

SHORYGIN, S. A.

"Annotated index No 67 of Astronomical Literature Published in the USSR in April - May 1950", *Astronomicheskiy Zhurnal*, Vol. XXVII, No. 4, pp 268-272, 1950.

SO: W-17490, 22 Mar 1951

SHORYGIN, S. A.

Shorygin, S. A.

Annotated index No. 68 of astronomical literature (Bibliography)

Astronomical Journal
Vol. 27, No. 5, 1950, p.323

From: Bull. of R. Trans. Service, Vol. 2, Sept. 1951, p.7

SHORYGIN, S. A.

Shorygin, S. A.

Annotated index No. 71 of astronomical literature (bibliography)

Astronomical Journal
Vol. 28, No. 2, 1951, p.110

From: Bull. of R. Trans. Service, Vol. 2, Sept. 1951, p.8

SHORYGIN, S. A.

USSR/Astronomy - Bibliography May/June 51

"Bibliography: Annotated Index No 72 of
Astronomical Literature Published in the USSR
in February and March 1951," S. A. Shorygin

"Astron Zhur" Vol XXVIII, No 3, pp 203-208

Lists 32 books and brochures; 5 dissertations
for candidacy of physicomathematical sciences;
1 dissertation for candidacy of technical sci-
ences; 3 assignments and programs; 1 yearbook
or ephemerid; 25 periodicals and publications
of institutions and observatories; 23 articles
in journals of a general nature and according
to other specialties; 2 bibliographies of as-
tronomical bibliography.

18916

SHORYGIN, S. A.

Index

Invited index No. 73 to Literature on cryptology (Bibliography)

Mathematical Journal Acad of Sci. USSR, Moscow.

88, 4, July-Aug. 1951, 290

From Monthly List of Russian Journals, Engl. USSR, Vol. 4, No. 6, p. 19

SHORYGIN, S. A.

S. A. Shorygin

Annotated Index No. 74 for The Astronomic Literature (Bibliography)

Astronomic Bull.

Akad. Sci, USSR, Moscow

Vol. 28, No. 5, 1951, pp. 416

From: Monthly List of Russian Accessions

December 1951, Vol. 4, No. 9, p. 26

SHORYGIN, P. P.

P.P. Shorygin...

The Scattering of Light in the Spectra of Combination Scattering of Light

Trudy Akademi Nauk SSSR

Vol. 3, 1991, 469

U.S.S.R. Trans. Am. Inst. of R. & Dev. No. 33, Dec. 1991, p. 9

Astronomy - Bibliography

New books on physics and astronomy. Fiz. v shkola No. 5, 1952.

9. MONTHLY LIST OF RUSSIAN ACCESSIONS, Library of Congress, December 1952. Uncl.

SHARVICH, A. A.

Physics - Bibliography

New books in physics and astronomy. Fiz. v. shkole 12 no. 3, 1952.

9, MONTHLY LIST OF RUSSIAN ACCESSIONS, Library of Congress, September 1952. Uncl.

1. SHORYGIN, S. A.
2. USSR (600)
4. Physics - Bibliography
7. New books in physics and astronomy. Fiz. v shkole, 12, No. 6, 1952

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

SHORYGIN, S. A.

USSR/Astronomy - Bibliography

Mar/Apr 52

"Bibliography: Annotated Index No 77 of Astronomical Literature Published in the USSR in December 1951 and in January 1952," S.A. Shorygin

"Astron Zhur" Vol XXIX, No 2, pp 238-244

A list of 86 items including (a) books, brochures, collection of articles (32); (b) periodicals and publications of observatories (16); (c) articles in journals of general character and on other specialties (21); and (d) bibliographies of astronomical bibliographies(13).

216T72

ORON, G.A.

Astronomy - Bibliography

Annotated index no. 78 of astronomical literature published in the U.S.S.R. in Feb, and March. of 1952. Astron. zhur., 29, no. 3, 1952.

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

U.S.S.R.

Bibliography - Astronomy

Annotated index no. 79 of astronomical literature published in the U. S. S. R. in April and May of 1952. Astron zhur. 29 no. 4 1952

Monthly List of Russian Accessions, Library of Congress November 1952, Unclassified

SHORYGIN, S. A.

PA 234T66

USSR/Astronomy - Bibliography

Sep/Oct 52

"Bibliography: Index No 80 of Literature on Astronomy Published in the USSR During June and July 1952," S. A. Shorygin

"Astron Zhur" Vol 29, No 5, pp 624-628

Lists 11 books and brochures, 2 manuals, 3 dissertations, 2 yearbooks, 40 periodicals and publications of observatories, 25 articles published in periodicals, and 3 reviews of new books.

234T66

SHORYGIN, S.A., redaktor; TSIRUL'ITSKIY, N.P., tekhnicheskii redaktor

[A school astronomical calendar for 1955] Shkol'nyi astronomicheskii
kalendar' na 1955 god. Moskva, Gos. uchebno-pedagog. izd-vo Minister-
stva prosveshcheniia RSFSR. No.5. 1954. 79 p. (MLRA 8:3)
(Astronomy--Yearbooks)

SOROKIN, V.I.; SHORYGIN, V.A.

Association of sulfides of the chalcocite-bornite-chalco-
pyrite-pyrrothite (pyrite) series under hydrothermal con-
ditions. Geokhimiia no.6:590-602 Je '63. (MIRA 16:8)

IKORNIKOVA, N.Yu.; SHORYGIN, V.A.; VASIL'CHIKOVA, I.A.

Growing calcite single crystals under hydrothermal conditions.
Rcst krist. 4:92-94 '64. (MIRA 17:8)

SHORYGINA, A.V.; ISTUGANOVA, S.A.; ZHEREBKOV, I.V., red.

[Utilization of the wastes of phenol-acetone production]
Ispol'zovanie otkhodov fenolo-acetonnogo proizvodstva.
Rostov-na-Donu, Rostovskii promstroiniiproekt, 1964. 38 p.
(MIRA 18:5)

SHORYGINA, L. (g.Ivanovo); BEZENOV, S. (g.Ivanovo)

In first lines. NFO no.4:48-49 Ap '59.

(MIRA 12:6)

1. Zamestitel' predsedatelya oblastnogo pravleniya Nauchno-tekhnicheskogo obshchestva legkoy promyshlennosti (for Shorygina).
2. Chlen organizatsionnoy sekcii oblastnogo pravleniya Nauchno-tekhnicheskogo obshchestva legkoy promyshlennosti (for Bezenov)
(Research, Industrial)

SHORYGINA, L.; BEZENOV, S.

Reflect vital problems in planning. HFO no.11:54-55
N '59. (MIRA 13:4)

1. Zamestitel' predsedatelya Ivanovskogo oblastnogo pravleniya Nauchno-issledovatel'skogo obshchestva legkoy promyshlennosti, g.Ivanovo (for Shorygina). 2. Chlen organizatsionnoy sekcii Nauchno-issledovatel'skogo obshchestva legkoy promyshlennosti g.Ivanovo (for Bezenov).
(Ivanovo--Textile research)

SHCHYGINA, L. D.

Moscow Province - Geology, Structural

Principal stages in the formation of the relief of Moscow Province. Trudy Inst.
geol. nauk. AN SSSR no. 88, 1947

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

SHORYGINA, L. D.

Clays and loams of the central part of the Tuva Autonomous Region. V. P. Kravets and L. D. Shorygina. *Trudy Inst. Geol. Nauk, Akad. Nauk S.S.S.R.* No. 105, Petrograf. Ser. No. 47, 31-48 (1955).—A study is presented of widely distributed loams from the point of view of their suitability for brickmaking. The more plastic red brick clays also were studied. Conditions of occurrence of the clays were discussed. Results of a chem. analysis are given for clays and loams of the central part of Tuva. A table of ceramic tests is also provided. In addn., heating curves and results of granulometric tests are recorded. Photomicrographs of some of the clays are provided. Studies made are a 1st attempt to give brief qual. properties of deposits of raw material for brickmaking. Gladys S. Macy

YEREMEYEV, V.P.; SHORYGINA, L.D.

Clays and clayey soils in the central region of Tuva Autonomous
Province. Trudy Inst.geol.nauk no.165:31-46 '55. (MLRA 9:4)
(Tuva Autonomous Province--Clay)

(

SOV/11-59-8-16/17

AUTHOR: Shorygina, L.D.

TITLE: Remarks on the Article by N.A. Yefimtsev "On Quaternary
Glaciation of Western Tuva and the Eastern Part of the
Gornyy Altay"

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geologicheskaya,
1959, Nr 8, pp 119 - 121 (USSR)

ABSTRACT: The author disagrees with the findings of the author
of the above article, published in Nr 9, 1958, of this
periodical. The following geologists are mentioned
by the author: Ye.N. Shchukina, L.P. Aleksandrova,
and O.A. Rakovets. There are 18 references, 15 of
which are Soviet, 1 English, and 2 American

Card 1/1

SHORYGINA, N. N.

N. N. Shorygina and T. Ya. Kefeli - "Fission of lignin by metallic sodium in liquid ammonia. IV." (p. 1199)

SC: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1920, Vol. 20, No. 7

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

ca

10

Action of metallic Na on simple ethers of cellulose and glucosides. N. N. Shorygina (Makrova-Zemlyanskaya). *J. Gen. Chem. (U.S.S.R.)* 14, 825-32(1944)(English summary).—Methycellulose (40.8% MeO) (15 g.) in 200 cc. liquid NH₃ was treated with 10.1 g. Na; the blue color disappeared after 48 hrs. and the soln. was colored red. After evapn. of the NH₃, the residue was treated with Et₂O; 96% EtOH sepd. the residue into 2 parts: insol., C₆H₇O₂(OH)(OMe), and sol., which was pptd. by Et₂O, a yellow sticky powder, C₆H₇O₂(OH)(OMe); the mother liquor from the above was evapd. *in vacuo* to a glassy mass, apparently a mixt. of C₆H₇O₂(OH)(H)(OMe) and C₆H₇(H)(OMe). Me α-glucoside (3.77 g.) was treated with 2.468 g. Na in liquid NH₃ at -33°; after 144 hrs. the blue soln. was evapd., the residue treated with EtOH, the soln. treated with CO₂ and filtered; 3.5 g. unchanged glucoside was recovered; the same result was obtained with Me β-glucoside. Methyl tetramethyl-α-glucoside heated with Na at 130° in a H atm. suffered little change, only some 8% of MeO groups being cleaved off; treatment of this glucoside, however, with Na in liquid NH₃ for 35 days gave a sirupy mixt. of C₆H₇O(OMe)₂(OH)(H), and C₆H₇O(OMe)₂(OH)₂(H), as well as appreciable amts. of the starting material.

G. M. Kosolapoff

A 13-51A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

SHORYGINA, N. N.

PA 6915

USSR/Chemistry - Lignin
Chemistry - Separation

Mar 1948

"Splitting of Lignin by Metallic Sodium in Liquid Ammonia. II.," N. N. Shorygina, T. Ya. Kefeli, Lab of Cellulose and Lignin, Inst Org Chem, Acad Sci USSR, 6 pp

"Zhur Obsheh Khim" Vol XVIII (LXXX), No 3

Molecular weight of lignin is decreased by separation of molecules by hydrogen bonds. Supplementary processing of copper ammonia lignin with liquid NH_3 does not alter composition of lignin. Separation of $ROCH_3$ bond in lignin by a solution of Na in liquid NH_3 proceeds slowly and does not come to a satisfactory conclusion. Submitted 12 Feb 1947.

69T5

"A study of the reaction of esters with alkali metals in the
chemistry of carbohydrates and lignin." Thesis for degree of Dr. Chemical Sci.
Sub 24, Part 1, Inst. of Organic Chemistry, Acad Sci USSR.

Summary 25, 17 Dec 68, Dissertations Presented For Degrees in Science and Engineering
in Moscow in 1968. From Vechernyaya Postka, Jan-Dec. 1969.

SHORYGINA, N.N.

26954: SHORYGINA, N.N., YASHLINSKAYA, A.G., TREYVAS, M.G., ROGOVIN, Z.A.-
Cviliyanii kharaktera funktsional'nykh grupp v makromolekue tsellyulozy
na svystva tselyulozy i poluchayemykh it neyefirov. Soobshch. 24.-
Avt: Z.A. Zhurnal Prikl. Khimii. 1949, No. 8, s. 857-64. Bibliogr:
s. 864.

SO: Letopis'Zhurnal'nykh Statey, Vol. 36, 1949.

SHORYGINA, N. N.

26974 YASHUNSKAYA, A. G. SHORYGINA, N. N. ROGOVIN, Z. A. Poluchyeniye preparatov dial'dellyulozy i eye zforov (Soobshch. 25). Zhurnal prikl. Khimii, 1949, No 8, S. 865-73.-Bibliogr: S. 873

A. geologogeogr a fichyeskiye nauki b tselom. Geologiya. Petrografiya. Mineralogiya. Kristallografiya.

SO: Leptopis' Zhurnal'nykh Statey, Vol. 36, 1949

SHORYGINA, N. N

27634. SHORYGINA, N. N. *Racshcheplenie lignina metallicheskim natriem v zhidkom ammiake.* (srobsch.) 3. zhurnal obzhchey khimii, 1949, vyp. 8, s. 1558 - 66. bibliogr: s. 1563 - 66.

SO: Knizhaya Letopis, Vol. 1, 1955

SHORYGINA, N. N.

PA 64/49T21

USSR/Chemistry - Glucosides
Chemistry - Bonds Jun 49

"Splitting Off Simple Ether Bonds by Metallic Sodium in Liquid Ammonia," N. N. Shorygina, A. F. Semachina, Lab of Cellulose and Lignin, Inst of Org Chem, Acad Sci USSR, 64 pp

"Zhur Obshch Khim" Vol XIX, No 6

Alkylglucosides, dialkyl ethers, and acetals of the aliphatic type are not split off in such solutions and aryl ethers, and aromatic acetals and ketals are only slightly affected in this manner. The different behavior of substituted phenoglucoosides

64/49T21

USSR/Chemistry - Glucosides Jun 49
(Contd.)

is explained by the effect of the substituents on glucosidic oxygen. Submitted 23 Feb 48.

64/49T21

PA 149T21

SHORYGINA, N. N.

USSR/Chemistry - Lignin
Sodium

Aug 49

"Cleavage of Lignin by Metallic Sodium in Liquid Ammonia, III," N. N. Shorygina, T. Ya. Kefeld, A. F. Semechkina, Lab of Cellulose and Lignin, Inst of Org Chem, Acad Sci USSR, 8¹ pp

"Zhur Opshch Khim" Vol XIX, No 8

In decomposition of cuprammonium lignin with metallic sodium in liquid ammonia, approximately 8% of dihydroeugenol is produced and can be extracted with ether from aqueous alkaline solution. Action of metallic Na in liquid NH₃ on

149T21

USSR/Chemistry Lignin (Contd)

Aug 49

coniferyl alcohol produces same substance with approximately 86% yield. In view of latter reaction, authors suggest that dihydroeugenol is produced from lignin in the first reaction by hydrogenation of the product of its decomposition, formed according to Shorygin reaction. Submitted 27 Mar 48.

149T21

CA

10

The cleavage of lignin by metallic sodium in liquid ammonia. III - N. N. Shorygina, T. Ya. Kefeh, and A. P. Semichkina. *J. Gen. Chem. U.S.S.R.* 19, 1500-77 (1940) (Engl. translation). See C.A. 44, 3919. B. I. M.

1957

CA

23

Influence of the character of functional groups in cellulose macromolecule upon the properties of cellulose and esters derived from it. Z. A. Rogovin, N. N. Shocygina, A. G. Yashunskaya, and M. G. Treivas. *Zhur. Priklad. Khim.* (J. Applied Chem.) 22, 857-84 (1949). --The following conclusions are summarized from exptl. results which are to be published at a later date. Introduction of small amts. of CO₂H or CHO groups by selective oxidation (1-2% replace- ment of OH groups) sharply lowers the soly. of cellulose esters (nitrate and acetate), and at 10-15% replacement the esters are insol.; this may be due to cross linking through the residual OH groups. Apparently this occurs more readily with CO₂H groups in 6-positions than with those in the 2- or 3-position; hence, cellulose dicarboxylic derivs. give more sol. esters (nitrate, acetate) than the monocarboxylic derivs. (I) of the same percentage of CO₂H. The positions of OH groups are also important, as trans-location, as in pectic acid or Me deriv. of I, leads to high soly. of nitrates in Me₂CO (90-100%), whereas I gives but low soly. of the nitrate (13%). Cleavage of the pyran ring also affects ester soly. by altering chain mobility. G. M. Kosolapoff

Chain Synthetic Fiber, Moscow Textile Inst

23

CA

Preparation of specimens of dicarboxycellulose and its esters. A. G. Yashinskaya, N. N. Shotygina, and Z. A. Ruzgovin (Moscow Textile Inst.). *Zh. Priklad. Khim.* (I. Applied Chem.) 22, 1017-13 (1949). Oxidation of CHO groups in dialdehyde-cellulose (C.A. 44, 835a) to CO₂H groups by HClO₄ yields products with *o*-O₂NC₆H₄OAc, or 1,0- as detd. by exchange with Ca(OAc)₂, indicating that the product is a hemiacetal of erythronic and glyoxalic acids, which has 2 types of CO₂H groups differing in dissociation constants. Very little CHO content is left after the oxidation and the products are much more stable to the action of aq. alkali than the initial dialdehyde-cellulose. Acetylation of the products yields the acetates which are almost completely sol. in CH₂Cl₂-EtOH if the original CO₂H content was under 3%. Increased content of CO₂H causes loss of sol. owing to intermol. esterification of the acidic groups; even specimens of 5% CO₂H content are not completely sol. in acetylating mixts. and in solns. of AcOH-Ac₂O the reaction is heterogeneous. Best oxidation was performed by 10% NaClO₄ at pH 2.5-3.0, attained by addn. of AcOH, for 6 hrs. at 25° in the dark, after which the product was filtered and washed with 0.5% HCl, H₂O, EtOH, and Et₂O. G. M. K.

1954

CA

23

Preparation of specimens of monocarboxycellulose and its esters M. Trelvas, N. N. Shurygina, and Z. Rogovich (Moscow Textile Inst.). *Zhur. Priklad. Khim. (J. Applied Chem.)* 22, 1214-24(1949).—The presence of even a small no. of CO₂H groups sharply lowers the soly. of nitrates derived from carboxycellulose; this soly. is less than that of nitrates of alginic or pectic acids. The presence of CO₂H in the β -position of the polysaccharide mol. significantly lowers the rate of acetylation. Cellulose (liners) was oxidized to a monocarboxy deriv. by means of NO₂ with either the static or the dynamic methods (cf. Vackel and Kenyon, C.I. 36, 1173⁹); the latter was carried out in a desiccator contg. a beaker of liquid NO₂ and the residual air was pumped out. The CO₂H content of alginic acid was not increased with NO₂ treatment, hence secondary OH groups are unattacked. Primary OH and CH₂O groups are readily oxidized (diaketylcyclodextrin is oxidized to a product contg. 32.1% CO₂H). The extent of chain destruction cannot be estd. since introduction of CO₂H groups lowers the stability to alkali if the β -C is attacked and the viscometric method is unsuitable. The fragmentative action is shown by a 10 to 13-fold decline in the viscosity of alginic acid treated with NO₂ (CO₂H content is const.). The monocarboxycellulose (I) is 100% sol. in 20% NaOH and is 50-60% more hygroscopic than the initial liner; the name is a provisional one for the acid resulting from β -C oxidation and having the structure of polyglycuronic acid. Nitration of I gave nitrates whose soly. in Me₂CO is 9.7-18.7% with 13% N content and 1.5-8.0% CO₂H; nitrates of alginic or pectic acids are 90-100% sol. The loss in soly. may be attributed

to cross-chain esterification of CO₂H and HO, a process readily visualized in nitrations in nonaqueous media (such as 48% HNO₃, 20% H₂PO₄, and 2% P₂O₅ for 4 hrs. at 20°); when nitration is carried out in solns. contg. 10% H₂O, the soly. of the product rises to 81%. The soly. differences in alginic acid and pectic deriva. are attributed to the different steric arrangements of the acid and alc. groups. I was acetylated in homo- and heterogeneous systems; the process is severely retarded by CO₂H groups and a specimen contg. 1.0% CO₂H does not completely react in 24 hrs. under condition which completely acetylate cotton liners. Incompletely acetylated products have low Me₂CO soly. (3.7%), whereas complete esters show solubilities ranging from 60.0% to 75% for specimens having 1.9-3.6% CO₂H. It is believed that Ac₂O forms mixed anhydrides with the CO₂H groups which then reacts with the OH groups of interchain type, a factor which prevents further swelling and thus reducing the reaction rate. Soln. of I in dil. NaOH and treatment with AgNO₃ gave the insol. *Ag salt* which, treated with MeI in EtOH, yields the *Me ester* which is sol. in H₂O (used for sepn. from AgI) and insol. in EtOH. G. M. K.

BA

18

Splitting of lignin with metallic sodium in liquid ammonia. N. N. Khorygina, T. Ya. Kefell, and A. F. Semechkina (*C. R. Acad. Sci. U.S.S.R.*, 1949, 66, 669-692).—Wood and isolated lignins are examined by the Schorvyn reaction (Schorvyn and Makarova-Semljanska), A., 1937, 11, 278, which splits ethers, ROR' , into either (a) $\text{ROH} + \text{R}'\text{H}$ or (b) $\text{R}'\text{OH} + \text{RH}$, (a) being exclusive when $\text{R} = \text{aryl}$ and $\text{R}' = \text{alkyl}$; the probable structure of lignin is discussed. Lignin (10–15 g.) and liquid NH_3 (400 ml.) are treated with Na (60–75 wt.-% of lignin) until the reaction mass discolours no further; in the case of cuprammonia lignin ~28% of monomeric aromatic substances are obtained comprising 8.4% (of initial lignin) material (I) extractable by Et_2O from alkaline solution and 18.5% (II) extractable from acid. ~80% of I is dihydroeugenol (benzoate, m.p. 74–75°; phenylurethane m.p. 122°); two other substances are also present, one unexamined, the other a solid hydrocarbon ($\text{C}_{18}\text{H}_{24}$) amounting to 0.4% of the initial lignin. II consists of a phenol (65% ; 12% of initial lignin) and acids. The phenol was

over

fairly conclusively identified as 1-(4'-hydroxy-3'-methoxyphenyl)-propan-2-ol. It is concluded that the structural units of lignin are either 2-hydroxyhydroconiferyl alcohol (III) or 2-hydroxyconiferyl alcohol (IV), IV being the more probable and III being produced from it by the reducing action of the Shorygin reagent. IV is the tautomeric form of Hibbert's (A., 1944, 11, 163) 3-(4'-hydroxy-3'-methoxyphenyl)propan-1-ol-2-one. The mode of linkage is suggested to be ethereal, acetalic, and hemi-acetalic. D. C. QUINN.

CA

Cleavage of lignin with metallic sodium in liquid ammonia. IV. N. N. Shorygina and T. Ya. Kefeli (Cellulose, Lignin-Fib., Inst. Org. Chem., Akad. Sci. Ukr. Obshch. Khim. i Gen. Chem.) 20, 1199 (1959, 1960), cf. C. I. 44, 3919. Treatment of cuprammonium lignin with Na in liquid NH₃ (see previous paper) yielded, among other substances, some 13% phenolic material extractable by EtOH from acid aq. soln. The product is undistillable, contains 1 MeO and 2 OH groups, and has the compn. C₁₁H₁₀O₂. Methylation with Me₂SO, in 2 N NaOH gave a yellow oily methylation product, b.p. 135-40°, which on oxidation with KMnO₄ in Me₂CO-H₂O yielded veratric acid. Hence the initial phenolic substance was 1-(4-hydroxy-3-methoxyphenyl)-2-propanol (I); its dibenzoate (by the Schotten-Baumann method) m. 90-5° (from dil. EtOH), while the bis(3,3-dinitrobenzoate) m. 130-45° (from dil. EtOH), and the bis(phenylurethane) m. 103-8° (from C₆H₆-petr. ether). Dihydroconiferyl al.

(prepd. according to Nonura and Hotta (C. I. 22, 3884)), m. 65-70°, b.p. 102-3°, yields a bis(phenylurethane), m. 124-6°, and a dibenzoate, m. 66-4°; hydrogenation of coniferyl al. over Raney Ni in EtOH gave the dihydroal., identical with the above; oxidation with KMnO₄ failed to yield any AcOH. Oxidation of I readily yielded 73% AcOH. Addn. of 15 g. vanillin to EtMgBr (from 21.5 g. EtBr) gave diisoeugenol, b.p. 220°, m. 181° (from EtOH); its benzoate, m. 101°, this product forms exclusively with 2 moles EtMgBr, especially if the mixt. is heated. When 1.5 moles EtMgBr were used without heating, the product was an oil yielding 2 benzoates; one, m. 189°, was not studied, the other, m. 112-17° (from EtOH), was the dibenzoate of 1-(4-hydroxy-3-methoxyphenyl)-1-propanol, bis(phenylurethane), m. 110-15° (from C₆H₆-petr. ether). The results confirm the structure for I cited above. G. M. Kosolant

CA

The cleavage of lignin with metallic sodium in liquid ammonia. IV. N. N. Shorygina and T. Ya. Kefeli. *Gen. Chem. U.S.S.R.* 20, 1243-52 (1950) (Engl. translation). —See *C.A.* 45, 1530h. R. M. S.

1. SHORYGINA, N. N.
2. USSR (600)
4. Shostakovskii, M. F.
7. "Vinyl ethers." M. F. Shostakovskiy. Reviewed by N. N. Shorygina. Usp. khim. 21 no. 10, 1952.

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

SHORYGINA, N. N.

PA 234T30

USSR/Chemistry - Lignin

21 Oct 52

"The Chlorination of Hydrolyzed Lignin," N. N. Shorygina, A. A. Chuksanova, Inst of Org Chem, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol 86, No 6, pp 1135, 1136

The chlorination of hydrolyzed lignin at room temp without catalysts and without an excess of chlorine takes place with a part of the chlorine going into the aromatic nucleus in the 6 position. Presented by Acad A. N. Nesmeyanov 9 Aug 52.

234T30

SEMECHKINA, A.F.; SHORYGINA, N.N.

Decomposition of lignin with metallic sodium in liquid ammonia. Zhur.
Obshchey Khim. 23, 593-5 '53. (MLRA 6:5)
(CA 47 no.20:10843 '53)

SHORYGINA, N. N.

Chemical Abst.
Vol. 48 No. 3
Feb. 10, 1954
Cellulose and Paper

9

Cleavage of lignin with metallic sodium in liquid ammonia.
 VI. The action of metallic sodium in liquid ammonia on fir
 wood. *L. A. F. Semechkina and N. N. Shorygina (Inst. Org.
 Chem. Acad. Sci. U.S.S.R., Moscow). Zhur. Obshchest
 Khim. 23, 1593-7(1953); cf. C.A. 45, 1536h; 47, 10843f.*—
 Fir sawdust, extd. with 1:1 EtOH-C₆H₆, 5% NaOH, and
 2% AcOH and dried over P₂O₅ was treated with 100% ex-
 cess Na (on wt. of wood used) in liquid NH₃; after 7 days
 the soln. lost its color and the solid residue was sepd., kept
 overnight under moist Et₂O, and extd. with H₂O. The insol.
 residue (10.32 g. from about 30 g. wood) was colorless fibrous
 cellulose. Extn. of the aq. soln. with Et₂O gave 1.23% di-
 hydroeugenol (I) (benzoate, m. 74°). Acidification of the
 aq. soln. with H₂SO₄ pptd. a m'xt. of lignin (II) and hemi-
 cellulose (III) which, extd. with Et₂O, gave 6.27% oil.
 This was fractionated, yielding 0.45 g. I and an unidenti-
 fied material, b.p. above 100°. The Et₂O-insol. part was
 extd. with hot EtOH, and the ext. evapd., giving 9.2%
 yellowish powdery II, with 9.43% MeO; this was treated
 with an equal. wt. of Na in liquid NH₃ and gave, after the
 usual treatment, a minute amt. of an unidentified low mol.
 wt. product and residual II with 9.08% MeO. The EtOH-
 insol. residue consisted of gray III, with 1.97% MeO. The
 results indicate a close relation between the natural and the
 isolated lignin.
 G. M. Kosolapoff

ME
9-17-51

SHORYGINA, N. N.

2

Action of metallic sodium in liquid ammonia on spruce wood. A. F. Semeckina and N. N. Shorygina (*Faserforschung Textiltechnik*, 1954, 6, 79-81).—The reaction at low temperature was examined and the results found to be similar to those from the same reaction applied to isolated lignin, dihydrogenol being one of the decomposition products in each case. This indicates a fission of an ether linkage present in the lignin and does not support Freudenberg's theory of the lignin structure. Confirmation that the cellulose and hemicellulose present contain methoxy groups was obtained and the easy separation of the lignin from the wood complex indicated that a chemical combination of the former with carbohydrates is present which is not split up under the conditions of the reaction.

M. TADMAN.

SHORYGINA, N.N., doktor tekhnicheskikh nauk.

One's life for one's country. Znan.sila no.6:10-16 Je '54. (MLBA 7:6)
(Shorygin, Pavel Polievktovich, 1881-1939)

SHORYGINA, N. N.

Action of dilute nitric acid on isolated lignin. A. A. Chukanova, L. L. Sergeeva, and N. N. Shorygina. Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci. 1956, 235-41 (Engl. translation).—See C.A. 50, 9137f. B. M. R.

3

BM

SHORYGINA, N. N.

USSR/Chemical Technology - Chemical Products and Their Application. Wood Chemistry Products. Cellulose and Its Manufacture. Paper, I-23

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 63340

Author: Chuksanova, A. A., Sergeyeva, L. L., Shorygina, N. N.

Institution: None

Title: On the Action of Dilute Nitric Acid on Isolated Lignin

Original

Periodical: Izv. AN SSSR, Otd. khim. n., 1956, No 2, 250-252

Abstract: Study of the nitration of hydrochloric acid lignin and hydrolysis lignin (I) a boiling with 3.5 and 7% HNO_3 has shown that the nitrating agents are oxides of N. Content of N in the nitrolignins thus obtained varies within 1.89-3.05%. If during boiling of I with HNO_3 no evolution of N-oxides is observed. The resulting reaction product contains traces of N. In nitration products of I the OCH_3 content is decreased and COOH -group content is increased. From products of nitration of I was isolated by ether extraction in the cold a 0.82% yield of 3,5-dinitro quaiacol, MP 122.5° and also $(\text{COOH})_2$.

Card 1/1

15-57-4-5525

Use of Hydrolyzed Lignin (Cont.)

lignin neither melts nor dissolves. It contains only a small number of free functional groups, which is one of the causes of its chemical inertness. Chlorination and nitration will convert a hydrolyzed substance into a product which contains a greater number of functional groups (carboxylic and hydroxylic) and which is soluble in aqueous solutions of alkalines. The tests showed that activated lignin effectively reduces viscosity and surface tension of argillaceous solutions. Preparations of lignin nitrated with 8 percent nitric acid are most effective in drilling solutions.

Card 2/2

M. G. M.

SERGEYEVA, L.L.; CHUKSANOVA, A.A.; SHORYGINA, N.N.

Action of diluted nitric acid upon hydrolytic lignin. Izv. AN SSSR.
Otd. khim. nauk no.5:653-654 My '57. (MLRA 10:8)

1. Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk
SSSR.

(Nitric acid) (Lignin)

SHARVINA, N. N.

15

Dependence of properties of chloro derivatives of lignin on the conditions of chlorination. N. N. Sharvina and L. I. Kolotova (Inst. Org. Chem. Acad. Sci. U.S.S.R., Moscow). *Zhur. Obshchei Khim.* 27, 1641-4 (1957); cf. *C.A.* 48, 7896f. — Chlorination of lignin in boiling CCl_4 proceeds readily and the reaction slows down only after 22% Cl had been introduced into the substrate. Chlorination of wet lignin with Cl_2 water is highly exothermic (temp. rise to 70-80° was observed) giving products with up to 29% Cl. Dry lignin does not chlorinate readily per se. Presence of moisture accelerates the oxidative changes during chlorination and increases the content of CO_2H groups while reducing that of MeO groups. Sapon. of the chlorinated lignins prepd. by any of the 3 methods by means of 0.5% NaOH produces lignins contg. about 0.5 mole Cl, indicating that the aromatic rings are chlorinated 1st and that the amt. of aromatically bound Cl is the same in all cases.

G. M. Kosolapoff

4
HE 2C

99

20-5-34/60

20-5-34/60

Conversion of Levoglucosan into Aromatic Compounds.
(O prevraschenii levoglukozana v aromaticheskiya
soyedineniya.- Russian)

By periodic shaking it could be accelerated almost fivefold. Organosodium intermediate products (bright red color which disappears after some time) might be expected here. As can be seen from tab. 2, the yield of phenol is directly proportional to the amount of sodium up to a maximum. It corresponds to the 6 atoms per molecule of trimethyl-levoglucosan, which are necessary for the cleavage of 3 ether groups. Sodium excess does not increase the yield of phenol. This fact is of essential importance, since it indirectly confirms the mentioned reaction system by Shorygin and Shorygina. Tab. 3 shows the influence of temperature on the course of the reaction. The shortest cooling time which leads to a maximum yield of phenol was determined. Beside 1-atom phenol the formation of 2-atom phenoles, pyrocatechin and resorcin, was disclosed. The work is continued. (2 tabl., 2 Slavic ref.)

ASSOCIATION: Institute for Organic Chemistry "N.D. Zelinsky" of the
Academy of Sciences of the U.S.S.R.
PRESENTED BY: B.A. Kazanskiy, member of the Academy.
SUBMITTED: 25.12.56
AVAILABLE: Library of Congress.

SHORYGINA, N., kand.tekhn.nauk; OTLIVANCHIK, A., kand.tekhn.nauk

Using synthetic materials in construction. Na stroi. Mosk. 1 no.7:
15-16 Jl '58. (MIRA 11:9)

(Plastics)

SHORYGINA, N.N.; IZUMRUDOVA, T.V.; EL'KHONES, N.M.; STAROSTINA, K.M.

Chlorolignin and its industrial preparation. *Gidroliz. i lesokhim.*
prom. 11 no.6:8-10 '58. (MIRA 11:10)

1. Institut organicheskoy khimii AN SSSR (for Shorygina, Izumrudova).
2. Gosudarstvennyy nauchno-issledovatel'skiy institut redkikh metallov
(for El'khones, Starostina).
(Chlorolignin)

SHORYGINA M.M.

79-1-25/65

AUTHORS: Semechkina, A. F. ; Shorygina, M. M.
TITLE: An Investigation of the Husk Lignin of the Seeds of the Cotton Plant (Issledovaniye lignina shelukhi semyan khlopchatnika)
PERIODICAL: Zhurnal Obshchey Khimii, 1950, Vol. 28, Nr 1, pp.119-121(USSR)

ABSTRACT: From the earlier papers on the composition of the husks of the cotton plant it is seen that it is dependent on the sort of cotton, its ripening and other properties. The number of components varies rather obviously: ash 2 - 2,88 %; pentosan 21,6 - 27,6 %, cellulose 36 - 48,5%, lignin 19,6 - 32 %, fats and resins 21 - 38 %, Uronic acids 4,4 - 5,5 %; proteins 3 - 9 %. The content of methoxyl groups in the husk varies between 0,98 - 1,87 %. From these data follows that in spite of the considerable content of lignin in the husk, the quantity of methoxyl groups in it is about 3 - 4 times less than in the ligneous fiber of coniferous trees and 3,5 - 4,5 times less than in the ligneous fiber of deciduous trees. This indicates that the husk lignin of the

Card 1/3

79-1-25/63

An Investigation of the Husk Lignin of the Seeds of the Cotton Plant

cotton seeds is according to its composition highly different from that of ligneous fibers, or that its content is considerably lower than in the latter. In the latter case lignin is polluted by humification products. For this purpose the husk lignin of cotton seeds was more closely investigated. The separation of lignin was performed according to different methods described in the report. Ripe cotton seeds from the Ferganian Factory were used for processes of hydrolysis: They had the following composition: ash 2,31%, resin products 1,42%, lignin according to Koenig 33,35%, OCH₃ - 1,50%, pentosan 25,29%, delint 20%. As the table shows the husk of the cotton plant contains considerably less methoxyl groups than the ligneous fiber, like the isolated lignin of the cotton plant in comparison with the separated lignin of ligneous fibers. From this follows that in the husks of cotton seeds the content of aromatic components which are characteristic of the lignins of ligneous fibers is lower than in the ligneous fiber. Among the content of the husk lignin of the seeds of cotton plants are components which contain aromatic nuclei of an elder-(lilac ?) and guayacyl structure. Elements with oxyphenyl radicals were not de-

Card 2/3

79-1-25/63

An Investigation of the Husk Lignin of the Seeds of the Cotton Plant

terminated in lignin. The composition of the aldehyde mixture obtained by the oxidation of cotton husks with nitrobenzene and alkali indicates the fact that the "natural lignin" of the cotton husk is similar to the lignin of deciduous trees. There are 8 references, 7 of which are Slavic.

ASSOCIATION: Institute for Organic Chemistry AN USSR
(Institut organicheskoy khimii Akademii nauk SSSR)

SUBMITTED: December 30, 1956

AVAILABLE: Library of Congress

Card 3/3

1. Chemistry 2. Lignin-Analysis

AUTHORS: Semeshkina, A. F., Shorygina, N. N. SOV/79-28-12-23/41

TITLE: Decomposition of Lignin With Metallic Sodium in Liquid Ammonia (Razlozheniye lignina metallicheskim natriyem v zhidkom ammiake); VII. Chromatographic Investigation of the Phenols Formed in the Decomposition of Lignin (VII. Khromatograficheskoye issledovaniye fenolov, poluchayushchikhsya pri razlozhenii lignina)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 12, pp 3265-3269 (USSR)

ABSTRACT: Shorygina and her cooperators had earlier found that metallic sodium in liquid ammonia decomposes lignin under the formation of monomeric phenols (Refs 1-3). To investigate these products of decomposition more in detail paper chromatography was employed. Lignin was produced from the wood fiber according to Freudenberg and Willstätter (Freidenberg, Vil'shtetter, Refs 4,5). The treatment with the solution of sodium in liquid ammonia was carried out according to reference 1, with only a slight modification of the extraction of the decomposition products treated with ether and water, which was carried out in acid solution. The phenol mixture was separated from the

Card 1/3

Decomposition of Lignin With Metallic Sodium in
Liquid Ammonia. VII. Chromatographic Investigation
of the Phenols Formed in the Decomposition of Lignin

SOV/79-28-12-23/41

acids by extraction with ether from the bicarbonate solution. In the paper chromatography of this viscous mixture the following solvents were used: 1) Petroleum ether-benzene-water (1 : 1 : 1). 2) Petroleum ether-benzene-acetic acid-water (1 : 1 : 0.25 : 1). 3) Petroleum naphtha saturated with water. The phenols were determined by means of the diazotized sulfanilamide. Their composition was rather complex (Figure). The chromatogram above and below shows the (4-oxy-3-methoxy-phenyl)-propanols, and thus proves the presence of all three possible isomers of guaiacyl-n.-propanol-1,2 and 3 (II, III and IV). To explain the behavior of the phenol alcohols determined in the decomposition of lignin the compounds (II), (III) and (IV) were treated with a solution of sodium in liquid ammonia, as mentioned above. The phenols separated from the reaction mass (after decoloring) proved to be mainly initial products with a minimum amount of dihydro eugenol, which, by the way, was also obtained in small quantities according to other methods (Refs 6, 7). Part of the phenols formed have not yet been identified. There are 1 figure and 13 references,

Card 2/3

Decomposition of Lignin With Metallic Sodium in
Liquid Ammonia. VII. Chromatographic Investigation
of the Phenols Formed in the Decomposition of Lignin

SOV/79-28-12-23/41

3 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute
of Organic Chemistry, Academy of Sciences, USSR)

SUBMITTED: October 28, 1957

Card 3/3

15.0560

77276
SOV/63-4-6-10/37

AUTHORS: Shorygina, N. N. (Doctor of Chemical Sciences), Izumrudova,
T. V. (Candidate of Technical Sciences)

TITLE: Modern Concepts of Structure, Properties, and Ways of
Utilization of Lignins

PERIODICAL: Khimicheskaya nauka i promyshlennost', 1959, Vol 4, Nr 6,
pp 747-756 (USSR)

ABSTRACT: This is a review of the structure, properties, and use of
lignins (lignin compounds, as the authors propose to call
it), based on the literature. Numerous formulas of the
structural elements of lignin compounds and Freudenberg's
theory of lignin formation in plants were considered and
compared with the properties of the "lignin", product of
dehydropolymerization (DHP), which was obtained in vitro
by Freudenberg and associates. The authors come to
the conclusion that present knowledge of lignin chemistry
is still limited, and that therefore the lignin compounds
which are the wastes of cellulose hydrolysis and paper

Card 1/2

Modern Concepts of Structure, Properties,
and Ways of Utilization of Lignins

77276

SOV/63-4-6-10/37

industry are not properly used. It is estimated that in 1960 the USSR cellulose hydrolysis industry will accumulate 500,000 tons of lignins. 30-35% of this amount will be used as fuel, which is not its proper use. The authors reviewed different patents and ways of lignin utilization. Such uses of lignins as rubber reinforcing agent, tanning agent, exchange resin bases, etc., are considered. Conversion of lignins into monomers (preparation of pyrocatechol and protocatechuic acid by alkali fusion), nitration, oxidation, preparation of chlorolignin, preparation of heat-insulating materials, and other uses of lignins are also discussed. There are 71 references, 14 U.S., 4 U.K., 13 Swedish, 8 German, 1 Japanese, 31 Soviet. The 5 most recent U.S. and U.K. references are: E. Adler, Ind. Eng. Chem., 49, Nr 9, 1377 (1957); E. Adler, J. Pepper, E. Eriksoo, Ind. Eng. Chem., 49, Nr 9, 1391 (1957); L. Bock, I. Anderson, Chem. Eng. News, 35, Nr 15, 29 (1957); U.S. Patent 2724723, 1955; C. A. 50, 10779 (1956); D. Bland, Proc. Roy Austral. Chem. Inst., 24, Nr 24, 357 (1957).

Card 2/2

5.3400

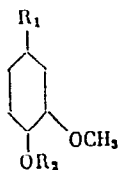
77084
SOV/62-59-12-28/43

AUTHORS: Chuksanova, A. A., Sergeyeva, L. L., Shorygina, N. N.

TITLE: Behavior of Lignin Models on Nitration

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 12, pp 2219-2225 (USSR)

ABSTRACT: Nitration of lignin is accompanied by oxidation. The reaction of nitric acid with lignin model compounds was investigated. The following monomers were used as models:



- (I) $R_1 = \text{CHOH} - \text{CH}_2 - \text{CH}_3$, $R_2 = \text{CH}_3$
 (II) $R_1 = \text{CHOH} - \text{CH}_2 - \text{CH}_3$, $R_2 = \text{H}$
 (III) $R_1 = \text{CH}_2 - \text{CHOH} - \text{CH}_3$, $R_2 = \text{CH}_3$
 (IV) $R_1 = \text{CH}_2 - \text{CHOH} - \text{CH}_3$, $R_2 = \text{H}$
 (V) $R_1 = \text{CH}_2 - \text{CH}_2 - \text{CH}_2\text{OH}$, $R_2 = \text{CH}_3$
 (VI) $R_1 = \text{CH}_2 - \text{CH}_2 - \text{CH}_2\text{OH}$, $R_2 = \text{H}$
 (VII) $R_1 = \text{CH}_2 - \text{CO} - \text{CH}_3$, $R_2 = \text{CH}_3$
 (VIII) $R_1 = \text{CH}_2 - \text{CO} - \text{CH}_3$, $R_2 = \text{H}$

Card 1/3

Behavior of Lignin Models on Nitration

77084

SOV/62-59-12-28/43

The nitration was carried out in CCl_4 , at 5° . 1-(3,4-Dimethoxyphenyl)-propan-1-ol with 3 M HNO_3 gave the following nitro-compounds: 1-(6-nitro-3,4-dimethoxyphenyl)propan-1-ol (mp 86°), a very small amount of a dinitrocompound (mp 95°) and 2 compounds ($\text{C}_{22}\text{H}_{28}\text{O}_9\text{N}_2$). (1) Mp 205° , mol. w. 462 (cryoscopy in benzene), oxidation (15% HNO_3) gave 4,5-dinitroveratrole. (2) Mp 134° , oxidation gave 4,5-dinitroveratrole. Nitration of II gave 3,5-dinitroquaiacol (mp 122°) and a nitro-compound $\text{C}_{20}\text{H}_{24}\text{O}_9\text{N}_2$ (mp $140-141^\circ$), mol. w. 416.

Nitration of III with 1 M HNO_3 gave 1-(6-nitro-3,4-dimethoxyphenyl)-propan-2-ol (A) (mp $99-100^\circ$) and with 3 M HNO_3 , in addition to A, also 1-(6-nitro-3,4-dimethoxyphenyl)-propan-2-one. Nitration of IV with 1 M HNO_3 gave a mononitro-derivative (mp $95-96^\circ$). V with 1 and 3 M HNO_3 gave 1-(6-nitro-3,4-dimethoxyphenyl)-propan-3-ol (mp $92-93^\circ$).

Card 2/3

Behavior of Lignin Models on Nitration

77084

SOV/62-59-12-28/43

VI with 3 M HNO_3 gave a light-brown powder containing 5.32% nitrogen. VII with 3 M HNO_3 gave 1-(6-nitro-3,4-dimethoxyphenyl)-propan-2-one (mp 125.5°). VIII with 3 M HNO_3 gave a dinitroketone (mp 184°) of

unknown structure. This seems to indicate that lignin contains 60-70% phenyl-propane structural units capable of being nitrated. The yields are not given. There is 1 table; 9 references, 3 Soviet, 3 German, 1 Finnish, 2 U.S. The 2 U.S. references are: M. Kulka, H. Hibbert, J. Am. Chem. Soc., 65, 1180 (1943); Ph. C. Roberti, R. F. Jork, W. S. MacGregor, *ibid.* 72, 5760 (1950).

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

SUBMITTED: March 31, 1958

Card 3/3

CHUKSANOVA, A.A.; SHORYGINA, N.N.

Action of nitric acid on β -guaiacyl ether of α -veratryl glycerol.
Izv.AN SSSR Otd.khim.nauk no.8:1511-1512 Ag '60. (MIRA 15:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Ethers) (Glycerol)

SHORYGINA, N.N.; DAVYDOVA, G.V.

Carbocyclization of 1, 6-anhydrogalactose. Izv.AN SSSR Otd.khim.
nauk no.4:728 Ap '61. (MIRA 14:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Galactose)

STUDY - IN PROGRESS

S/062/61/000/007/009/009
B117/3215

AUTHOR: None given

TITLE: General Assembly of the Otdeleniye khimicheskikh nauk Akademii nauk SSSR (Department of Chemical Sciences of the Academy of Sciences USSR), March 9-10, 1961

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 7, 1961, 1357-1360

TEXT: This is a report on the meetings of the General Assembly of the Otdeleniye khimicheskikh nauk Akademii nauk SSSR (Department of Chemical Sciences of the Academy of Sciences USSR) held on March 9 and 10, 1961 on the chemistry of cellulose. Professor Z. A. Rogovin reported on new methods of modifying the properties of cellulose, and mentioned some trends of research work in this field: (1) Synthesis of new types of cellulose esters; (2) introduction of new types of functional groups into the macromolecule of cellulose; (3) synthesis of graft copolymers of cellulose with polymers containing heterogeneous and carbon chains. O. P. Golova, Doctor of Chemical Sciences, reported on a "Study of the

Card 1/3

General Assembly of the ...

S/062/61/000/007/009/009
B117/B215

thermal process of cellulose decomposition". Thermal decomposition was studied in two cellulose modifications of different physical structures: cotton cellulose and hydration cellulose. Professor P. V. Kozlov reported on structural characteristics of cellulose and its derivatives. He said that V. A. Kargin, together with a number of other scientists, proved the amorphous structure of these natural polymers. He also mentioned that the ideas on the "package"-type structure of polymers expressed by V. A. Kargin, A. I. Kitaygorodskiy, and G. L. Slonimskiy are of greatest value for the examination of the macrostructure of cellulose and its derivatives. S. N. Danilov, Corresponding Member AS USSR, reported on the "Reactivity of esters of cellulose and chitin". He pointed out that chitin and cellulose supplied esters of great practical value. Their production, however, is still difficult. In his own name and on behalf of P. N. Odintsov, Academician AS Latviyskaya SSR, A. I. Kalnin'sh, Academician AS Latviyskaya SSR, reported on the prospects of development of timber chemistry. He stressed the necessity of finding new methods for the utilization of large timber resources, wood waste and vegetable remains in agriculture, and of rationalizing conventional methods. At the same time, theoretical work in this field is to be intensified. N.N. Shorygina,

Card 2/3

CHUKSANOVA, A.A.; GRUSHNIKOV, O.P.; SHORYGINA, N.N.

Study of nitrolignin inhomogeneity. Izv.AN SSSR.Otd.khim.nauk
no.10:1810-1812 0 '61. (MIRA 14:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Nitrolignin)

← SHORYGINA, N.N.; IZUMRUDOVA, T.V.; ADEL', I.B.; ZAGARMISTR, O.S.;
SALOMATINA, Z.T.

Prospects for the use of hydrolytic lignin in the protroleum
industry. *Gidroliz. i lesokhim. prom.* 14' no. 1:5-6 '61.
(MIRA 14:1)

(Lignin)

(Petroleum industry)

TURETSKIY, Ya.M.; SHORYGINA, N.N.; IZUMRUDOVA, T.V.; GRISTAN, Ye.L.

Using chlorine lignin for the flotation of iron ores. *Gidroliz.*
i lesokhim. prom. 14 no.8:10 '61. (MIRA 16:11)

SHORYGINA, N.N.; DAVYDOVA, G.V.

Carbocyclization of 1,6-anhydrides of D-gulose and D-idose. Dokl.
AN SSSR 140 no.3:617-619 S '61. (MIRA 14:9)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
Predstavleno akademikom B.A.Kazanskim.
(Gulose) (Idose) (Cyclization)

SERGEYEVA, L.L.; SHORYGINA, N.N.; LOPATIN, B.V.

Nitration of lignin and model compounds containing an arylcarbinol group. Izv.AN SSSR.Otd.khim.nauk no.7:1295-1302 JI '62.
(MIRA 15:7)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Lignin) (Nitration) (Alcohols)

SHORYGINA, N.N.; NIYAZOV, Kh.R.

Study of lignins extracted from cotton plant by mechanical grinding. Izv.AN SSSR.Otd.khim.nauk no.6:1122-1123 '62. (MIRA 15:8)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Lignin)

S/062/62/000/011/018/021
B101/B144

AUTHORS: Kuznetsova, Z. I., Ivanova, V. S., and Shorygina, N. N.
TITLE: New nitrogenous cellulose derivatives
PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh
nauk, no. 11, 1962, 2087 - 2089

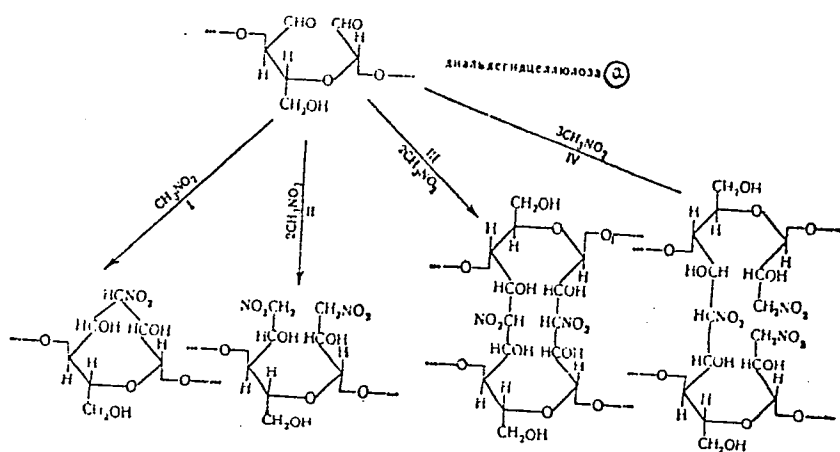
TEXT: The possibilities of modifying the properties of cellulose by introducing new functional groups in the macromolecule were studied. For this purpose, the condensation of dialdehyde cellulose (19.2% aldehyde groups) with nitro-methane in alkaline solution at 5°C was carried out for the first time. The following general reaction course is assumed:



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New nitrogenous cellulose derivatives

S/062/62/000/011/018/021
B101/B144



(a) - dialdehyde cellulose.

Card 2/3

New nitrogenous cellulose derivatives

S/062/62/000/011/018/021
B101/B144

The nitrogen content of the resulting preparations reached 3.4 - 4.96%, the increase in weight was 17 - 20% of the initial weight. These data imply that the reaction proceeds mainly in the direction of I and II; one of the two directions can be selected by choosing the reaction conditions. The resulting nitro derivatives are yellow, keep their fibrous structure, and are stronger and more elastic than the initial dialdehyde cellulose. Further new cellulose derivatives, e.g. those with NH_2 groups, are to be synthesized by reaction of the NO_2 groups. There is a table. The most important English-language reference is: H. Baer, H. Fischer, J. Amer. Chem. Soc., 82, 3709 (1960).

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

SUBMITTED: June 18, 1962

Card 3/3

SHORYGINA, N.N.; NIYAZOV, Kh.R.

Study of the structure of cotton plant lignins by the method of destructive oxidation by nitrobenzene in an alkaline medium. *Izv. AN SSSR. Otd. khim. nauk* no.9:1689-1690 S '62. (MIRA 15:10)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.

SHORYGINA, N.N.; DAVYDOVA, G.V.

Diphenols obtained in the carbocyclization of D-hexose 1,6-anhydrides.
Izv. AN SSSR. Otd. khim. nauk no. 11:2058-2062 N '62. (MIRA 15:12)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Hexose) (Phenols)

KUZNETSOVA, Z.I.; IVANOVA, V.S.; SHORYGINA, N.N.

New nitro derivatives of cellulose. *Izv. AN SSSR. Otd. khim. nauk*
no. 11:2087-2089 N '62. (MIRA 15:12)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Nitrocellulose)

SHORYGINA, N.N.; NIYAZOV, Kh.R.

Determination of molecular weights and carbonyl groups of cotton
lignins. Izv.AN SSSR. Otd.khim.nauk no.11:2094-2095 N '62.

(MIRA 15:12)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Lignin) (Molecular weights) (Carbonyl group)

NIYAZOV, Kh.R.; SHORYGINA, N.N.

Studying the structure of cotton plant lignin by the method of destructive reduction with metallic sodium solution in liquid ammonia. Izv. AN SSSR. Otd. khim. nauk no. 3:563-565 Mr '63.

(MIRA 16:4)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Lignin) (Reduction, Chemical)

SEMCHKINA, A.F.; SHORYGINA, N.N.

Phenols obtained from aspen lignin during its decomposition by sodium solution in liquid ammonia. Izv. AN SSSR. Otd.khim. nauk no.4:715-720
Ap '63. (MIRA 16:3)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Phenols)

SHCRYGINA, N.N.; MIKHAYLOV, N.P.; GRUSHNIKOV, O.P.

Obtaining some modified preparations of hydrochloric-acid lignin.
Zhur.prikl.khim. 37 no.1:170-176 Ja. '64. (MIRA 17:2)

1. Institut organicheskoy khimii AN SSSR imeni N.D.Zelinskogo.

CHERNOZHUKINA, A.P.; SHORYGINA, N.U.

Decomposition of model compounds of lignin by metallic sodium action in liquid ammonia. Izv. AN. SSSR. Ser. khim. (MIRA 17:6)
no. 5:884-890 My '64.

1. Institut organicheskoy khimii im. N.I. Zelinskogo AN SSSR.

DAVYDOVA, G.V.; SHORYGINA, N.N.

Transformation of 1,6-anhydroaldohexoses to phenols under the
action of metallic sodium in liquid ammonia. Dokl. AN SSSR
154 no.1:140-143 Ja'64. (MIRA 17:2)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
Predstavleno akademikom B.A. Kazanskim.

SERGEYEVA, L.L.; SHORYGINA, N.N.; LOPATIN, B.V.

Nitration of model lignin compounds: 1-veratryl-3-propanol
and 1-guaiacyl-3-propanol. Izv. AN SSSR Ser. khim. no.7:1254-
1260 JI '64. (MIRA 17:8)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR.

LEVINOVA, T.Y.; LEBEVNICHUK, L.N.; ORLYCHINA, N.N.

Modification of hydrolytic ligases by oxidation with hydrogen peroxide. Zhur.prikl.khim. 37 no.7:1635-1640 J1 '64. (MIRA 1844)

L 39683-65 EWT(m)/EPF(c)/EPR/EWP(j)/EWA(c) Pc-4/Pr-4/Ps-4 RPL
WV/RM
ACCESSION NR: AP5001604 S/0062/64/000/012/2232/2235

AUTHOR: Kuznetsova, Z. I.; Ivanova, V. S.; Shorygina, N. N. 30
21
B

TITLE: Preparation of several cellulose derivatives containing the NO₂ group

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1964, 2232-2235

TOPIC TAGS: cellulose dialdehyde nitromethane condensation, primary nitro-cellulose derivative, secondary nitrocellulose derivative, tertiary nitrocellulose derivative, synthesis

ABSTRACT: The condensation of cellulose dialdehyde (a) with nitromethane was effected in an aqueous -alcohol medium containing 0.5-1 equivalents of NaOH for each CD-group of (a) to give a 7-membered ring (I) (see Enclosure). Attempts to increase yield of I above ~57% by increasing reaction time of NaOH were unsuccessful. (II) was formed with more concentrated NaOH. Condensation of (a) with nitroethane, nitroethanol and 2-nitro-1,3-propanediol was more difficult than with nitromethane, but the new cellulose derivatives containing secondary and tertiary NO₂

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L 39683-65

ACCESSION NR: AP5001604

groups, III, IV, and V, respectively, were obtained. These derivatives had a fibrous structure, were almost colorless, relatively stable to acid and unstable in alkali. Orig. art. has: 2 tables and 1 equation.

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

SUBMITTED: 06May64

ENCL: 01

SUB CODE: CC, CC

NR REF SOV: 001

OTHER: 001

Card 2/3

L 48973-65 EWT(m)/EWP(j) Pz-4 RM

ACCESSION NR: AP5009665

UR/0062/65/000/003/0557/0559

AUTHOR: Kuznetsova, Z. I., Ivanova, V. S., Shorygina, N. N.

TITLE: Some new data on reactions between cellulose and gaseous nitrogen oxides ¹⁴₁₃ B

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 3, 1965, 557-559

TOPIC TAGS: nitrogen oxide, cellulose, monocarboxy cellulose, cellulose trinitrate, carboxycellulose dinitrate, cellulose nitration

ABSTRACT: The authors made a special study of the role of water in chemical conversions in the cellulose macromolecule acted upon by gaseous nitrogen oxides. Absolutely dry cellulose was used, and the water was removed from the reaction zone by P_2O_5 . The introduction of P_2O_5 was found to decrease the content of COOH groups and increase the nitrogen content in the product (monocarboxycellulose). For cellulose: N_2O_4 ; P_2O_5 ratios of 1:15:200, cellulose trinitrate was practically obtained. At ratios of 1:30:50, carboxycellulose dinitrate was produced. Thus, under the conditions employed, there was (1) a simultaneous occurrence of oxidation and esterification reactions, (apparently when a certain amount of water was present), and (2) the occurrence of esterification alone, depending upon the proportions of the reagents. Comparison of the data indicates that the formation of nitro esters is related primarily to the amount of P_2O_5 in the system, not to

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L 48973-65
ACCESSION NR: AP5009665

the duration of the reaction or the amount of nitrogen oxides. Since P_2O_5 was used as a drying agent, the composition of the products is thought to be determined by the amount of water present. Orig. art. has: 1 table and 1 figure.

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

SUBMITTED: 08Jul64

ENCL: 00

SUB CODE: GC, IC

NO REF SOV: 008

OTHER: 011

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2/2

UMKIDOVA, T.V.; GORDONOV, V.B.; FIMENKO, A.K.; MASIMENKO, N.S.; SHORYGINA,
N.N.; ADEL', I.B.

Production of oxidized lignin in the basellar Hydrolysis Plant.
Gidroliz. i besokhm.prom. 13 no.108-10 '85.

(MIRA 18.3)

SCLOV'YEV, Ye.M.; LEONIDOVA, A.I.; SHORYGINA, N.N.; IZUMRUDOVA, T.V.

Nitrolignin as a reducer of the viscosity and water loss of
cement slurry. Izv. vys. ucheb. zav.; neft' i gaz 8 no.3:25-28
'65. (MIRA 18:5)

1. Moskovskiy institut neftekhimicheskoy i gazovoy promyshlennosti
im. akad. Gubkina i Institut organicheskoy khimii AN SSSR.

KUZNETSOVA, Z.I.; IVANOVA, V.S.; SHORYGINA, N.N.

Some new data on the interaction between cellulose and gaseous
nitrogen oxides. Izv. AN SSSR. Ser. khim. no.3:557-559 '65.
(MIRA 18:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

SHORYGINA, N.N.; YELKIN, V.V.

Study of lignin of *Larix sibirica*. Izv. AN SSSR. Ser. khim. no.7:
1279-1280 '65. (MIRA 18:7)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

IZUMRUDOVA, T.V.; SHORYGINA, N.N.; BOBOVNIKOV, B.V.; IVANOVA, E.K.

Production of "sunil" in the Andizhan Hydrolysis Plant. *Gidroliz.*
i lesokhim.prom. 18 no.4:16-17 '65. (MIRA 18:5)

1. Institut organicheskoy khimii AN SSSR (for Izumrudova,
Shorygina). 2. Andizhanskiy gidroliznyy zavod (for Bobovnikov,
Ivanova).

SHCHERBA, L.I., SHORYSINA, N.N.

Synthesis of model lignin compounds containing benzyl-alcohol
and benzyl-alkyl ether groups. Izv. AN SSSR, Ser. Khim. no.9:
1630-1637 '65. (MIRA 18:9)

I. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.