"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

SHUYK, A.A.; GODNEV, T.N.; LYAKHNOVICH, Ya.P.; ROTFARB, R.M.; YUNEVICH, V.I.

Studying the restoration of chlorophyll components during its accumulation. Biul. Inst. biol. AN BSSR no.2:65-71 '57. (MIRA 11:2)
(Chlorophyll)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; ROTFARB, R.M.

Leuco compound of prodigiosine. Biul. Inst. biol. AN BSSR no.2: 75-78 '57. (MIRA 11:2)

(Prodigiosine)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; SHLYK, A.A.; LYAKHNOVICH, Ya.P.

Final stage in the formation of chlorophyll. Biul. Inst. biol. AN BSSR no.2:79-84 '57. (MIRA 11:2)

(Chlorophyll)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

Gopnev, N. N.

16(1); 24(4,5) PHASE I BOOK EXPLOITATION SOV/1899

Akademiya nauk Belorusskoy SSR. Institut fiziki i matematiki

Trudy, vyp. 2. (Transactions of the Institute of Physics and Mathematics, Belorussian SSSR Academy of Sciences, Nr 2) Minsk, 1957. 283 p. Errata slip inserted. 750 copies printed.

Ed.: B. I. Stepanov, Academician, BSSR Academy of Sciences; Ed. of Publishing House: L. Marika; Tech. Ed.: I. Volokhanovich.

PURPOSE: This book is intended for mathematicians, physicists, and graduate students in mathematics and physics.

COVERAGE: This book contains a series of articles on recent contributions by members of the Institut fiziki i matematiki (Institute of Physics and Mathematics) of the Academy of Sciences, BSSR, in the fields of radiation, luminescence, optics, and spectroscopy and on the applications to physics of analysis, tensor analysis, linear groups, theory of adjustments, and differential equations. The first article contains a brief account of the work of the Institute, including names of scientists and mathematicians connected with it, facilities, scientific accomplishments and fields of interest.

Transactions of the Institute (Cont.) SOV/1899

Godnev, T.N., R. V. Yefremova, and L. A. Kravtsov. On the Spectral Properties of Chlorophyll and Chlorophyllide Complexes With Protein and Certain Other Compounds 85

Kripskiy, A. M. Spectroscopic Interaction of Sulphur and Iron in Sources of Light for Spectral Analysis 95

Yankovskiy, A. A. On the Role of Electric Parameters of a Discharge Contour With an Excitation of the Spectrum by a Low-voltage Impulse Discharge 110

Prima, A. M. Calculating the Oscillating Spectra of Silicates 124

Volod'ko, L. V. Electronic Spectra of Solutions of Uranium Salts 174

Stepanov, B.I., and A. P. Prishivalko. On the Theory of Dispersion Light Filters 189

Prishivalko, A. P. The Filtration of Light by Layers of Absorbent Dust 206

Card 3/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; YEFREMOVA, R.V.; KRAVTSOV, L.A.

Spectrum properties of chlorophyll and chloropyllide complexes with proteins and certain other compounds. Trudy Inst.fiz. i mat. AN BSSR no.2:85-92 '57. (MIRA 12:1)
(Chlorophylls--Spectra) (Chlorophyllide--Spectra)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; AKULOVICH, N.K.

Effect of ozone on the interrelation of chlorophyll a and chlorophyll b in corn sprouts and young lilac twigs. Biul. Inst. biol. AN BSSR no.2:85-87 '57. (MIRA 11:2)
(Chlorophyll) (Ozone--Physiological effect)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; AKULOVICH, N.K.

Absorption spectra of protochlorophyll isolated from some plants belonging to different families. Biul. Inst. biol. AN BSSR no.2: 88-93 '57. (MIRA 11:2)

(Protochlorophyll) (Absorption spectra)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

Country : USSR I
Category: Plant Physiology. General Problems.

Abs Jour: RZhBiol , No 14, 1958, No 62949

Author : Godnev, T.N.
Inst : Acad Sci BSSR.
Title : Plant Physiology and Biochemistry During the 40 Years of Soviet Rule.

Orig Pub: Izv. AN BSSR, Ser. biol. n., 1957, No 3, 45-52.

Abstract: No abstract.

Card : 1/1

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

USSR/Plant Physiology. Photosynthesis I

Abs Jour : Ref Zhur-Biol., No 13, 1958, 58182

Author : Godnev T. N. Sudnik N. S.
Inst : Not given
Title : On the Structure of Chloroplasts and the Position of Chlorophyll in them

Orig Pub : Uch. sap. Belorussk. un-t, 1957, No 33, 71-81

Abstract : In examining the contemporary presentations on the structure of chloroplasts and the position of chlorophyll in the chloroplasts, the authors arrived at the conclusion that the chloroplasts have a lamellar structure with monomolecular disposition of chlorophyll molecules connected by phytol radicals at the demarcation surface of the protein and lipoid-protein layers. In the live leaf the chlorophyll molecules are aggregated

Card 1/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

USSR/Plant Physiology. Photosynthesis I

Abs Jour : Ref Zhur-Biol., No 13, 1958, 58182

Abstract : and linked by weak chemical bonds with protein. The authors consider that the monomeric and aggregated forms of chlorophyll are capable of dissociating into chlorophyll molecules, protein, and lipoid. The experimental section contains data on the chlorophyll content in the leaf of the cherry tree. The quantity of chlorophyll in one choroplast and a volume unit was expressed in a value close to the order and values established previously for certain other objects. The quantity of the chlorophyll increased as the leaf became older and turned darker. The differences in the concentration of chlorophyll in plastids are, in the authors' opinion due to the difference in the density with which the granules are placed.

Card 2/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

I-1

USSR/Plant Physiology. Photosynthesis

Abs Jour : Ref Zhur - Biol., No 19, 1958, No 88605

Author : Godnev T.N., Shlyk A.A., and Lyakhnovich Ya.P.
Inst : Institute of Biology, AS Belorussian SSR
Title : On the Reaction of the Transition of Photochlorophyll to Chlorophyll

Orig Pub : Fiziol. Rasteniy, 4, No 393-396

Abstract : Study of spectral properties of the pigment extracted with 0.02 M solution of KOH from the ester extract of 10-day ethiolated leaves of barley after 1-60 minutes of exposure to light at a temperature of -5 to 10 degrees C. Only after short-time exposure to light at reduced temperatures did there form a pigment analogous to chlorophyllide A and with an absorption maximum at 660 millimicrons in the red part of the spectrum and 402 millimicrons in the violet part of the spectrum. According to the authors' hypothesis, the normal predecessor of chlorophyll is monomethyl ester of magnesium-vinyl-pheoporphyrin A5, which undergoes a 2-phase transformation: hydration for double bond 7-8 into chlorophyllide A and

Card : 1/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

USSR/Plant Physiology. Photosynthesis I-1

Abs Jour : RZhur - Biol., No 19, 1958, No 86605

subsequent esterification by phytol. The study was executed in the Institute of Biology AS Belorussian SSR. -- B.Ye. Dravtsova

Card : 2/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; AKULOVICH, N.K.; SHABEL'SKAYA, E.F.

On the problem of the immediate precursor of chlorophyll. Biul. Inst.biol.AN BSSR no.3:89-93 '58. (MIRA 13:7)
(CHLOROPHYLL)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; ROTFARB, R.M.

Chlorophyll formation in angiosperms in the dark. Biul.Inst. biol.AN BSSR no.3:85-88 '58. (MIRA 13:7)
(CHLOROPHYLL) (ANGIOSPERMS)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; AKULOVICH, N.K.

Structure of the pigment of chloroplast granules. Biul.Inst. biol.AN BSSR no.3:94-98 '58. (MIRA 13:7)
(CHROMATOPHORES)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

COUNTRY : USSR.
CATEGORY : CULTIVATED PLANTS. Grains. Leguminous Grains, Tropical Cereals.
ABS. JOUR. : RZBiol., No. 1 1959, No. 1575

AUTHOR : Gulnov, I.N.; Terent'yev, V.M.
INST. : AS USSR
TITLE : The Effect of Water Table Levels and Moisture in Peat Soil on Cereal Grain Growth and Resistance to Lodging.
ORIG. PUB. : V sb.: Biol. osnovy oroshayem.zemledel., M., AN SSSR, 1957, 624-632
ABSTRACT : The influence of water table level and soil moisture on the development, growth, lignin and cellulose content and yield of wheat, oats and barley was studied at Kossovskaya Experimental Bog Station in Brestskaya Oblast while testing optimum water and air for these cereals on bog soils. A comparison was made between sluiced and unsluiced plots where the run-off drains were placed 40, 20 and 10 m apart. The sluiced plot distin-

CARD: 1/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

COUNTRY :
CATEGORY : CULTIVATED PLANTS.
ABS. JOUR. : RZBiol., No. 1 1959, No. 1575

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : guished itself from the non-sluiced by higher ground water level and soil moisture. Only oats reacted favorably in yield to the higher water table; lower moisture conditions proved more beneficial to barley; wheat took an intermediate position. Notable effects on the formation of the mechanical tissues of the stalks were not produced by variations in the soil moisture conditions. The root systems of the cereals developed for the

CARD: 2/3

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

PA - 3168

AUTHOR: GODNEV,T.N., YEFREMOVA,R.V., KRAVTSOV,L.A., Members of the Academy of Science of the White-Russian S.S.R.

TITLE: On the Nature of the Chlorophyllprotein-Lipoid Complex as Formed from Protochlorophyll. (O prirode khlorofill-protein-lipoidnogo kompleksa pri yego obrazovanii iz protokhlorofilla, Russian)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 3, pp 646-649 (U.S.S.R.)

ABSTRACT: The present paper contains corrections with respect to the works by KRASNOVSKIY and KOSOBUTSKAYA (Doklady Akademii Nauk SSSR, 1953, 91, 343) and I. WOLFF, I.PRICE (Plant Physiol. 1956, 31). It is shown that, contrary to previous opinions, protochlorophyll, at least in its essential parts, is not a phytol ether of the magnesium salt of vinyl-theoporphyrin a_5, but the magnesium salt of the vinyl-theoporphyrin a_5 of the monomethyl ether itself. The formation of chlorophyll develops in two stages. During the first hour of illumination the proto-chlorophyll is not immediately transformed into chlorophyll but into the chlorophyllide a. This reaction consists in the linking of hydrogen to the protochlorophyll in the double bond 7-8. In the second stage etherization by phytol of the remainder of the propion acid, which is in position 7, takes place. The difference in solubility of proto-chlorophyll and the newly formed chlorophyll in ootane and petroleum-

Card 1/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

PA - 3168

On the Nature of the Chlorophyllprotein-Lipoid Complex as Formed from Protochorophyll.

ether in comparison with chlorophyll, which is formed later after prolonged illumination, is shown. Protochlorophyll, it was found, must be a monomer which is composed of a molecule of magnesium salt of vinyl-theoporphyrin a_5 in a complex with one albumen molecule, whereas it contains no lipoid (as the molecule is hydrophile). During the first moments of illumination it turns into a monomer which consists of a molecule chlorophyllide and albumen. Later, after having absorbed phytol, it combines with the lipoid and becomes the monomer HhBL. (3 Illustrations and 5 Slavic References).

ASSOCIATION: Institute for Biology and Physical Institute of the Academy of Science of the White Russian S.S.R.

PRESENTED BY:

SUBMITTED: 15.1.1957

AVAILABLE: Library of Congress

Card 2/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

SHLYK, A.A.; GODNEV, T.N.; ROTFARB, R.M.; LYAKHNOVICH, Ya.P.

On the particular features of biosynthesis of two chlorophyll components in the process of restoration. Dokl. AN SSSR 113 no.6: 1324-1327 Ap '57. (MLRA 10:6)

1. Akademik Akademii nauk Belorusskoy SSR (for Godnev).
2. Institut biologii Akademii nauk Belorusskoy SSR.
(Chlorophyll)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

MASHTAKOV, S.M., prof., doktor biolog.nauk, otv.red.; GODNEV, T.N., akademik, red.; TERENT'YEV, V.M., kand.biolog.nauk, red.; SHLYK, A.A., kand. khimicheskikh nauk, red.; BULAT, O., red.izd-va; TIKHANOVICH, K., tekhred.

[Biochemistry and physiology of plants; collection of scientific works] Biokhimiia i fiziologiia rastenii; sbornik nauchnykh rabot. Minsk, Izd-vo Akad. nauk BSSR, 1958. 295 p. (MIRA 12:1)

1. Akademiya nauk Belorusskoy SSR, Minsk. Institut biologii.
2. AN Belorusskoy SSR (for Godnev).
(Biochemistry) (Botany--Physiology)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; YEFREMOVA, R.V.

Absorption spectra of chlorophyll in living tissues of leaves. Inzh.-fiz.zhur. no.1:91-95 Ja '58. (MIRA 11:7)

1. Institut fiziki i matematiki AN BSSR, g. Minsk.
(Leaves) (Chlorophyll--Spectra)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

SHLYKH, A. A. and GODNEV, T. N. (Minsk)

"Relation Between Biosynthesis of Chlorophyll and Carotinoid."

paper presented at the Intl. Conference on Radioisotopes in Scientific Research in Paris, 19-20 Sept 1957.

Angewandte Chemie, No. 3, 1958.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T. N., TURCHIN, F. V. and SHLYKH, A. A. (Minsk)

"Renewal of Chlorophyll and Proteins in Plants."

paper presented at the Intl. Conference on Radioisotopes in Scientific Research in Paris, 19-20 Sept 1957.

Angewandte Chemie, No. 3, 1958.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; SUDNIK, N.S.

Accumulation of chlorophyll a and b in leaves of young apple seedlings [with summary in English]. Fiziol. rast. 5 no.2:107-111 Mr-Ap '58. (MIRA 11:4)

1. Kafedra fiziologii rasteniy Belorusskogo gosudarstvennogo universiteta im. V.I. Lenina, Minsk.
(Chlorophyll) (Apple) (Plants, Effect of light on)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

AUTHORS: Godnev, T. N., Member, Academy of Sciences, Belorussian SSR, Akulovich, N. K.

TITLE: On the Distribution of Chlorophyll Molecules in the Pigment Layer in Chloroplast Granules (K voprosu o raspredelenii molekul khlorofilla v pigmentnom sloye granul khloroplastov)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 12o, Nr 6, pp 13o7 - 131o (USSR)

ABSTRACT: The more and more perfected electronographic method combined with the progress made in microtome technique gives a sufficiently detailed picture of chloroplast structure (Ref 3). At the beginning a survey of publications is given (Refs 1, 3-7). It seems to the authors that the problem of the strength of the complex binding between chlorophyll and protein can be solved by studying the spectra of the living leaves at a gradual heating of the latter. If the chlorophyll molecules are associated with proteins no changes of the spectrum of the living leaf are supposed to take place at temperatures at which disturbances of the protein structure are hardly to be expected. If the temperature rise has reached the range of denaturation of the protein changes of the spectrum become probable since the disturbance

Card 1/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

On the Distribution of Chlorophyll Molecules in the Pigment Layer in Chloroplast Granules 20-120-6-40/59

of the compound protein-chlorophyll and the solution of the latter in the lipoids can be supposed. If a free motion of the chlorophyll molecules is assumed the spectral changes between 20 and 80° are probably completely lacking or are only very unimportant. Maize leaves which were illuminated during 2 hours for 1,4, and 8 days were chosen as experimental material as well as onion leaves which grew under room conditions during 2 months. The leaves were infiltrated with water and then investigated by means of an SF - 4 spectrophotometer in the range of the red maximum (650 - 690 mμ) together with etiolated leaves at room temperature and then at intervals of 3 - 4° within the range of 45 - 80°. Each heating lasted 15 minutes. Spectrophotometric measurements were carried out after cooling. The results of the experiments are shown graphically in figure 1. As can be seen heating leads to a gradual shifting of the maximum into the direction of shorter waves. The magnitude of shifting differed with the individual objects; on the average it was from 4 - 6 mμ Leaves which grew during the time of illumination are somewhat more resistant against heating. It seems to the authors that this result represents an additional proof for the close association

Card 2/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

On the Distribution of Chlorophyll Molecules in the Pigment Layer in Chloroplast Granules 2o-12o-6-4o/59

of the chlorophyll molecules with proteins to a complicated complex. There are 2 figures and 1o references, 4 of which are Soviet.

SUBMITTED: March 14, 1958

1. Chlorophylls--Determination 2. Chlorophylls--Spectra 3. Chlorophyll-protein compounds--Analysis 4. Spectrophotometers --Applications 5. Plants--Molecular structure

Card 3/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, IN.

24(7),24(0)

AUTHOR: Stepanov, B. I., Academician AS Belorusskaya SSR SOV/30-59-1-9/57

TITLE: Investigations by Belorussian Scientists in the Field of Spectroscopy and Luminescence (Raboty belorusskikh uchenykh po spektroskopii i lyuminestsentsii)

PERIODICAL: Vestnik Akademii nauk SSSR, 1959, Nr 1, pp 68-76 (USSR)

ABSTRACT: These investigations are being carried out at the Institut fiziki i matematiki (Institute of Physics and Mathematics) and the fizicheskiy fakul'tet Belorusskogo universiteta (Physics Department, Belorussian University) under the direction of B. I. Stepanov, A. N. Sevchenko, M. A. Yel'yashevich, Academicians AS BSSR, and F. I. Fedorov, Corresponding Member, Academy of Sciences, BSSR. In the field of theoretical spectroscopy, the investigations by P. A. Apanasevich, B. I. Stepanov are mentioned. Further, the following investigations are indicated:

B. I. Stepanov, Ya. S. Khvashchevskaya used the general principles of spectroscopy of negative currents in their examinations.

On the basis of experimental data A. M. Samson obtained important results in the determination of genuine values of optical characteristics of the substance examined.

L. A. Kravtsov, M. P. Ivanov examined calculation methods of reabsorption with large overlapping of absorption and luminescence spectra.

N. A. Borisevich succeeded in obtaining fundamental results in the examination of luminescence of phthalimide vapors. He also showed that the efficiency of quenching collisions may be much less than one.

L. G. Pikulik, under the direction of A. N. Sevchenko, examines the influence of the solvent on the yield of fluorescence as well as the absorption and emission spectra.

Card 2/8

A. N. Sevchenko, G. P. Gurinovich, A. M. Sarzhevskiy examined the luminescence polarization of many combined molecules. At the same time they designed an improved apparatus.

A. N. Sevchenko, V. V. Kuznetsova work in the field of luminescence of rare-earths complexes.

V. A. Pilipovich examined the phenomenon of phosphorescence. The examinations of optical properties of chlorophyll and related compounds are being carried out in close cooperation with the Institut biologii Akademii nauk BSSR (Institute of Biology, Academy of Sciences, Belorusskaya SSR).

T. N. Godnev, L. A. Kravtsov, N. V. Yefremova examined the absorption and luminescence spectra of a live leaf.

A. N. Sevchenko, G. P. Gurinovich, K. N. Solov'yev, L. A. Kravtsov examined polarization spectra and the dependence of polarization on the wave length of fluorescence.

A. N. Sevchenko, L. V. Volod'ko obtained valuable data of the composition of complex compounds and the nature of intermolecular forces of interaction.

I. P. Shapiro examined the optical and electrical properties of some crystal phosphors.

Card 3/8

A. N. Sevchenko, B. I. Stepanov examined cellulose and its products of transformation.

E. G. Zhbankov, I. N. Yermolenko worked at high pressure in order to study the composition of celluloses by means of spectroscopical methods.

I. N. Yermolenko, E. G. Zhbankov examined the oxidizing kinetics of cellulose by means of nitrogen dioxide, iodic acid and chloride.

E. G. Zhbankov, B. I. Stepanov, A. Ya. Rozenberg, A. I. Skrygan, A. M. Shishko examined the mercerizing process of cellulose.

M. M. Pavlyuchenko, I. N. Yermolenko examined the oxidation of celluloses with the use of absorption spectroscopy in the ultraviolet range.

M. M. Pavlyuchenko and collaborators spectrophotometrically examined the adsorption of coloring substances on cellulose.

I. N. Yermolenko, M. Z. Gavrilov examined the luminescence of cellulose products.

B. I. Stepanov, Ya. I. Chakalinskaya determined the dependence of the spectra of dispersed objects on the reduction ratio, the character of the binding agent, and the layer thickness.

Card 4/8

24

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.

Unsolved problem in the theory of the formation of chlorophyll and hem. Dokl.AN BSSR 3 no.3:126-127 Mr '59.
(MIRA 12:8)

(Hem) (Chlorophyll)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; SHLYK, A.A.; ROTFARB, R.M.

Chlorophyl synthesis in angiosprems in darkness [with summary in English]. Fiziol.rast. 6 no.1:36-41 Ja-F '59. (MIRA 12:2)

1. Biology Institute, Byelorussian S.S.R. Academy of Sciences, Minsk.
(Chlorophyll) (Plants, Effect of light on)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

24(7) SOV/48-23-1-20/36

AUTHORS: Godnev, T. N., Akulovich, N. K.

TITLE: On the Arrangement of Chlorophyll Molecules in Chloroplast Granules (O raspolozhenii molekul khlorofilla v granulakh khloroplasta)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 1, pp 94 - 96 (USSR)

ABSTRACT: The attempt was made to answer the question as to whether the chlorophyll molecule forms its more or less narrow complex with albumin or with the lipoid by the denaturation of leaves and by the variation of the spectrum possibly accompanying this process. If the chlorophyll molecule is able to move freely, there would be no spectral variation. For the purpose of investigation, maize leaves were used which were exposed to light for two hours, one day, 4 days, and 8 days, as well as leaves of the onion plant, which had been cultivated for two months under conditions such as prevail in rooms in winter. First, the position of maxima at room temperature was determined, after which spectra were recorded at heating temperatures of 45-80° in inter-

Card 1/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

On the Arrangement of Chlorophyll Molecules in Chloroplast Granules SOV/48-23-1-20/36

vals of 3-4°. The position of the red main maximum in the case of different times of exposure to light and at various temperatures is shown in a table. Heating caused the maximum to shift by 4-6 mμ. A longer time of exposure made the spectra somewhat more sensitive to heating. This result is considered to be a proof of the existence of an additional tendency of chlorophyll to associate with albumin within a narrow complex. Besides, a distribution scheme of the chlorophyll molecules in the pigment layer of chloroplast granules is given and the various assumptions found in this connection in publications are discussed, including those made by Perner (Ref 3), Arnold (Ref 8), Rabinovich (Ref 6), and others. There are 1 figure, 1 table, and 8 references, 2 of which are Soviet.

Card 2/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

17 (3)

AUTHORS: Godnev, T. N., Academician, AS BSSR SOV/20-127-4-51/60
Rotfarb, R. M.

TITLE: On the Theory of the Formation of Porphyrinogenes in Plants

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 4, pp 907 - 910 (USSR)

ABSTRACT: Nentskiy's assumption (Ref 1) of the common origin of haem and chlorophyll has now been generally recognized. There is no doubt that the initial stages of biosynthesis of these two compounds are identical until the formation of proto-porphyrine. The order of the reaction is recalled. Contrary, the mechanism of the transformation of porpho-bilinogene into porphyrine, that is, into porphyrinogenes of type III, is not so intelligible. The latter are the basis of chlorophyll and haem and their most important porphyrines. According to the data under review the first porphyrinogene formed is uro-porphyrinogene which is the result of a combination of 4 pyrroles (see Diagram (A)). If uro-porphyrinogene were constructed according to type I with the porphyrinogene substitutes being successively situated in β-position: A — P; A — P; A — P; A — P; (A = carboxy methyl, P = carboxy ethyl) the formation mechanism

Card 1/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

of such a compound would be very clear. But the 4th pyrrole nucleus in the molecule of uro-porphyrinogene III is turned by 180° and it is very difficult to understand the formation mechanism of such a molecule of porpho-bilinogene. Several rather complicated, so far hardly proved and almost speculative hypotheses were suggested (survey in Refs 2-5). They are discussed and criticized. If the considerations mentioned here are correct one way of testing them would be the introduction of compounds of opso-pyrrole-type into a chlorophyll-forming tissue, as is aimed at by the authors. Such an experiment was described in reference 6. The authors decided, however, to take a most simple pyrrole as foreign pyrrole with 2 free α-positions. It was injected into etiolated leek leaves in various concentrations in refined sunflower oil; the leaves were then exposed to disperse light in glass tubes filled with water. The results (Table 1) show that the high pyrrole concentrations entirely suppress the formation of chlorophyll. The formation of chlorophyll starts again (although more slowly) beginning with a dilution pyrrole: Ol = 1 : 10. Then solutions of hydrochloric acid were investigated by spectrophoto-

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

On the Theory of the Formation of Porphyrinogenes in Plants SOV/20-127-4-51/60

metry. Table 2 shows the results. Thus, the following formation scheme of chlorophyll may be assumed as working hypothesis: monoses and other sources → acetyl CoA (in the cycle of tricarboxylic acids) → succinyl CoA → amino-levulinic acid → → porpho-bilinogene → amino-methyl-tetra-pyrrane → separation of opso-pyrrole, and its incorporation by the dimethyls notri-pyrrane → uro-porphyrinogene III proto-porphyrinogene → → Mg-proto-porphyrinogene Mg-vinyl-pheo-porphyrine a_5 → → chlorophyllide a → chlorophyll a. There are 2 tables and 6 references, 3 of which are Soviet.

ASSOCIATION: Institut biologii Akademii nauk BSSR (Institute of Biology of the Academy of Sciences, BSSR)

SUBMITTED: May 19, 1959

Card 3/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; AKULOVICH, N.K.

Accumulation of chlorophyll in leaves of partially etiolated angiosperms. Dokl.AN BSSR 3 no.12:504-506 D '59. (MIRA 13:4)

(Chlorophyll)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; ROTFARB, R.M.; SHLYK, A.A.

Biosynthesis of phytol by angiosperm seeds in dark. Fiziol. rast. 7 no.1:81-82 '60. (MIRA 13:5)

1. Institute of Biology, B.S.S.R. Academy of Sciences, Minsk. (Phytol)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.

Final step in the formation of chlorophyll in plants. Vestsi AN BSSR. Ser.biial.nav. no.1:140-142 '60. (MIRA 13:6)

(CHLOROPHYLL)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N. [Hodnev, T.N.]; LIPSKAYA, G.A. [Lipskaia, H.A.]

Effect of different methods of trace element application on the size of chloroplasts and chlorophyll accumulation in sugar beet leaves. Vestsi AN BSSR. Ser.biial.nav. no.2:130-132 '60. (MIRA 13:7)

(SUGAR BEETS--FERTILIZERS AND MANURES)
(CHLOROPHYLL) (TRACE ELEMENTS)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N., akademik; AKULOVICH, N.K.

Nature of pigments of the protochlorophyll group. Dokl. AN SSSR 134 no.3:710-712 S '60. (MIRA 13:9)

1. Institut biologii Akademii nauk BSSR. 2. Akademiya nauk AN BSSR (for Godnev).

(CHLOROPHYLL)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N., akademik; ROTFARB, R.M.

Photosynthesis and chlorophyll formation at temperatures below zero centigrade. Dokl.AN SSSR 134 no.4:963-964 O '60. (MIRA 13:9)

1. Institut biologii Akademii nauk BSSR. 2. Akademiya nauk BSSR (for Godnev).

(Plants, Effect of temperature on)
(Photosynthesis)
(Chlorophyll)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; ROTFARB. R.M.

Chlorophyll synthesis in darkness in angiosperms with partially shaded green leaves. Biul. Inst. biol. AN BSSR no.5:109-112 '60. (MIRA 14:7)

(CHLOROPHYLL) (ETIOLATION)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; ROTFARP, R.M.

The possibility of photosynthesis and chlorophyll formation at temperatures below the freezing point. Biul. Inst. biol. AN BSSR no.5:113-115 '60. (MIRA 14:7)
(PHOTOSYNTHESIS) (PLANTS, EFFECT OF TEMPERATURE ON)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; AKULOVICH, N.K.

Effect of brief ultraviolet light pulses on protochlorophyll formation in etiolated barley seedlings. Biul. Inst. biol. AN BSSR no.5:116-117 '60. (MIRA 14:7)
(PLANTS, EFFECT OF ULTRAVIOLET LIGHT ON)
(CHLOROPHYLL)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; AKULOVICH, N.K.

Changes in the spectral properties of green pigments in the internal integuments of pumkin seeds during ripening. Biul. Inst. biol. AN BSSR no.5:118-126 '60. (MIRA 14:7)
(CHLOROPHYLL) (PUMPKIN SEED)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; AKULOVICH, N.K.

Changes in the relation between the esterified and free parts of the chlorophyll molecule during its formation. Biul. Inst. biol. AN BSSR no.5:127-130 '60. (MIRA 14:7)

(CHLOROPHYLL)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; LESHINA, A.V.; KHODORENKO, L.A.

Variations in the size of chloroplasts and pigment accumulation in them during prolonged shading and subsequent illumination. Fiziol. rast. 7 no.6:638-644 '60. (MIRA 14:1)

1. V.I. Lenin Byelorussian State University, Minsk.
(Chlorophyll) (Plants, Effect of light on)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N., akademik; AKULOVICH, N.K.

Changes in the ratio between the esterified and the free portion of the chlorophyll molecule during the process of its formation. Dokl.AN SSSR 133 no.5:1213-1215 Ag '60. (MIRA 13:8)

1. Institut biologii Akademii nauk BSSR. Akademiya nauk BSSR (for Godnev).
(Chlorophyll)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T. N. (Prof.) (USSR)

"Biosynthesis of Chlorophyll."

report to be submitted for the Photosynthesis Symposium, 5th Intl. Congress of Biochemistry, Moscow, 10-16 Aug 1961.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T. N., ALULOVICH, N. K., and ROTFARB, R. M. (USSR)

"Final Reactions in the Biosynthesis of Chlorophyll and Certain Factors Influencing their Course."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N., akademik, red.; GES', N.D., red.; DUBOVIK, A.P., tekhn. red.

[Problems of plant physiology and microbiology] Voprosy fiziologii rastenii i mikrobiologii. Minsk, Izd-vo M-va vysshego, srednego spetsial'nogo i professional'nogo obrazovaniia BSSR. No.2. 1961. 153 p. (MIRA 16:4)
(Plant physiology) (Microbiology)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T. N., and SHLYK, A. A. (USSR)

"Biosynthesis and Regeneration of Chlorophyll in Connection with Photosynthesis."

Report presented at the 5th International Biochemistry Congress, Moscow, 10-16 Aug 1961

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; AKULOVICH, N.K.; ARNAUTOVA, A.I.

Structural formula of protochlorophyll of Rhodopseudomonas spheroides and some varieties of pumpkin. Biul. Inst. biol. AN BSSR no.6:105-110 '61. (MIRA 15:3)
(CHLOROPHYLL)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; KHODASEVICH, E.V.

Concerning the structure of the lamellae of chloroplasts. Biul. Inst. biol. AN BSSR no.6:111-114 '61. (MIRA 15:3)
(CHROMATOPHORES)
(PHOTOSYNTHESIS)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

SHLYK, A.A.; NIKOLAYEVA, G.N.; VLASENOK, L.I.; GOLNEV, T.N.

Chlorophyllide formation in the extraction of chlorophyll from green leaves with aqueous acetone. Dokl. AN BSSR 5 no.8:364-368 Ag '61. (MIRA 14:8)

1. Laboratoriya biofiziki i izotopov AN BSSR, Institut biologii AN BSSR.

(Chlorophyll) (Extraction (Chemistry))

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N., akademik; KALER, V.L.; ROTFARB, R.M.

Occurrence of phytol in the protochlorophyll of etiolated leaves. Dokl. AN SSSR 140 no.6:1445-1447 O '61. (MIRA 14:11)

1. AN Belorusskoy SSR (for Godnev).
(Phytol) (Chlorophyll) (Etiolation)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N. [Hodneu, TS.M.], akademik; ROTFARB, R.M.; AKULOVICH, N.K.

End reactions in the biosynthesis of chlorophyll and conditions of their progress. Vestsi AN BssR.Ser.biial.nav. no.2:5-8 '62. (MIRA 15:8)

1. AN Belorusskoy SSR.

(CHLORPHYLL)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N., akademik; ROTFARB, R.M.

On the feasibility of reciprocal transformation of carotenes and carotenoids. Dokl. AN SSSR 147 no.3:735-737 N '62. (MIRA 15:12)

1. Institut biologii AN Belorusskoy SSR. 2. AN Belorusskoy SSR (for Godnev).
(CAROTENE) (CAROTENOIDS)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T. N., akademik; ROTFARB, R. M.

On lycopene as the probable predecessor of other carotenoids. Dokl. AN SSSR 147 no.4:962-963 D '62. (MIRA 16:1)

1. Institut biologii AN Belorusskoy SSR. 2. AN Belorusskoy SSR (for Godnev).

(Lycopene) (Carotenoids)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, Tikhon Nikolayevich. Prinimal uchastiye SOLOV'YEV, K.N.; MANINA, L., red. izd-va; VOLOKHANOVICH, I., tekhn. red.

[Chlorophyll; its structure and formation in plants] Khlorofill; ego stroenie i obrazovanie v rastenii. Minsk, Izd-vo AN BSSR, 1963. 318 p. (MIRA 16:8)
(Chlorophyll)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N. [Hodneu, TS.M.]; SHABEL'SKAYA, E.F.

Aftereffect of low temperature treatment of seeds of the formation of the photosynthetizing apparatus in tomatoes. Vestsi AN BSSR Ser. biial. nav. no.2:49-55 '63 (MIRA 17:3)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; SHABEL'SKAYA, E.F.

Formation of chlorophyll and carotenoids in the fruits of tomatoes during their gradual growth and ripening. Dokl. AN BSSR 7 no.5: 347-349 My '63. (MIRA 16:12)

1. Institut Biologii AN BSSR.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; SHAMEL'DAYA, E.F.

Early stages of the formation of pigments in some plants. Dokl. AN BSSR 7 no.6:414-417 Je '63. (MIRA 16:10)

1. Institut Biologii AN BSSR.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N., akademik; AKULOVICH, N.K.; KHODASEVICH, E.V.

Participation of the etherified and unetherified forms of the protochlorophyll of etiolated sprouts in the formation of a-chlorophyll. Dokl. AN SSSR 150 no.4:920-923 Je '63. (MIRA 16:6)

1. Institut biologii AN BSSR.
(Chlorophyll) (Etiolation)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

BULANOV, P.A., red.; VECHER, A.S., red.; GODNEV, T.N., red.; GONCHARIK, N.M., red.; LYAKHNOVICH, Ya.P., red.; MASHTAKOV, S.M., red.; MIRONENKO, A.V., red.; TERENT'YEV, V.M., red.

[Physiological characteristics of cultivated plants] Fiziologicheskie osobennosti kul'tiviruemykh rastenii. Minsk, Izd-vo "Nauka i tekhnika," 1964. 130 p. (MIRA 17:6)

1. Akademiya navuk BSSR, Minsk. Institut eksperimental'noy botaniki i mikrobiologii.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

SHABEL'SKAYA, E.F.; GODNEV, T.N.

Effect of the light factor on the formation of pigments in ripening tomato fruit. Dokl. AN BSSR 8 no. 1:53-56 Ja '64. (MIRA 17:5)

1. Institut eksperimental'noy botaniki i mikrobiologii AN BSSR.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; [illegible], Ya.P.

Effect of natural potassium-sodium salt on the growth of Chlorella and its chlorophyll accumulation. Bot.; issl. Bel. otd. VBO no.5:5-11 '64. (MIRA 18:7)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

LYAKHNOVICH, Ya. [illegible], [illegible]NEV, T.N.

Effect of a short period of heating on the growth of Chlorella and its chlorophyll accumulation. Bot. issl. Bel. otd. VBO no.6:11-18 '64.

(MIRA 18:7)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N.; SHABEL'SKAYA, E.F.

Stimulation of chlorophyll and carotenoid accumulation in barley seedlings by short-term cooling. Fiziol. rast. 11 no.6:961-964 N-D '64. (MIRA 18:2)

1. Institute of Biology, Academy of Sciences of White Russian S.S.R., Minsk.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

VINOGRADOVA, V.N.; GODNEV, I.N.

Approximate computation of the noncharacteristic coefficients of the frequency and form of vibrations in tetrahedral molecules and ions of $X(Hal)_4$. Opt. i spektr. 17 no.6:838-841 D '64. (MIRA 18:3)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

ACCESSION NR: AP4036730 S/0020/64/156/002/0471/0473

AUTHOR: Godnev, T. N. (Academician, AN BSSR); Khodasevich, E. V.; Akulovich, N. K.

TITLE: On the secondary action of powerful light pulses on the stability of photosynthesizing systems

SOURCE: AN SSSR. Doklady*, v. 156, no. 2, 1964, 471-473

TOPIC TAGS: photosynthesis, chloroplast, chlorophyll, transmutation, pigment system, protochlorophyll, quantum light energy

ABSTRACT: The authors were interested in tracing the effect of powerful light intensities, during long periods of exposure, so as to quantitatively study the capacity of chloroplasts to repeat photochlorophyll production and chlorophyll storage during subsequent illumination by diffused light. In addition, the after-effects of repeated powerful short flashes were studied. The experimental subjects were 12-day old etiolated intersprouts of corn. The plants were exposed at 6-second intervals to powerful (10^{10} erg/cm.sec) light sources having frequencies of 1, 2, 10, and 100 pulses per sec and a duration of 1/500 sec. It was concluded that

Card 1/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

ACCESSION NR: AP4036730

the photochlorophyll of the plants was transmuted into chlorophyll (chlorophyllide + chlorophyll) from 42% (at 1 pulse) to 36% (at 100 pulses) of protochlorophyll. It was determined that the transmuted protochlorophyll gave no evidence of destructive action on the pigment system and that the process of protochlorophyll accumulation continued normally. The photosynthesizing system, as a whole and contiguous to the chloroplast of plasma, was not damaged by the brief exposure to large amounts of quantum light energy. Orig. art. has: 2 tables.

ASSOCIATION: Institut eksperimental'noy botaniki i mikrobiologii. Akademii nauk BSSR (Institute of Experimental Botany and Microbiology, Academy of Sciences, BSSR)

SUBMITTED: 07Jan64 DATE ACQ: 16Jun64 ENCL: 00

SUB CODE: LS NO REF SOV: 001 OTHER: 008

Card 2/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

VINOGRADOVA, V.N., GORNEV, I.N.

Applicability of the method of "progressing rigidity" to X(Hal)4 molecules in the light of the theory of characteristic frequencies. Izv. vys. ucheb. zav.; fiz. 8 no.1:57-61 '65. (MIRA 18:3)

1. Ivanovskiy khimiko-tekhnologicheskiy institut.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N., akademik; KHODASEVICH, E.V.

Pigment biosynthesis in some evergreen plants at subfreezing temperatures. Dokl. AN SSSR 160 no.5:1206-1208 F '65. (MIRA 18:2)

1. Institut eksperimental'noy botaniki i mikrobiologii AN BSSR.
2. AN BSSR (for Godnev).

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, T.N. [Hodneu, TS.M.]; GONCHARIK, M.N. [Hancharyk, M.M.]

Aleksandr Stepanovich Vecher; on his 60th birthday and 35th anniversary of scientific, pedagogic and social activity. Vestsi AN BSSR. Ser. biial. nav. no.3:127-129 '65. (MIRA 18:11)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GOLNEV, T.N.; LIPSKAYA, G.A.

Method for determining the pigment content in the chloroplasts of plants. Fiziol. rast. 12 no.3:554-557 My-Je '65. (MIRA 18:10)

1. Belorusskiy gosudarstvennyy universitet imeni V.I. Lenina, Minsk.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

KRASNOVSKIY, A.A., otv. red.; GODNEV, T.N., akademik, red.; NICHIPOROVICH, A.A., prof., red.; TERENIN, A.N., akademik, red.; LITVIN, F.F., red.

[Biochemistry and biophysics of photosynthesis] Biokhimiia i biofizika fotosinteza. Moskva, Nauka, 1965. 318 p. (MIRA 18:10)

1. Akademiya nauk SSSR. Nauchnyy sovet po probleme "Fotosintez."
2. Chlen-korrespondent AN SSSR (for Krasnovskiy).

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GORNOV, [illegible], [illegible]

Accumulation of chlorophyll in sugar beet chloroplasts under the effect of cobalt, molybdenum and zinc. Fiziol.rast. 12 no.6:1012-1016 N-D '65. (MIRA 18:12)

1. Belorusskiy gosudarstvennyy universitet, Minsk. Submitted February 27, 1965.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

ACC NR: AP6018147 (A,N) SOURCE CODE: UR/0326/65/012/006/1012/1016

AUTHOR: Godnev, T. N.; Lipskaya, G. A.

ORG: Belorussian State University, Minsk (Belorusskiy gosudarstvennyy universitet)

TITLE: Accumulation of chlorophyll in sugar-beet chloroplasts under the action of cobalt, molybdenum, and zinc

SOURCE: Fiziologiya rasteniy, v. 12, no. 6, 1965, 1012-1016

TOPIC TAGS: chlorophyll, cobalt, molybdenum, zinc, plant physiology, protein

ABSTRACT: The effect of cobalt, molybdenum, and zinc applied separately and in combinations on the accumulation of chlorophylls a and b and carotenoids in chloroplasts and per surface unit was studied. Sugar-beet grown in field conditions at the "Krasnoye Urochishche" biological station of the Belorussian State University was used in the investigations. The trace elements were applied as follows: 1) cobalt, molybdenum, and zinc applied separately in doses of 100 milligrams per square centimeter; 2) the elements applied in the same doses in combinations; 3) in one-third of the above doses in combination. The amount of chlorophyll was determined on the basis of its accumulation in a surface unit of one square centimeter; the Godiyev-Sudnik method was used to determine the chloroplasts on one square centimeter of a leaf's mesophyll, making it possible to calculate the quantity of chlorophyll per chloroplast. It was found that the application of cobalt initially causes a decline in the accumulation of chlorophyll a; this is rapidly followed by a considerable

Card 1/2 UDC: 581.133+631.82+633.63

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

L 39874-66

ACC NR: AP6018147

0

increase in the accumulation of the chlorophylls with their quantity exceeding that in the controls; the initial decline is probably due to the fact that cobalt when first applied is in an ionic form; later the element combines with the protein substances, a combination which favorably affects the formation of chlorophyll. Molybdenum positively affects the accumulation of the chlorophylls, and of the carotenoids in particular. The same is true of zinc. In combinations the trace elements have a somewhat different effect. The initial depression of the accumulation of chlorophylls observed when the trace elements are separately applied does not occur. An increase in the accumulation of the chlorophylls and carotenoids begins almost immediately after the combinations of the elements are applied. This somewhat different character of their action is probably due to the antagonistic action of the ions which depress the toxic actions of the zinc and molybdenum. By the end of the vegetation period, however, there is no difference between the efficacy of the elements whether applied separately or in combinations. The increase in the accumulation of the chlorophylls and carotenoids is particularly noticeable during the second half of the vegetation period. This may be explained as being due to the greater intensity of the synthetic process and the greater stability of chloroplast structures in this period. Orig. art. has: 4 figures. [JPRS]

SUB CODE: 06 / SUBM DATE: 27Feb65 / ORIG REF: 007

Card 2/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

L 42176-66 EWT(1) SOTB DD

ACC NR: AP6032285 SOURCE CODE: UR/0020/66/170/002/0469/0471

AUTHOR: Kaler, V. L.; Fedyun'kin, D. V.; Godnev, T. N. (Academician AN BSSR)

ORG: Institute of Experimental Botany and Microbiology, Academy of Sciences, BSSR (Institut eksperimental'noy botaniki i mikrobiologii Akademii nauk BSSR)

TITLE: Formation of chlorophyll in the leaves of Tradescantia guianensis in the dark

SOURCE: AN SSSR. Doklady, v. 170, no. 2, 1966, 469-471

TOPIC TAGS: chlorophyll, chlorophyll biosynthesis, dark biosynthesis, etiolated plant, CHLOROPHYLL SYNTHESIS, PLANT METABOLISM

ABSTRACT: An experimental study completed by the authors seems to refute the generally accepted concept of the biosynthesis of chlorophyll in the dark by only some algae and young sprouts of Gymenospermae. Some previous studies of other authors are reviewed and discussed which may hint at the possibility of chlorophyll biosynthesis in the dark by Angiospermae. The present study consisted of growing Tradescantia shoots in the dark for a long period (1 1/2—2 months). The results indicated that the elongated and etiolated stem of the plant contained no chlorophyll; however, the leaves newly formed on this stem were green and contained chloroplasts. These chloroplasts were smaller in size, but more numerous than those of the control plant. The experiment confirmed that at least one Angiospermae plant is capable of producing chlorophyll in the dark. Orig. art. has: 3 figures and 1 table. [BN]

SUB CODE: 06/ SUBM DATE: 13Jun66/ ORIG REF: 006/ OTH REF: 003/ ATD PRESS: 5090

Card 1/1 blg UDC: 581.132

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, TS.M. [Hodnev, TS.M.]

Significance of Charles Darwin's works for the development of plant physiology. Vestsi AN BSSR.Ser.biial.nav. no.4:5-9 '59. (MIRA 13:4)

(Darwin, Charles Robert, 1809-1882)
(Plant physiology)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, YE. D.

32607. GODNEV, YE. D. Opyt obleseniya ergenishoy vozvyshchennosti. (po materialam obsledovaniya stalingr. lesomeliorat, zkspeditsiey lesoproekt. 1948 g.) les i step', 1949, № 3, s. 82-89

SO: Letopis' Zhurnal' nykh Statey, Vol. 44

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

38203. GODNEV, YE. D.

O razvedenii berzy. Les i step', 1949, No 8, s. 71-78

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODINY, E.D.

Rezul'taty opytov s gnezdovymi posevami luba na [illegible] lesnogo fonda [Results of experiments in spot sowing of oak on state forest lands]. Moskva, Goslesbumizdat, 1951. 60 p.

SO: Monthly List of Russian Accessions, Vol. 6, No. 2, May 1953

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

[illegible], T. D.

Afforestation

Furrowing of soil planted with oak in the dry steppe regions, Les. Khoz. 4 No. 12, 1951.

Monthly List of Russian Accessions, Library of Congress, April 1952. UNCLASSIFIED.

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEV, Ye.D.;RUSANOV, Sergey Gavrilovich

[Types of trees for forests in the flat lands of European Russia] Tipy lesnykh kul'tur dlia ravninnykh lesov evropeiskoi chasti SSSR. Moskva, Goslesbumizdat, 1956. 32 p. (MLRA 10:4)
(Forests and forestry)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

BUGROV, Stepan Vasil'yevich,; ZEVAKHIN, Arkadiy Nikiforovich,; POLYAKOV, Aleksandr Semenovich,; GODNEV, Ye.D., red.; SHAKHOVA, L.I., red. izd-va,; BACHURINA A.M., tekhn. red.

[Work practices of mechanized working circles(Kamyshin, Stepnoye, Koltubanka). Opyt raboty mekhanizirovannykh leskhozov(Kamyshinskogo, Stepnogo i Koltubanskogo). Moskva, Goslesbumizdat, 1957. 55 p. (MIRA 11:12)

(Forests and forestry--Equipment and supplies)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

Godnev, Ye, D.

USSR / Forestry. Forest Plants. K-5

Abs Jour: Ref Zhur - Biologiya, No. 1, 1958, 1363

Author : Godnev, Ye. D.

Title : The Thickness of Pines as a Factor in Their Hardiness

Orig Pub: Lesn. kh-vo, 1957, No. 4, 30-35

Abstract: In the Borovyy Experimental Forest Undertaking of Buzuluk pines various plantings of pines were observed, varying in density from 4,400 to 100,000 per hectare, on a mossy and grassy-mossy area which had been burned over in 1879, and which had ground water at a depth of five to six meters. Thirty years of observations indicated that when density was from 5000 to 40,000 per hectare a certain disorder in the plantings was

Card 1/3

USSR / Forestry. Forest Plants. K-5

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

Abs Jour: Ref Zhur - Biologiya, No. 1, 1958, 1363

noticeable in the sapling stage, but this straightened out in time. With a density of from 8,800 to 26,000 per hectare up to 93% of the trees were healthy at the 30-year stage. Analysis of the average yearly growth increment, both as to diameter and as to height, showed that at any density of planting there was a great increase in thickness for the first 10-15 years. After 20 years, there was an inverse ratio between planting density and yearly growth increment. Plantings with an original density of 26,300 per hectare were the most productive (237-253 cubic meters of trunk lumber). A comparative evaluation of thick (100,000) and sparse (8,000) plantings indicates that the average trunk thickness was the same in all of them but

Card 2/3

USSR / Forestry. Forest Plants. K-5

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

Godneva, M.M.

7

3

CH New electrolyte for electropolishing aluminum alloys of the AMTs type. R. F. Raisulin, V. A. Vosskrenenskii, and M. M. Godneva. *Uchenye Zapiski Kazan. Univ.* 113, No. 8, [illegible]; *Referat. Zhur., Khim.* 1954, No. 53347.—The suggested electrolyte contained 4 g. CrO_3 per 100 ml. of 85% H_2SO_4. Best results were obtained at an anodic c.d. of 8-12 amp./sq. dm., 85-100°, and a time of 4-5 min. At a c.d. above 12 amp./sq. dm. there was strong surface etching. The electrolyte had good depolarizing properties.

M. Hirsch

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEVA, M.M.; KLOCHKO, M.A.

Limits of homogeneity in water-dioxane and water-acetone systems with lithium, sodium, or potassium hydroxides at temperature of 25 and 75°. Izv.Kar.i Kol.fil.AN SSSR no.5:122-129 '58.
(MIRA 12:9)

1. Institut khimii i tekhnologii redkikh elementov i mineral'nogo syr'ya Kol'skogo filiala AN SSSR.
(Systems(Chemistry))

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

GODNEVA, M. M., Cand Chem Sci (diss) -- "Electrical conductivity and viscosity of solutions of the hydroxides of lithium, sodium, and potassium in water and mixed solvents". Moscow, 1959, published by the Acad Sci USSR. 14 pp (Acad Sci USSR, Inst of General and Inorganic Chem im N. S. Kurnakov, Kola Affiliate im S. M. Kirov Acad Sci USSR), 175 copies (KL, No 9, 1960, 122)

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

5(2)

AUTHORS: Klochko, M. A., Godneva, M. M.

SOV/78-4-9-32/44

TITLE: The Study of the Electroconductivity and Viscosity of Aqueous Solutions of the Hydroxides of Sodium and Potassium

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 9, pp 2127-2135 (USSR)

ABSTRACT: The numerous publications on the electroconductivity of solutions (Refs 1-18) contain only few data regarding electroconductivity in the case of higher concentrations and temperatures. The research workers mainly dealt with diluted solutions at low temperatures, among them M. I. Usanovich and T. N. Sushkevich (Ref 13), P. M. Korotkov and N. N. Sokolov (Ref 11), G. L. Kobus (Ref 14), M. G. Manvelyan (Ref 15), A. F. Skryshevskiy, A. V. Romanova, and V. I. Danilov (Ref 18). In some solvents there is a particular conductivity mechanism, e.g. if the components of a system possess common ions but differ with regard to the degree of dissociation. In aqueous solutions of acids and bases there is to be found, besides the transfer of electricity by the movement of ions along the lines of force of the field, yet another migration mechanism which causes the great mobility of the H^+- and OH^- ions. In order to investigate the part played by water

Card 1/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

in regard of this phenomenon the field of the transition from the pure molten electrolyte to compositions with a low water content had to be studied. It is intended to use an equimolar NaOH and KOH mixture melting at 170°. For the time being, however, an account of the measurement of the conductivity and viscosity of the two above components between 25 and 200° is given. The results are summarized in tables 2-7 and figures 3-7. The different conductivities of the aqueous solutions of the alkali hydroxides are due to the radius of the cation and the hydration. The small lithium ion is inhibited in its speed by a large hydrate shell. In melts and highly concentrated solutions hydration is limited, and the smaller ion reaches its respective greater velocity than a larger ion with the same charge. This change in hydration accounts for the fact that the conductivity $\varkappa_{NaOH}$ becomes greater at high temperatures than $\varkappa_{KOH}$. The temperature coefficients of the viscosity η and conductivity $\varkappa$ change homologously (Fig 5),

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

The Study of the Electroconductivity and Viscosity of Aqueous Solutions of the Hydroxides of Sodium and Potassium SOV/78-4-9-32/44

which also suggests a close connection between these properties. The polytherms of conductivity (Fig 6) become steeper as the concentration increases, which is due to the greater viscosity. A temperature increase is accompanied by a homologous drop of the product $\varkappa\eta$. (Fig 7). There are 7 figures, 6 tables, and 23 references, 15 of which are Soviet.

SUBMITTED: January 17, 1959

Card 3/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

5(2)

AUTHORS: Klochko, M. A., Godneva, M. M. SOV/78-4-9-33/44

TITLE: Electric Conductivity and Viscosity in the Transitional Region of the Melt of Sodium and Potassium Hydroxide and Their Aqueous Solutions

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 9, pp 2136-2142 (USSR)

ABSTRACT: The melting point diagram of the system mentioned in the title (Fig 1) was investigated, inter alia, by V. A. Khitrov (Ref 4), G. M. Unzhakov (Ref 5), and N. A. Reshetnikov and G. M. Unzhakov (Ref 6). The authors had pointed to the role played by water in the so-called migration mechanism in connection with the investigation of concentrated aqueous solutions of hydroxides (Ref 1). This effect is now being investigated in the range of transition from the solution to the melt. An equimolar mixture of NaOH and KOH proved most favorable for such an investigation, since it melts at as low a temperature as 170°. For the purposes of this abstract this mixture will be referred to below as $MeOH\left(= \frac{NaOH + KOH}{2}\right)$. The measurement of the electric conductivity

Card 1/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

has already been described (Ref 1). The measurement of the viscosity was carried out at 125° by glass or quartz viscosimeters. For higher temperatures the method developed by R. S. Dantuma (Ref 7) proved impracticable on account of the formation of a crust. For this reason the rotation - vibration viscosimeter by Ye. G. Shvidkovskiy (Ref 8, Fig 2) was used. The results are shown in tables 1-3 and figures 3-9. (Table 1: electric conductivity of the system MeOH - water; Table 2: viscosity and density of this system; Table 3: temperature coefficient α of the conductivity and temperature coefficient β of the viscosity as well as their relationship $\gamma = \frac{\alpha}{\beta}$).

As is seen from figure 3, the conductivity κ of the solution passes through a maximum as the ion concentration increases, and then drops. Since, however, the descending branches are higher when the temperature is higher, it is assumed that there is a connection with viscosity η (Fig 4) and therefore a correction is made by the product $\kappa\eta$ (Fig 5). The maxima of the $\kappa\eta$ isotherms are attributed to the effect of the migration mechanism. At an increasing concentration the conductivity of the

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

Electric Conductivity and Viscosity in the Transitional Region of the Melt of Sodium and Potassium Hydroxide and Their Aqueous Solutions SOV/73-4-9-33/44

NaOH solutions exceeds that of the KOH solutions. This is attributed to the greater mobility of the Na ion due to the reduced hydration. The values for MeOH lie between those of NaOH and KOH. The conductivity of the electrolytes decreases as the temperature rises, which becomes apparent if the viscosity is not much influenced by temperature. M. A. Klochko explains this tendency toward a reduction of conductivity as a consequence of the increasing heat motion of the ions. There are 9 figures, 3 tables, and 14 references, 11 of which are Soviet.

SUBMITTED: January 17, 1959

Card 3/3

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

SOV/78-4-10-27/40

AUTHORS: Klochko, M. A., Gogneva, M. M.

TITLE: Electric Conductivity and Viscosity of Solutions of Lithium-, Sodium- and Potassium Hydroxide in Water - Dioxane Mixtures

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 10, pp 2347 - 2353 (USSR)

ABSTRACT: Previous investigations (Refs 1,2) dealt with the electric conductivity and viscosity of aqueous solutions of NaOH and KOH and of their mixtures in order to determine both the influence exercised by concentration and temperature upon the migration mechanism of the ions and the concentration at which the inversion of conductivity of the K and Na ions occurs, i.e. at which the latter become more mobile than the potassium ions owing to the loss of the hydrate shell. Now the influence exerted by a non-aqueous component (dioxane) upon these processes is investigated. The system water - dioxane has been repeatedly investigated, also with respect to its conductivity κ (Refs 1-12, 14). In the experiments pure anhydrous dioxane was used and in the device according to P. P. Pugachevich (Ref 15) distilled water. The results are summarized in tables 1-4 and figures 2 and 3. If a part of the water molecules is replaced by dioxane, the conductivity decreases without any change of viscosity. This decrease is due to the missing of the migration mechanism of the ions as can also be seen from

Card 1/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"

"APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3

Electric Conductivity and Viscosity of Solutions of Lithium-, Sodium- and Potassium Hydroxide in Water - Dioxane Mixtures SOV/78-4-10-27/40

a comparison of the conductivity of KCl with KOH (Table 4). The maximum of viscosity at a dioxane content of 17-25 mole% indicates the formation of dioxane hydrates. The substitution of dioxane for water changes the hydration of the ions in a way that at 50 mole% inversion takes place and $K_{NaOH} < K_{KOH}$. There are 3 figures, 4 tables, and 16 references, 11 of which are Soviet.

SUBMITTED: January 17, 1959

Card 2/2

APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R000615520009-3"