR)

ABSTRACT: These analogues are initial products for the synthesis of the corresponding analogues of the most important natural isoprenoid compounds, of vitamin A, carotene, farnesol, as well as of phytol, a component of vitamins K and E. Recently, the authors reported on three syntheses of ketones of the isoprenoid type carried out by them: 1) By reaction of sodium acetoacetic ester with halogen derivatives of the allyl type (method A). 2) By reaction of vinyl- and ethynyl carbinols with acetoacetic ester (method B). 3) By pyrolysis of the acetoacetates of vinyl- and ethynyl carbinols (method V). This method was used to obtain methyl heptenone, methyl heptadienone and their analogues (Refs 1, 2). By condensation of methyl heptenone and its analogues with acetylene under pressure (5-10 atmospheres excess pressure), dehydrolinalool and its analogues resulted almost quantitatively. These com-

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Synthesis of Analogues of Geranyl Acetone and Pseudoionone

pounds were transformed by partial hydrogenation over a Pd-catalyst into linalool and its analogues (Ref 3). The three methods used for the synthesis of the ketones of the isoprenoid type were also employed for the synthesis of various analogues of geranyl acetone (Scheme 1). The synthesized analogues of geranyl acetone are shown in table 2. The synthesis of the pseudoionone analogues was carried out according to the methods B and V. In heating the analogues of dehydrolinalool with acetoacetic ester the analogues of pseudoionone were formed (Table 3) (Scheme 2), in yields of 50-70%. The pyrolysis of acetoacetates of the dehydrolinalools preponderantly leads to one of the pseudoionone isomers; the other is obtained but in small quantities, which is not the case with the pseudoionone analogues (XVIII) and (XX), where two stereoisomeric forms (Table 3) were separated in form of their hydrazones. The compounds synthesized are characterized by absorption spectra in the ultraviolet range. There are 3 tables and 7 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii (Moscow Institute of Fine Chemical Technology)

SOV/79-29-3-4/61

Synthesis of Analogues of Geranyl Acetone and Pseudoionone

SUBMITTED: January 23, 1958

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VASIL'YEV, S.V.; MOCHALIN, V.B.; LIKHOSHERSTOV, V.M.

Ethers of substituted propargyl alcohols. Part 2: Effect of substituents in the alkylation reaction. Zhur. org. khim. 34 no.10:3180-3183 O '64.

(MIRA 17:11)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. Lomonosova.

5 (3)

AUTHORS: Makin, S. M., Mochalin, V. B., SOV/79-29-4-29/77
Shavrygina, O. A., Nazarova, D. V., Nazarov, I. N. (Deceased)

TITLE: Synthesis of the Analogs of Nerolidol, Farnesil Acetone and Geranyl Linalool (Sintez analogov nerolidola, farnezilatsetona i geranillinaloola)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1176-1182 (USSR)

ABSTRACT: In the present paper the authors investigated thoroughly the synthesis of isoprenoid alcohols and -ketones (of the analogs of the above-mentioned products) and of the intermediate products according to the given scheme. The condensation of the analogs of geranyl acetone (a) with acetylene was carried out in the steel reactor at 0-20° and at 3-10 atmospheres excess pressure in the presence of powdery caustic potash. The yield of tertiary acetylene alcohols (b) was 80-85 %. The condensations hitherto used (Refs 5, 6) are very complicated. All analogs of dehydronerolidol (b) synthesized in this investigation are presented in table 1. According to previous experiments (Ref 7) it was possible to carry out the hydrogenation of the

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acetylene alcohols obtained, the analogs of dehydronerolidol (b), in the presence of the Pd/CaCO$_3$-catalyst. The analogs of nerolidol (v) obtained by partial hydrogenation of acetylene alcohols (b) with this catalyst are given in table 2. According to the reaction with catalysts described in reference 9 the authors were able earlier to carry out the reaction of tertiary vinyl alcohols with acetoacetic ester at 160-190° also without catalysts, and obtained in this way methyl heptene, geranyl acetone, and their analogs (Refs 1, 2). In the present study they applied this method to the synthesis of the analogs of farnesil acetone (g). When heating the nerolidol analogs described above (Table 2) with acetoacetic ester at 180-200° the analogs of farnesil acetone (g) were obtained (Table 3). The analogs of farnesil acetone (g) synthesized were then condensed with acetylene. The resulting tertiary acetylene alcohols (d) were converted by partial hydrogenation on Pd/CaCO$_3$ into the analogs of geranyl linaloöl (e) (Tables 4 and 5). The compounds obtained could be used in the synthesis of the corresponding analogs, the phytol, a

Synthesis of the Analogs of Nerolidol, Farnesil Acetone and Geranyl Linaloöl SOV/79-29-1-29/77

constituent of vitamins K and E. There 5 tables and 8 references, 6 of which are Soviet.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni Lomonosova (Moscow Institute of Fine Chemical Technology imeni Lomonosov)

SUBMITTED: March 28, 1958

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S/079/60/030/05/15/074
B005/B126

AUTHORS: Makin, S. M., Mochalin, V. B., Nazarova, D. V.

TITLE: Ring Closure of Analogs of Pseudoionone and Citral

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 5, pp. 1471-1476

TEXT: The authors examined the ring closure of five previously (Ref. 11) synthesized analogs of pseudoionone with different gem.-substituents in position 1. The reaction scheme of this ring closure is given. The ring closure was carried out with the help of two standard methods: 1) Ring closure under the effect of boron trifluoride in a benzene solution at -5°. With this method the relevant α-ionone is produced. 2) Ring closure by the effect of a mixture of concentrated sulfuric acid and acetic acid at 10-15°. A mixture of α- and β-ionone is produced by this method. The products were identified by the analysis of their ultraviolet absorption spectra. Table 1 shows the results obtained by ring closure by method 1). The analogs of pseudoionone with the following gem.-substituents R in position 1 were examined: R = H; C_2H_5; iso-C_3H_7; tert.-C_4H_9; Cl. The

above table shows boiling range, refractive index, λ_{max}, ϵ_{max}, yield and results of the C,H-determination for each of the products obtained by ring closure. 2,4-dinitrophenylhydrazones were produced from the resulting analogs of α-ionone. The table also gives melting point, λ_{max}, and nitrogen content of these derivatives. Table 2 gives the results obtained by ring closure by method 2). Both analogs of pseudoionone with the substituents R = H and R = Cl gave no ring closure by either method, since the activating energy necessary to form the carbonium ion, which is an important intermediate, is in both cases too high. The authors also examined ring closure of some analogs of citral, which were previously (Ref. 13) synthesized. In this case ring closure was brought about by the effect of sulfuric acid on the Schiff's base of the citral analog (Ref. 14). Mixtures of α- and β-cyclocitral were thus formed; the reaction scheme is given. The analog with R = H gave no ring closure here either, while the Schiff's base of the compound with R = Cl split off under the effect of sulfuric acid HCl, and changed into a cyclic product, whose structure was not determined. Table 3 gives the results obtained from the ring closure of the citral analogs. All the ring closures

Ring Closure of Analogs of Pseudoionone and Citral

S/079/60/030/05/15/074
B005/B126

carried out are fully described in the experimental part. There are 3 tables and 16 references: 4 Soviet, 6 English, 1 German, 4 Swiss, and 1 Czechoslovakian.

ASSOCIATION: Moskovskiy institut tonkoy khimicheskoy tekhnologii (Moscow Institute for Fine Chemical Technology)

SUBMITTED: May 21, 1959

Card 3/3

LEBEDEV, I.M., inzh.; GORKER, I.A., inzh.; MOCH LIN, V.B., k nd.khim.nauk

New method of obtaining cumaldehyde and a combined method of obtaining para-isopropyl-α-methylcinnamaldehyde. Masl.-zhir. prom. 27 no. 2:33-35 '61. (MIRA 14:2)

1. Zavod "Slozhnyye efiry" (for Lebedev, Gorker). 2. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova (for Mochalin).

(Benzaldehyde) (Cinnamaldehyde)

MOCHALIN, V.B.; IVANOVA, N.G.

Synthesis of acetals of vinylacetylenic aldehydes. Zhur.ob. khim. 31 no.12:3896-3899 D '61. (MIRA 15:2)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.

(Acetals)

MOCHALIN, V.B.; IVANOVA, N.G.

New reaction of acetals of aromatic and heterocyclic aldehydes.
Zhur.ob.khim. 32 no.5:1493-1494 My '62. (MIRA 15:5)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V.Lomonosova.
(Acetaldehyde) (Heterocyclic compounds)

BOGDANOVICH, M.M.; KOCHALIN, V.S.; IL'IN, P.A.; UKHOV,K.S., redaktor; PETERSON, M.M., tekhnicheskiy redaktor

[Elements of the theory of navigational gyroscopic instruments] Elementy teorii navigatsionnykh giroskopicheskikh priborov. Leningrad, Izd-vo "Morskoi transport," 1956. 270 p. (MLRA 9:8)
(Gyroscope)

MOCHALIN, V. S. (Candidate of Technical Sciences)

"On the Question of Constructing Differential Equations of Motion of Certain Gyroscopic Systems"

paper presented at the Second Scientific and Technical Intervuz Conference on Problems of Contemporary Gyroscopy, Ye. F. Otvagin, Secretary of the Organization Committee; Leningrad, Izvestiya Uchebnykh Zavedenity, Priborostroyeniye, No. 5, Sep/Oct 1958, pp 161-163

The Second Intervuz Conference on Problems of Contemporary Gyroscopy Technique, convoked by decision of the Ministry of Education USSR, took place in the Leningrad Institute of Precision Mechanics and Optics from 24 to 27 November 1958.

13.9520

25539

S/123/61/000/011/025/034
A004/A101

AUTHOR: Mochalin, V. S.

TITLE: On the problem of gyroscopic latitude indicators

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 11, 1961, 22, abstract 11D148 (V sb. "1-ya Mezhvuz. nauchno-tekhn. konferentsiya po probl. sovrem. giroskopii". Leningrad, 1960, 157-178)

TEXT: The author investigates some variants of gyroscopic latitude indicators and gyroscopic latitude compasses. 1) Double-rotor gyroscopic latitude indicator with four degrees of freedom and with pendulum, mounted on a platform which is stabilized in the horizon and oriented in the meridian. Owing to the fact that the present technology does not provide a sufficient accuracy of orientation in the meridian, it is necessary to make the kinetic moments of the gyroscopes identical and place them at an angle of 180°. 2) Single-rotor gyroscopic latitude indicator with one spring which is subjected to disturbances owing to inaccurate orientation in the meridian. To exclude them it is necessary to use a scheme with two rotors and two springs. 3) Gyroscopic latitude compass with four degrees of freedom. The author presents an analysis of such a system, which

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On the problem of gyroscopic latitude indicators A004/A101

shows that systems with four degrees of freedom, consisting of a gyroscope and a physical pendulum tend to settle in the plane of the geographic meridian at a latitude angle of the device location point. An approximate rating of the system shows that in the case of a disturbed state the gyroscopic latitude compass cannot be used as latitude indicator but as gyroscopic compass only. 4) Single-rotor gyroscopic latitude compass with ring-shaped damper producing a restoring moment around the pivot journals of the horizontal cardan ring. 5) Gyroscopic latitude compass with sliding spherical pendulum, partly filled with a liquid in order to obtain the pendulum effect in the case of a lag in the displacement of the liquid relative to the chamber, this effect being proportional to the angular velocities. The given system can have some prospects only in the case of considerable values of the kinetic moment H. 6) Double-rotor gyroscopic latitude compass with spring, representing a combination of a gyroscopic pendulum with three degrees of freedom and a three-degree gyroscopic latitude indicator with spring. 7) Double-rotor gyroscopic latitude compass with two pendulums which is also a combined system of gyroscopic pendulum with three degrees of freedom and a gyroscopic latitude indicator. There are 12 figures.

N. Rogov

[Abstracter's note: Complete translation]

Card 2/2

MOCHALIN, V. S. (Docent, Candidate of Technical Sciences)

"Theory of aperiodic gyro pendula"

report presented at the Scientific-technical Conference on Modern Gyroscope Technology Ministry of Higher and Secondary Special Education RSFSR, held at the Leningrad Institute of Precision Mechanics and Optics, 20-24 November 1962

(Izv. vysshikh uchebnykh zavedeniy. Priborostroyeniye, v. 6, no. 2, 1963

MOCHALIN, V. V.

Fishery Products - Preservation

Apropos the proposal of engineer G. A. Kirichenko, Rib. khoz., 28 No. 3, 1[illegible]

9. Monthly List of Russian Accessions, Library of Congress, July 1952, Uncl.

MOCHALIN, V. V.

Fishery Products- Preservation

Experience in using polyvinyl chloride linings. Ryb. khoz. 28 n . 7, 1952.

Monthly List of Russian Accessions. Library of Congress. November 1952. UNCLASSIFIED

MOCHALINA, A. S. Cand Biol Sci -- (diss) "The hemolytic properties of tissues during the action of ionizing irradiation upon the organism." Mos, 1957. 16 pp (Acad Med Sci USSR), 250 copies (KL, 13-58, 95)

USSR/Human and Animal Physiology. Blood. Formed Elements of Blood. T-1

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55430.

Author : Mochalina, A. S.
Inst :
Title : The Toxic and Hemolytic Factors in Animal Organisms at Irradiation.

Orig Pub: Tr. Vses. konferentsii po med. radiol.-Eksperim. med. radiol. M., Medgiz, 1957, 68-72.

Abstract: Mice were diseased by Co^{60} (with a fatal outcome on the 5th to 6th day). From the organs of the mice killed at the onset of the disease, water-saline extracts (E) were prepared. Due to the irradiation, such E have acquired hemolytic pro-

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Abs Jour: Ref Zhur-Biol., No 12, 1958, 55430.

perties and destroyed the erythrocytes of the mice in vitro. Thus, hemolytic substances were first of all discovered in the liver (one hour after irradiation in 50 percent of the animals), and also in the spleen, where the largest number of them was found. The hemolytic activity (HA) was marked most and appeared faster in 1:20 solution samples; it was weaker in 1:10 solutions, and quite weak in 1:5 solutions. HA was not found in the remaining samples. The HA of the liver and spleen in E increased after irradiation during the period of 18-20 hours following the irradiation. This increase was especially marked 42-48 hours after irradiation. Only after 48 hours could the HA of the brain and of the

Abs Jour: Ref Zhur-Biol., No 12, 1958, 55430.

kidneys be noted in E The water-saline liver extract of irradiated mice proved to have specific properties, and did not effect the erythrocytes of rabbits, guinea pigs and humans.

S/205/62/002/001/002/010
D268/D302

27.2400

AUTHORS: Kochalina, A.F., and Khamayde, L.L.

TITLE: The effect of radioprotective substances on the sorption characteristics of irradiated animal tissue

PERIODICAL: Radiobiologiya, v. 2, no. 1, 1962, 121 - 124

TEXT: The dynamics of change under the influence of radioactive colloidal Ag^{110} in sorption characteristics were studied in the tissue of 3 groups of white mice (weight 21 - 25 g): 1) Non-irradiated; 2) exposed to Co^{60} gamma-radiation at 650 r; and 3) irradiated at 3 and 10 min. after radioprotective beta-mercaptoethylamine and cysteine given intraperitoneally at 5 and 10 mg/mouse. Ag^{110} colloidal solution at 0.2 ml. with an activity of 2 mc/g was given intravenously, and the mice killed 2 hours later. Sorption characteristics in tissue from liver, spleen, kidneys, small intestine, muscle and of blood were determined by the extent of radio-active Ag^{110} accumulation. Experiments with the intravenous introduction of Ag^{110} showed that the main body of colloids disappeared from the

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The effect of radioprotective substances. D268/D302

blood in the first 2 hours after inoculation due to active sorption by organs and tissues. Study of the distribution of Ag^{110} in the organs and tissue of healthy mice showed highest accumulation in liver, and then in kidneys, spleen, intestine, and muscle tissue in descending order. 2 hours after irradiation there was a 7 - 10 % increase in sorption in liver, spleen, and kidney tissue. In liver it rose to a maximum of 36 % over normal at 2 days, and in spleen at 24 hours to 52 %, declining subsequently, but remaining above normal. In mice given beta-mercaptoethylamine followed by irradiation, sorption in spleen and kidneys increased by 17 and 30 % respectively at 2 hours. In liver at 24 hours there was a slight increase, then returning to normal. In spleen at 2 and 3 days there was an increase. There was a gradual decline in the kidneys. At 2 hours Ag^{110} accumulation in the intestine increased markedly, with subsequent decline. Results showed that the introduction of beta-mercaptoethylamine and of cysteine before irradiation normalized the sorption characteristics of liver tissue. Colloidal Ag^{110} given to healthy mice intravenously was unequally distributed in the organs, with highest accumulation in liver, and less in spleen, kid-

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The effect of radioprotective ...

are 1 figure and 14 references: 5 Soviet-bloc and 9 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: A. Bose, Internat. J. Rad. Biol., 1, 4, 383, 1959; W.A. Rambach, J.A.D. Cooper, H.L. Alt, H.H. Vogel, J.W. Clark, and D.L. Jordan, Radiation Res., 10, 2, 148, 1959; D.D. Ulmer, L.B. Perkins and J.G. Kereiakes, Radiation Res., 11, 6, 810, 1959; A. Ganz and M. Brucer, J. Lab. Clin. Med., 52, 1, 25, 1958.

SUBMITTED: July 12, 1961

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The effect of radioprotective ...

neys, intestines and other tissue. The sorption characteristics of these tissues increased in mice exposed to gamma-rays at a lethal dose, but differed according to the organs. The effects of protective agents containing SH-groups were studied as it was recognized that changes in sorption characteristics are connected with physical and chemical alteration in the biostructures. There was reduced sorption of radiocolloidal Ag^{110} in liver tissue where beta-mercaptoethylamine was given before irradiation indicating the reversibility of the process. This did not occur in spleen probably due to the deep destructive changes. Cystein given 5 min. before Co^{60} at 0.1 mc/g peritoneally reduced accumulation of the isotope in liver, pancreas, spleen, and other tissues in healthy mice which is attributed to the specific effect of SH-groups towards change in cell penetrability. In conclusion the introduction of prophylactic substances has a normalizing effect on the sorption characteristics of liver which in turn affects the reversibility of the denaturing processes in the irradiated organism and reduces radiation sickness. These substances also increase the separation of radioactive colloid through the liver, likewise reducing radiation sickness. There

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KHAMAYDE, L.L.; MOCHALINA, A.S.

Action of prophylactic substances in internal and external irradiation of animals. Trudy MOIP. Otd. biol. 7:127-131 '63.
(MIRA 16:11)

L [illegible]-65 [illegible]/EWT(m) Pa-4/Pb-4 SSD/AFWL/AMD/AFMD(c)

ACCESSION NR: AP4043212 S/0205/64/004/004/0487/0492

AUTHOR: [illegible], A. S.; Khamayde, L. L.

B

TITLE: Oxidative properties of animal tissues during radiation damage

SOURCE: Radiobiologiya, v. 4, no. 4, 1964, 487-492

TOPIC TAGS: x ray, radiation sickness, radiation injury, tissue, liver, spleen, brain, oxidation, enzyme, radioprotector, sodium beta-aminoethylthiosulfate

ABSTRACT: The dynamics of oxidative property changes in animal tissues during radiation damage were investigated in 3 groups of white rats (20 to 25 g). The first group consisted of nonirradiated animals and served as a controls. The second and third groups were gamma-irradiated (296 r/min) with single [illegible] r doses. Sodium beta-aminoethylthiosulfate (5 mg dose) was administered intraperitoneally to the third group 5 min before irradiation. Animals were killed at periods of 1 hr, 4 hrs, 1 day, 3 days, and 7 days after irradiation. Aqueous saline tissue extracts were prepared from the liver, brain, and spleen. Oxidative activity of tissue extracts was

determined by leucothionine oxidation: 0.2 ml tissue extract was added to 0.8 ml leucothionine in a test tube. The test tube was shaken, placed in boiling water for 10 sec, and then the contents were centrifuged and measured by a FEK-M photoelectrocolorimeter, finding that the oxidative capacity of control animal tissues is [illegible]. Irradiation of animals with 700 r markedly increases tissue oxidative capacity levels within 1 hr after irradiation and such levels are maintained in the following days. Sodium [illegible] thiosulfate administered 5 min before irradiation reduced the oxidative capacity levels of the liver, spleen, and brain, but they remain somewhat higher than in control animals. Oxidative capacity values for tissues of animals that survived acute radiation sickness combine with those for control animals. Oxidative property changes of animal tissues during radiation damage appear to be related to redox changes in the enzyme oxidation processes as well as to the destruction of natural antioxidants. The radioprotective action of sodium [illegible] thiosulfate apparently is based on participation in tissue oxidation-reduction reactions. Orig. art. has: 1 table.

ASSOCIATION: None

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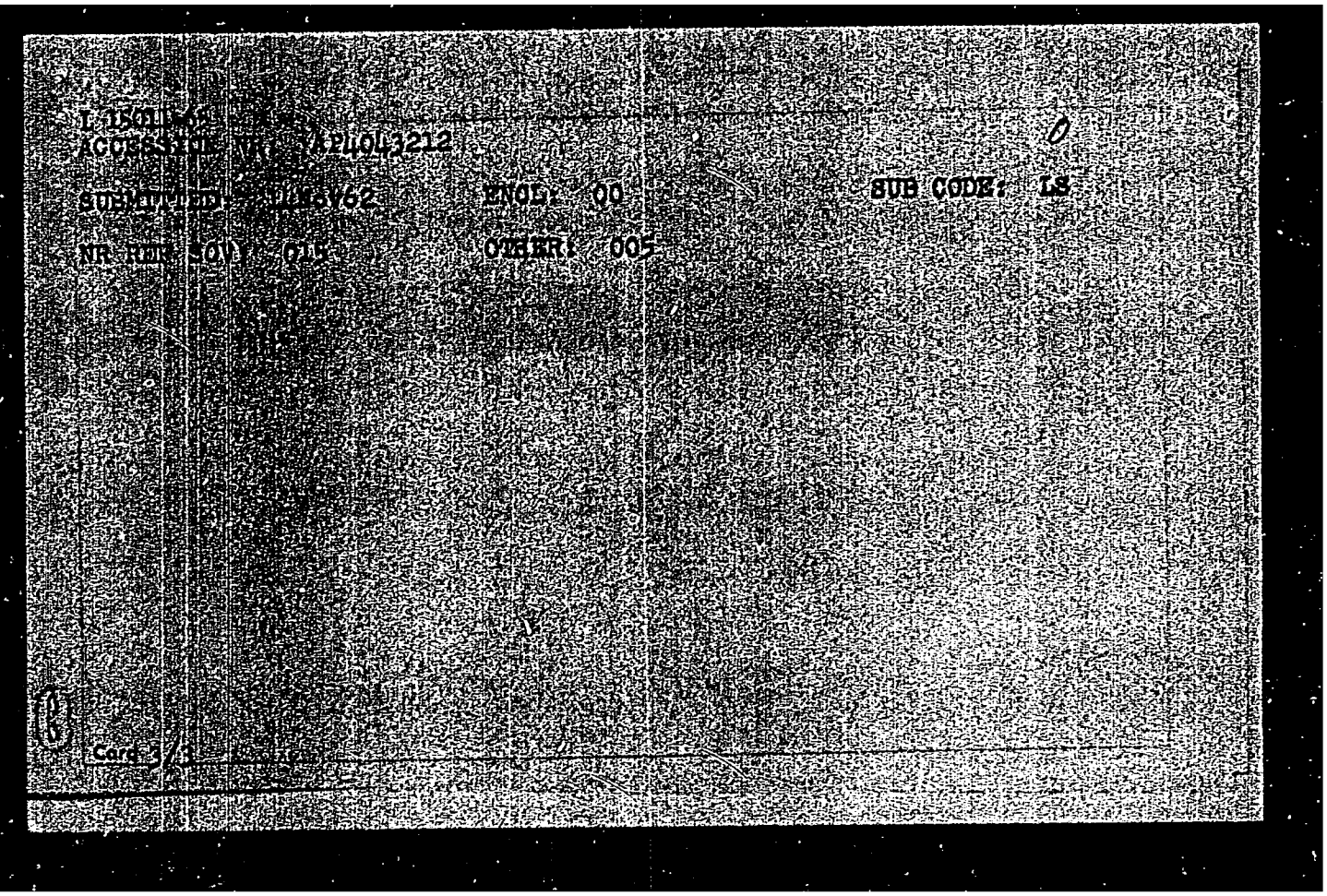

TERENT'YEV, A.P.; RUKHADZE, Ye.G.; MOCHALINA, I.G.; RODE, V.V.

Synthesis of 2,6-diacetylpyridine. Zhur.VKHO 6 no.1:116-117 '61. (MIRA 14:3)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Pyridine)

15.8080

25320 S/020/61/138/005/020/025
B103/B220

AUTHORS: Terent'yev, A. P., Corresponding Member AS USSR, Mochalina, I. G., and Rukhadze, Ye. G.

TITLE: Polycondensation at the interface

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 138, no. 5, 1961, 1130-1131

TEXT: The paper deals with the synthesis of polyamide from pyridine-2,6-dicarboxylic acid dichloride and hexamethylene diamine. The authors applied the method of interfacial polycondensation, and studied the properties of the polyamide. The above-mentioned method was suggested by E. L. Wittbecker and P. W. Morgan (Ref. 1: J. Polym. Sci. 40, No. 137, 289 (1959)), and is superior to the existing method of polycondensation in the melt. The most important factors influencing the yield, molecular weight, and viscosity are the nature of the organic solvents and emulsifiers used, the concentration of the reagents, and the stirring of the reaction mixture (R. C. Beaman et al., Ref. 6: J. Polym. Sci. 40, 137, 300 (1959)). The lutin-containing β-picoline fraction (residue obtained in the production of the preparation ftivazid (A. P. Terent'yev

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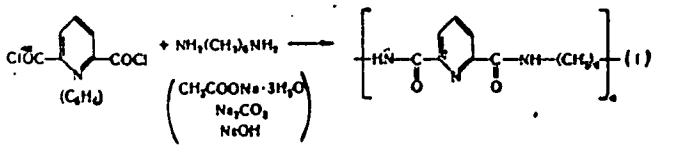
Polycondensation at the interface

et al. Zhurn. Vsesoyzn. khim. obshch. im. D. I. Mendeleyeva, 6, No. 1, 116 (1961)) was used as initial substance for synthesis. The synthesis was performed by stirring in a chemical test tube at room temperature



The above-mentioned acid dichloride was obtained by boiling the acid mentioned with thionyl chloride, and then dissolved in benzene. Freshly distilled hexamethylene diamine was dissolved in aqueous solutions of sodium acetate, sodium carbonate, or NaOH. The pH-values at which the polyamide was precipitated, were measured with an ЛП-5 (LP-5) tube potentiometer and amounted to 3, 7-8, and 10, respectively. If the two solutions were simply poured together, a polymer film formed on the interface, which could be extracted as a fiber with a small glass rod. A polymer precipitate forms in the entire solution while stirring. After filtration and washing with water it was separated as a white powder soluble in pyridine, concentrated formic, hydrochloric, acetic, and

sulfuric acids as well as in dimethyl formamide and when heated in m-cresol. The polyamide could be purified only by reprecipitation with ether from pyridine solution. Its intrinsic viscosity was measured in concentrated H_2SO_4 and in dimethyl formamide by means of the Ubbelhode viscosimeter at 20°C and was found to be equal for all 5 pH-values mentioned. It amounted to 0.323 in H_2SO_4 with a polyamide concentration of 0.5 g/100 ml. Its logarithmic viscosity was calculated from the formula:

$$\eta_{log} = \ln \eta_{rel}/C = 0.560.$$

η_{intr} amounted to 0.0[illegible]-0.20[illegible] for concentrations of [illegible] g/100 ml; η_{log} was 0.5[illegible]-0.[illegible]0 for the same concentration. The average molecular weight was estimated from Huggins equation to be 20,000-30,000. The thermomechanical curve was measured by Kargin's balance [Abstracter's note: balance not stated]. The infrared spectrum showed the existing N—H and C=O bonds. The N—H frequency is 3352-3378 cm^{-1}, and the C=O frequency 1652 cm^{-1}. Since it contains functional groups which might give chelate nodes with metals, it was allowed to react with metallic salts.

APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R001134820010-1"

Polycondensation of the [illegible] 25321

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B103/B138

Polycondensation was [illegible] in the presence of Fe^{II} salts, and a dark brown, rubber-like, [illegible] and separated. There are 3 figures, 1 table, and 15 references: 9 Soviet-bloc and 6 non-Soviet-bloc. The references to English-language publications read as follows: [illegible] the abstract; the third one reads: P. Morgan, S. Kwolek (Ref. 5: J Polym Sci., 40, No. 137, 299 (1959).

SUBMITTED: March 17, 1961

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TERENT'YEV, A.P.; RUKHADZE, Ye.G.; VOZZHENNIKOV, V.M.; ZVONKOVA, Z.V.; OBOLADZE, A.S.; MOCHALINA, I.G.

Conductance and activation energy of chelate compounds of dithiocarbamates and thioamides, derivatives of pyridine. Dokl. AN SSSR 147 no.5:1094-1097 D '62. (MIRA 16:2)

1. Fiziko-khimicheskiy institut im. L.Ya. Karpova i Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova. 2. Chlen-korrespondent AN SSSR (for Terent'yev).
(Chelates) (Carbamic acid) (Amides)

ACCESSION NR: AT4033995 S/0000/63/000/000/0123/0128

AUTHOR: Terent'yev, A. P.; Rukhadze, Ye. G.; Kochalina, I. G.; Panova, G. V.

TITLE: A study of the chelate polymer series. IX. Polymers of some thioamides and polythioamides with metals

SOURCE: Geterotsepny*ye vy*sokomolekulyarny*ye soyedineniya (Heterochain macromolecular compounds); sbornik statey. Moscow, Izd-vo "Nauka," 1963, 123-128

TOPIC TAGS: chelate compound, polymer, chelate polymer, thioamide, polythioamide, chelate structural property, polymer structure, chelate trans configuration, chelate cis configuration, polymerization

ABSTRACT: A large number of chelate polymers were synthesized by equimolecular reactions between thioamides or polythioamides of alpha-picoline or 2,6-lutidine in a suitable solvent (dimethylformamide, chloroform, benzene) and methanol solutions of metallic salts (Cu, Ni, Zn, Co, Mn). Yields ranged from 39 to 93%, calculated N content from 9.00 to 11.60%, determined N content from 8.12 to 11.89%, respective metal contents from 10.33 to 15.93 and 9.96 to 15.85%. The polymers obtained were yellow, green, cinnamon or orange, or in light, dark and reddish shades of these colors. Three types of chelate structures are illustrated, the presence of tetra- and pentacyclic linkages is suggested, and the authors discuss

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