

30V/123-59-15-59218

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 15, p 49 (USSR)

AUTHORS: Ivanov, B.V., Kolmakova, M.A.

TITLE: Automation and Mechanization of Manufacturing Processes at the ATE-1 Plant

PERIODICAL: Avtotrakt. elektrooborudovaniye, 1958, Nr 3, pp 70 - 75

ABSTRACT: Several kinds of equipment used are described. 1) Automatic device for the drilling of rivets of 3 mm in diameter, 5 - 11 mm long, to a drilling depth of 3 mm with a drill of 1.8 mm in diameter and a capacity of 1,200 rivets/hour. The automatic device consists of the bed, headstock, index head, distributing shaft, pump with tank, and electromotor. 2) Hydraulic device for the reduction of electromachine bodies along their inner diameter, made of steel bands, operating with an oil pressure of 170 - 180 at. 3) Mechanism for the automatic feed of copper bands to the press for the punching of commutator plates, which consist of the feeding mechanism, the straightening device and

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Automation and Mechanization of Manufacturing Processes at the ATE-1 Plant

roll-holder. On the same principle a feeding mechanism for caps, commutator bushes and other parts was designed. Special dies for commutator bushes were designed, combining four operations, as well as a special roll-holder. By the application of these devices several presses can be attended by one worker. 6 figures.

V.D.I.

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IVANOV, B.V.

9B-56-4-3/18

AUTHOR: Ivanov, B.V., Engineer

TITLE: Results Obtained With Cable Cranes at the Construction of the Kuybyshev Hydroelectric Power Station (Itogi primeneniya kabel'nykh kranov na stroitel'stve Kuybyshevskogo gidrouzla)

PERIODICAL: Gidrotekhnicheskoye Stroitel'stvo, 1958, Nr. 4, pp 11-15 (USSR)

ABSTRACT: Two 15 ton parallel-moving cable cranes were installed in the spring 1954 on the construction site of the Kuybyshev Hydroelectric Power Plant. Mounted on 420 m long tracks with a span of 345 m these two cranes served an area of 145,000 sqm. Most of the moving and assembly work of the heavy reinforced concrete structures was done by the cable cranes as well as the transportation of all heavy loads beyond the reach of the gantry cranes. In the 4th quarter 1954 handling of heavy loads by these two cranes reached its highest peak with 26,000 tons. Most efficient was the work of the cable cranes at the construction of the locks; one 15 ton cable crane working in conjunction with gantry cranes and having a span of 392 m with a trackage of 510 m covered an area of 200,000 sqm. The results obtained with cable cranes in this construction is shown in table Nr. 2. The results obtained from all cable cranes during the entire period of operation is indicated in table Nr. 3,

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98-58-4-3/18

Results Obtained With Cable Cranes at the Construction of the Kuybyshev Hydroelectric Power Station

showing an efficiency factor of only 25.4%.
There are 5 tables.

ASSOCIATION: Kuybyshevskiy gidrouzel (Kuybyshev Hydroelectric Power Plant)

AVAILABLE: Library of Congress

Card 2/2 1. Construction-Equipment 2. Cranes-Applications

IVANOV, B.V., inzh.

Mechanization of work related to the layout of drainages, filters, and
embankments. Inzh. stroi. no. 6:74-81 '58. (MIRA 12:11)

1. Kazakhskiy filial Akademii stroitel'stva i arkhitektury.
(Hydraulic engineering)

AUTHOR: Ivanov, B.V., Engineer

SOV-98-58-8-9/22

TITLE: Packing of the Soil During the Construction of the Front Part of the Spillway Dam of the Kuybyshev GES (Uplotneniye gruntov pri sooruzhenii ponura Kuybyshevskoy GES)

PERIODICAL: Gidrotekhnicheskoye stroitel'stvo, 1958, Nr 8, pp 33-35 (USSR)

ABSTRACT: During the construction of the front part of the spillway dam of the Kuybyshev GES, 400,000 cu m of argillaceous soil were transported from a nearby quarry. The soil was transported by dump trucks of the MAZ-205 and YaAZ-210Ye type. It was found, that the rollers used for packing the soil were inadequate on the small surface. As a last resort, automobiles of the MAZ-525 type were used, and good results were obtained, although the cost of the operation was high. Spaces near the walls were packed with the electric stampers of I-131 type. Immediate modernization of the existing rollers is urgently requested. There is 1 photo and 1 Soviet reference.

1. Dams--Construction 2. Soils--Applications

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IVANOV, B., inzh. (g.Izmail)

New-type tracks for cranes. NTO no.6:22 Je '59.

(MIRA 12:9)

(Cranes, derricks, etc.)

IVANOV, B.V., inzh.

Using reinforced concrete slabs in constructing crane run-
ways. Transp.stroi. 9 no.7:34-35 J1 '59. (MIRA 12:12)
(Concrete slabs) (Cranes, derricks, etc.)

IVANOV, B.Y inzh.

Improved pavement of crane tracks. NTO 2 no.3:28 Mr '60.
(MIRA 13:6)

(Cranes, derricks, etc.)
(Pavements, Concrete)

SOV/124-57-4-4184

Translation from: Referativnyy zhurnal. Mekhanika, 1957, Nr 4, p 47 (USSR)

AUTHOR: Ivanov, B. V.

TITLE: On the Effectiveness of Flat Slope Faces of Shallow Railway Open Cuts as a Measure Against the Formation of Snow Drifts (Ob effektivnosti upolozheniya otkosov melkikh zheleznodorozhnykh vyyemok kak sredstva protiv obrazovaniya v nikh snezhnykh zanosov)

PERIODICAL: Tr. Transp.-energ. in-ta Zap.-Sib. fil. AN SSSR, 1954, Nr 4, pp 159-163

ABSTRACT: It is stated, on the strength of three series of experiments performed in a wind tunnel, that there is a marked decrease of wind velocities in open cuts with shallow sloping banks. Nevertheless, according to the author, this does not justify the consideration of the indicated design method [recommended at this time in the current "Tekhnicheskiye Usloviya" ("Technical Specifications")] as effective under any conditions, since the volume of snow accumulation that has to be cleared from an open cut for the restoration of railway traffic depends not only upon the intensity but also upon the duration of the precipitation of the snow. Consequently in areas where snow storms are of greater

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On the Effectiveness of Flat-slope Faces of Shallow Railway Open Cuts (cont.)

duration the expedient of simply making the slope faces shallower may not be sufficient without adequate snow fences. The quantitative evaluation of their effectiveness must be based on the empirical dependence of the snow transport on the wind velocity and on a larger number of practical observations. Bibliography: 14 references.

M. A. Velikanov

Card 2/2

IVANOV, B. V.

Ivanov, B. V. -- "Peculiarities of the Projecting of the Plan and Profile of Railroads in the Rayons of Western Siberia Which Are Subjected to Snow Drifts." Leningrad Order of Lenin Inst of Engineers of Railroad Transport imeni Academician V. N. Obratsov, Novosibirsk, 1955 (Dissertation for Degree of Candidate of Technical Sciences).

SO: Knizhnaya Letopis', No. 23, Moscow, June, 1955, pp. 87-104.

IVANOV, B.V.

Reports at the 11th Scientific Session of the West Siberian Branch
of the Academy of Sciences of the U.S.S.R. izv.vost.fil.AN SSSR
no.4/5:235-236 '57. (MLRA 10:9)

(Siberia--Research)

IVANOV, B.V.

Twelfth scientific session held to hear reports at the West Siberian
Branch of the Academy of Sciences of the U.S.S.R. Izv. Sib. otd. AN
SSSR no.4:143-144 '58. (MIRA 11:9)
(Siberia, Western--Research)

IVANOV, B.V.

Conference on the development of productive forces of Eastern
Siberia. Izv.Sib.otd. AN SSSR no.9:142-144 '58. (MIRA 11:11)

(Siberia, Eastern--Natural resources)

IVANOV, B.V.; MIGIRENKO, G.S., prof.; MOLETOTOV, I.A.;
OMBYSH-KUZNETSOV, S.O.; SOSKIN, V.L.; LOKSHINA, O.A., tekhn.
red.; VIALYKH, A.M., tekhn. red.

[Science center at Novosibirsk] Novosibirskii nauchnyy tsentr.
Novosibirsk, Izd-vo Sibirskogo otd-niia AN SSSR, 1962. 206 p.
(MIRA 16:7)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye.
(Academgorodok--Academy of Sciences of the U.S.S.R.)

SICHENKO, V.K.; IVANOV, B.V.; POLYAKOV, I.I.; REZNIKOV, A.A.;
DORFMAN, G.A.; IZRAELIT, E.M.; NOTYCH, A.G.; TOPYGIN,
L.A.; CHALYY, G.Ya.; STETSENKO, Ye.Ya.; UDOVICHENKO, L.V.;
FILAPPOV, B.S., nauchn. red.; LERNER, R.Z., nauchn. red.;
GOL'DIN, Ya.A., glav. red.; KULESHOV, M.M., red.; POLOTSK,
S.M., red.

[By-product coke industry] Koksokhimicheskoe proizvodstvo.
Moskva, Metallurgiya, 1965. 167 p. (MIRA 18:7)

1. Tsentral'nyy nauchno-issledovatel'skiy institut in-
formatsii i tekhniko-ekonomicheskikh issledovaniy chernoy
metallurgii. 2. Direktor Tsentral'nogo nauchno-issledova-
tel'skogo instituta informatsii i tekhniko-ekonomicheskikh
issledovaniy chernoy metallurgii. (for Kuleshov).

IVANOV, B.V.

Secure good maintenance of animals in winter. Veterinariia 41
no.2:5-7 F '65. (ISSA 18:3)

1. Glavnyy veterinarnyy vrach Binskogo proizvodstvennogo uprav-
leniya Krasnodarskogo kraia.

KLYACHKO, B.I., kand. tekhn. nauk; SERGEYEVA, N.D., inzh.; PERMYAKOV, B.A.,
inzh.; IVANOV, B.V., inzh.

Corrosion of low-temperature heating surfaces of boilers operating
on mazut with high sulfur content. Teploenergetika 10 no.8:33-38
Ag '63. (MIRA 16:8)

1. Vsesoyuznyy teplotekhnicheskii institut.
(Boilers--Corrosion)

SHVAYGER, M.I.; IVANOV, B.V.

Determination of sodium 2-ethyl hexyl sulfate in alkaline solutions.
Zav. lab. 30 no.9:1070-1071 '64. (MIRA 18:3)

1. Magnitogorskiy metallurgicheskiy kombinat.

IVANOV, B.V.; FEDOROV, M.V.

Eruption of the Karymskiy Volcano in 1962. Biul. vulk. sta.
no.36:3-16 '64. (MIRA 17:9)

GAKHOKIDZE, Akakiy Melitonovich; IVANOV, Boris Vladimirovich

[Organic and biological chemistry] [Organicheskaiia i
biologicheskaiia khimiia. Tbilisi, Ganatleba] 1965. 458 p.
[In Georgian] (MIRA 18:7)

IVANOV, B. Ya

Shoe Industry

"Sewing shoes." B. Ya. Ivanov. Reviewed by A. A. Arsenyev, V. S. Novikov, Leg. prom.,
LR, No. 6, 1952.

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

(Reviewed)
IVANOV, B.Ya., inzhener; AFANAS'YEV, A., kandidat tekhnicheskikh nauk.

"Standardizing the consumption of basic materials." M.L.Shustorovich,
P.S.Zaitseva. Reviewed by B.IA.Ivanov, A.Afanas'ev. Leg.prom.14 no.3:
50-54 Mr '54. (MLRA 7:5)
(Shoe industry) (Shustorovich, M.L.) (Zaitseva, P.S.)

IVANOV, B.Ya.

Organizing production in a cutting shop. Leg.prom. 14 no.7:15-16
Jl '54. (MLRA 7:7)

1. Direktor obuvnoy fabriki No. 4 Moskovskogo gorodskogo
upravleniya.
(Shoe industry)

IVANOV, B., inzhener.

On the complexity of shoe models. Leg.prom. 14 no.11:51-52 N '54.
(Boots and shoes) (MLRA 7:12)

IVANOV, BORIS YAKOVLEVICH

OSTROVITYANOV, Emiliy Mikhaylovich; IVANOV, Boris Yakovlevich;
AFANAS'YEV, A.A., retsenzent; ZASLAVSKIY, M.A., retsenzent; SHVETSOVA,
T.P., retsenzent; TSVAYGENBAUM, B.M., retsenzent; MELIKSET'YAN, M.A.,
retsenzent; MINAYEVA, T.M., redaktor; POPOVA, T.G., tekhnicheskiy
redaktor

[Technology of footwear; assembling uppers, molding, sewing and
finishing processes] Tekhnologiya obuvi; sborka zagotovok,
formovochnye, poshivochnye i otdelochnye protsessy. Moskva, Gos.
nauchno-tekhn. izd-vo M-va legkoi promyshl. SSSR, 1956. 391 p.
(MLBA 10:5)

(Shoe industry)

SHVARTS, A.; IVANOV, B.

"Investigating materials used in making shoes" by M.G.Liubich.
Reviewed by A.Shvarts, B.Ivanov. Kozh.-obuv.prom. no.4:36-38
Ap '59. (MIRA 12:7)
(Boots and shoes--Testing)
(Liubich, M.G.)

S/125/60/000/06/03/007

AUTHORS: Astaf'yev, A.S., and Ivanov, B.Ye.TITLE: Welding Cast Nichrome Alloy X20H80T (Kh20N80T) of 25 mm ThicknessPERIODICAL: Avtomaticheskaya svarka, 1960,¹³ No. 6, pp 48 - 54

TEXT: The "Kh20N80T" (or ЭИ 435 [EI435]) is scaleproof, one of the alloys extensively used as cold-roller sheet or thin-walled castings for minor stresses. It is weldable by different methods [Ref. 1-3]. For 25-mm thick castings automatic welding is recommended with ЭИ 437A (EI437A) welding rods in combination with oxygen-free "АНФ-5" (ANF-5) flux, but in construction assembly welding with flux is difficult. This article gives the results of experiments carried out to develop special electrodes for use without flux, i.e. for manual arc welding. The information includes the chemical composition of all materials experimented with: the base metal, electrode rods, wire coatings. As the result, electrodes from "ЭИ 868" (EI868) (also named "ВХ-98" [Vzh98]) with ЦЧМ-3 (TsChM-3) coating are recommended for electric arc welding of 25 mm thick EI435. Welding rods from EI435 are not recommended for use, they caused hot cracking; "ЭИ 873" (EI873) and "ЭИ 437Б" (EI437B) rods with basic coating did not provide stable mechanical

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Welding Cast Nichrome Alloy X20H80T (Kh20N80T) of 25 mm Thickness

strength of welds in assembly. Besides, their content of aluminum and titanium necessitated development of special coatings, as the conventional basic coating gave a slag crust, which was not easily removable. The composition of the "Kh20N80T", the rods recommended and the coating are given in tables (Tables 1 and 2). There are 6 tables, 4 figures and 7 Soviet references.

ASSOCIATION: TsNIICHYERMET im.I.P.Bardina (TsNIICHYERMET imeni I.P.Bardin)

SUBMITTED: December 31, 1959

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8057a

S/153/60/003/02/22/034
B011/B006

5.1310

AUTHORS:

Ivanov, B. Ye., Khudyakov, V. L.

TITLE:

The Influence of the Preparation of Aluminum Surfaces for Cathodic Polarization in the Electrodeposition of Chromium

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Khimiya i khimicheskaya tekhnologiya, 1960, Vol. 3, No. 2, pp. 330-334

TEXT: The authors investigated the cathodic polarization in the electro-deposition of chromium on aluminum as a function of various methods of pretreatment. The investigation was carried out according to the methods by A. I. Levin and A. I. Falichev (Ref. 11). A solution of $2M CrO_3 + 0.04 N H_2SO_4$ was used as electrolyte. The anode was made of platinum, and the cathode was composed of aluminum (99.9% Al). The aluminum specimens were washed with CCl_4 and alcohol to remove grease, and etched in a solution of alkali. Tests were carried out using a somewhat modified cell by Krasovskiy (Ref. 13). Before taking polarization curves, the specimens

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The Influence of the Preparation of Aluminum Surfaces for Cathodic Polarization in the Electrodeposition of Chromium

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1967
were treated in the following order: 1) etching in 5% HCl, 2) etching in a solution of 20 ml/l H_3PO_4 + 20 g/l NaH_2PO_4 , 3) etching in an HF solution, 4) passivating in HNO_3 (sp. gr. 1.4), 5) anodizing in 20% H_3PO_4 at $D_a = 1.3$ a/dm² for 10 min, 6) anodizing in 20% H_2SO_4 at $D_a = 1.3$ a/dm² for 10 min, 7) anodizing in 3% oxalic acid at $D_a = 1.3$ a/dm² for 10 min, and 8) anodizing in the first-mentioned electrolyte at $D_a = 1.3$ a/dm² at 20°C and 45°C for 10 min. Potential-time curves were plotted to explain the behavior of the deposited film in the electrolyte. After serving as cathode at current densities of 10^{-5} , 10^{-4} , 10^{-3} , 10^{-2} a/cm² and 0.1 a/cm², the specimens were microphotographed. Curves thus obtained for chemically treated surfaces and for aluminum specimens oxidized in the chromium electrolyte are shown in Figs. 1 and 2. The potentials of specimens etched in dilute HCl and passivated in HNO_3 and H_2SO_4 change considerably during the first minutes after immersion in the electrolyte, but finally attain approximate-

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The Influence of the Preparation
of Aluminum Surfaces for Cathodic Polar-
ization in the Electrodeposition of Chromium

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ly the same values. This is obviously due to the destruction of the initial adsorption- and oxide films and the formation of chromate oxide films. Curves obtained for aluminum specimens pretreated in the aforementioned manner shown in Fig. 3. The authors did not obtain reproducible data for acid-etched specimens. For different acids, the potentials of chromium deposition on these specimens have the same values and lie in the interval from 0.82 v to 0.84 v (measured with respect to the normal hydrogen electrode). The potentials of chromium deposition on anodized specimens range from 0.9 v to 1.0 v, the most negative value pertaining to specimens anodized in H_3PO_4 . From these findings the authors draw the conclusion that the mode of pretreatment has a strong influence on the shape of the polarization curve. Polarization curves of anodized aluminum have only one branch instead of three branches (Ref. 15). By microphotographic investigation of chromium-plated specimen surfaces, the authors found that the deposits are uniformly distributed over the surface of passivated specimens whereas they are deposited groupwise in the pores of the films on anodized specimens. There are 5 figures and 17 references, 12 of which are Soviet.

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X

The Influence of the Preparation of
Aluminum Surfaces for Cathodic Polarization
in the Electrodeposition of Chromium

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ASSOCIATION: Izhevskiy mekhanicheskiy institut; Kafedra: obshchey khimii
(Izhevsk Institute of Mechanics, Chair of General Chemistry)

SUBMITTED: July 14, 1958

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5.1310

77643
SOV/80-33-2-18/52

AUTHORS: Bogoyavlenskiy, A. F., Ivanov, B. Ye., Khudyakov,
V. L.

TITLE: Chromium Plating of Aluminum by Superposing
Alternating and Direct Currents

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 2,
pp 368-372 (USSR)

ABSTRACT: The authors studied: rectifying effect of the cell
with standard chromium electrolyte and aluminum
cathode; polarization of aluminum cathode in
the chromium electrolyte upon superposing of
alternating current; effect of alternating current
upon the yield; its microrigidity and strength
of its adherence to the base. Figure 2 shows that
the rectifying effect of the chromium electrolyte
(250 g/l CrO_3 and 2.5 g/l H_2SO_4 measured at 50° for
various current densities) in the cell with an
aluminum anode and lead cathode is inversely

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proportional to the current density.

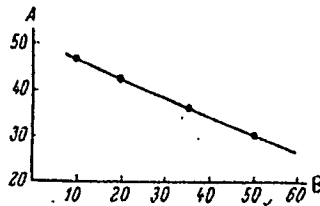


Fig. 2. Rectifying effect of the cell with the chromium electrolyte. (A) degree of current rectification (in %); (B) current density (in amp/dm²).

Black, porous film, forming on the surface of the aluminum electrode at low current densities changes into light, well adhering film with increasing current density. After the current density reaches

70 amp/dm² the aluminum electrode becomes a cathode and the rectifying effect disappears. The assembly used to obtain data for construction of

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polarization curves in electrolysis with superposed currents is shown in Fig. 1.

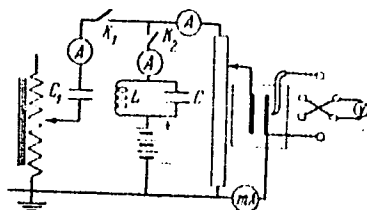


Fig. 1. Diagram for polarization and current density measurements with superposed alternating and direct currents.

Direct current was supplied by a storage battery through a rheostat; the 50 cycle alternating current passed through a potentiometer which also served as a mixer. Capacitor $C_1 = 160 \mu f$ was

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connected into the circuit of alternating current. Oscillation circuit LC was tuned for 50 cycles. Use of this assembly allowed one to vary the ratio of alternating direct current densities and to keep them constant during the taking of polarization curves. Platinum anode and aluminum cathode of composition Al, 99.894%; Si, 0.065%; Fe, 0.041%, were used. Figure 3 shows the polarization curves obtained for various ratios of alternating-direct current densities. The shape of the polarization curves led to the following explanation of the process: at an electrode potential below 0.8 v, the action of alternating current prevails, causing formation of an oxide coating on the surface of aluminum, i.e., the aluminum electrode becomes an anode, and the current density remains constant. Above 0.8 v the electrode becomes a cathode and chromium plating begins. The yield of chromium

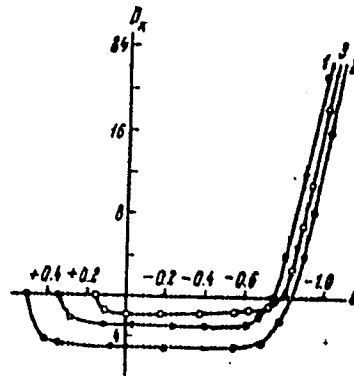
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based on current depends upon the $\frac{D_{\sim}}{D_{\sim}}$ ratio and

Chromium Plating of Aluminum by Superposing Alternating and Direct Currents

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Fig. 3. Polarization curves obtained in superposition of alternating and direct currents. The samples were pickled in 5% solution of HCl. D_K is cathodic current density (in amp/dm²), ξ is potential (in v). Ratio of densities of direct alternating currents $\frac{D}{D_{\sim}}$ equals 1 - 3; 2 - 2; 3 - 1.



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the absolute densities of the alternating and direct currents. Chromium plating starts only at a $\frac{D-}{D\sim}$ ratio of 2, with the yields equal to 11% at 10 amp/dm² and 10.7% at 20 amp/dm² (for $\frac{D-}{D\sim} = 3$, the yields were 10.8% at 10 amp/dm², 12.1% at 35 amp/dm² and 10.2% at 70 amp/dm²). Measurements of adherence of chromium deposits obtained in electrolysis with superposed current on the aluminum cathode pickled in 5% HCl (after preliminary degreasing it in 10% NaOH) gave poor results. Samples pickled in a mixture of 2% H₃PO₄ and HF solutions had higher (and reproducible) adherence strength up to 50 amp/dm². There are 3 figures; and 5 references, 2 Soviet, 1 U.K., 2 U.S. The U.S. and U.K. references are: Bunce, Bernard E., Electroplat. and Metal Spraying, 6, 317 (1953); Bunce, Bernard E., Metal Finish., 52, 70 (1954);

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Chromium Plating of Aluminum by
Superposing Alternating and
Direct Currents

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ASSOCIATION: Passal, Frank, U.S. Patent 2662054, 8, 12
(1953).
Izhevsk Mechanical Institute (Izhevskiy mekhanicheskii institut)

SUBMITTED: February 9, 1959

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NAKHODKIN, G.A.; TREFILOVA, G.V.; IVANOV, B.Ye.

Preparation of adhesives from settled gas producer tar. Gidroliz.
1 lesokhim.prom. 14 no.3:16-18 '61. (MIRA 14:4)

1. Izhevskiy metallurgicheskiy zavod (for Nakhodkin and Trefilova).
2. Izhevskiy mekhanicheskiy institut (for Ivanov).
(Adhesives) (Wood tar)

L 39717-6F

IVANOV, B.E.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Organic Chemistry

Addition of dialkyl phosphites and their chlorides to oxo-
oxides. A. N. Pudovik and H. B. Ivanov. *Bull. acad.
sci. U.S.S.R., Chem. sci. chim.* 1952, 837-42 (Engl. transla-
tion). See C.A. 47, 10464b. H. L. H.

PUDOVIK, A.N.; IVANOV, B.Ye.

Addition of dialkyl phosphites and their chlorides to α -oxides. Izvest.
Akad. Nauk S.S.S.R., Otdel. Khim. Nauk '52, 947-55. (MLRA 5:11)
(CA 47 no.20:10464 '53)

1. Kazan State Univ.

IVANOV, B. Ye.

PUDOVIK, A. H.; IVANOV, B. Ye.

Hypochlorination and oxidation of piperylene. Dokl. AN SSSR 103
no. 3:443-444 J1'55. (MLRA 8:11)

1. Kazanskiy gosudarstvennyy universitet imeni V. I. Ul'yanova-Lenina.
Predstavleno akademikom B. A. Arbuzovym
(Piperylene)

Handwritten: 1. Katedra sinteticheskogo kauchuka

PUDOVIK, A.N.; IVANOV, B.Ye.

Addition of ethyl alcohol to isoprene oxide. Uch.zap.Kaz.un. 116
no.1:141-144 '55. (MLRA 10:5)

1.Kafedra sinteticheskogo kauchuka.
(Isoprene) (Rubber, Synthetic) (Ethyl alcohol)

IVANOV, B. YE.

IVANOV, B. YE. "The Synthesis and Reaction of Alpha Oxides of Piperylene."
Kazan' Order of Labor Red Banner State U imeni V. I.
Ul'yanov Lenin. Kazan', 1956. (Dissertation for Degree
of Candidate in Chemical Science)

So: Knizhnaya Letopis', No. 17, 1956.

"APPROVED FOR RELEASE: 08/10/2001

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IVANOV, B.Ye.; VALITOVA, L.A.

Synthesis of substituted benzylphosphinic acids. Izv. AN SSSR.
Otd.khim.nauk no.6:1049-1052 Je '63. (MIRA 16:7)

1. Institut organicheskoy khimii AN SSSR, Kazan'.
(Phosphinic acid) (Rearrangements (Chemistry))

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formed together with salts of dimethylolphosphinic acid at a 90-93% yield.
The aniline salt of the monoacetate of dimethylolphosphinic acid has melting
point of 109-144° and that of the diacetate of dimethylolphosphinic acid --

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IVANOV, B. Ye.; VALITOVA, L.A.

Reactions of diethylphosphorous acid, formaldehyde and phenol.
Zhur. prikl. khim. 37 no.11:2500-2504 N '64 (MIRA 18:1)

IVANOV, B.Ye., starshly leytenant

Calculation of a mean quadratic error by means of a slide rule.
Mor. sbor. 48 no.10:72--73 0 '65. (MIRA 18:9)

I 43853-66 EWP(j) JW/RM

ACC NR: AP6032571

SOURCE CODE: BU/0011/65/018/012/1119/1122

AUTHOR: Ivanov, Ch.; Mladenova-Orlinova, L.ORG: Department of Organic Chemistry, Chemical Technological Institute, Sofia

TITLE: Reduction of 4-phenyl-3-hydroxy-1,2-benz- and dibenzfluorenone 1 B

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 18, no. 12, 1965, 1119-1122

TOPIC TAGS: fluorinated organic compound, chemical reduction, dehydration, isomer, reaction mechanism

ABSTRACT: The author showed in earlier papers that 1) the dehydration of the 1,3-diphenyl-2-(2'-naphthyl)-2-hydroxyglutaric acid with concentrated sulfuric acid generates the isomers A and B of the 4-phenyl-3-hydroxydibenzfluorenone (DAN SSSR, 159, 1964, 131) and 2) the A and B isomers are the 4-phenyl-3-hydroxy-1,2,6,7-dibenzfluorenone and the 4-phenyl-3-hydroxy-1,2,7,8-dibenzfluorenone, respectively. The present article describes in details a further reduction of these compounds converting the carbonyl group of the five-atom ring into a methylene group while preserving the phenol group at the position 3. The reduction leads alternately to the respective hydroxydibenzfluorenes. This paper was presented by Academician D. Ivanoff on 12 July 1965. Orig. art. has: 2 figures. [Orig. art. in German]

SUB CODE: 07 / SUBM DATE: none / ORIG REF: 002 / SOV REF: 003

OBI REF: 005

Card 1/1 eqh

Cracking of naphthalene. Study of the structure of bicyclic naphthalenes. *Compt. Rend. Acad. Sci. Paris (Ser. B)* 1948, 277, 649-651 (1948) (French summary). When 1-methyl-1,3,5-triphenyl-1,5-cyclohexadiene was cracked 1 hr. at 350° and 1 hr. at 420° in an atm. of CO, 21 gases were obtained: a fraction A (9.5%) dist. under 228° at atm. pressure, a fraction B (11.5%) dist. under 293° at 12 mm. pressure, and a residue which crystd. from AcOH, m. 107-7° (61.3%). Fraction A was further distd. into 8 fractions at 8 mm., and the following compts. were identified through their nitro deriv.: toluene in the fraction a, under 120°; ethylbenzene in the fraction b, 126-28°; isopropylbenzene in the fraction b, 138-40°; and *tert*-butylbenzene in the fraction b, 160-8°. The gases contained 1.9% unstd. compts.; the said compts. had a C:H ratio of 3.4. Fraction B was distd. into 3 fractions at 8-8.5 mm. and 2 fractions at 0.1-0.5 mm.; these fractions were not identified. The residue constituted 1,3,5-triphenylbenzene. G. Mequier

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Organic Chemistry

Research Institute
A. K. ...
with ...
Nikola ...

Dehydration of aryl disubstituted 3-hydroxypropanoic acids. Method of preparation of indones. Dimit' Ivanov and Chavilar Ivanov. *Annaire univ. Sofia, Facult' sci.* 44, Livre 2, 121-42 (1947-1948).—In attempting to prep. α,β -triphenylacrylic acid (I) by dehydration of $\text{Ph}_2\text{C}(\text{OH})\text{CHPhCO}_2\text{H}$ (II) with concd. H_2SO_4 , 2,3-diphenylindone (III) was obtained. Concd. H_2SO_4 has long been used for the prepn. of indones from substituted cinnamic acids. De Fazi has shown that esters of 2-alkyl-3-hydroxypropanoic acids are transformed with concd. H_2SO_4 into indones with very low yields. Also, that the acid, m. 203-8°, obtained in isolating a mitt. of Ph_2CO and $\text{PhCH}_2\text{CO}_2\text{H}$, and considered to be II, gives 95% III with concd. H_2SO_4 . I. (with Spasov) starting with Ph_2CO and $\text{XMeCHPhCO}_2\text{Na}$, obtained an acid, m. 188-7°. These 2 acids are thus different. The 2nd acid, from its synthesis and its alk. cleavage products, must be II, and the first acid must have a totally different structure. As 2,3,3-triphenyl-2-hydroxypropanoic acid (IV) m. 243-5°. It is probable that the acid of Paterno and De Fazi represents impure I, m. 211-13°. By the new method of I. and collaborators, 3-hydroxypropanoic acids are easily prepd. starting directly with chromomethylated aromatic hydrocarbons and ketones. Trials were carried out on the following acids: II, $\text{Ph}_2\text{C}(\text{OH})\text{CH}(m\text{-C}_6\text{H}_4\text{Cl})\text{CO}_2\text{H}$ (V), $\text{Ph}_2\text{C}(\text{OH})\text{CH}(p\text{-iso-PrC}_6\text{H}_4)\text{CO}_2\text{H}$ (VI), and $(p\text{-MeC}_6\text{H}_4)_2\text{C}(\text{OH})\text{CHPhCO}_2\text{H}$ (VII). The yield of the acids is 80-80% but

may be improved by increasing the amt. of ketone by 50-100%. 3,3-Diphenyl-2-(p-isopropylphenyl)-3-hydroxypropanoic acid (VI) is new; it forms colorless crystals m. 185-6° (cor.). The transformation of hydroxypropanoic acids into indones is made by adding 7-10 cc. concd. H_2SO_4 to 1 g. acid, stirring 5 min. (23 min. for V), pouring slowly into cold water with shaking, filtering the indone after some hrs., and purifying by crystn. Since a little acid remains unchanged, in order to simplify the purification of the indone it is better to ext. first with Et_2O , wash the Et_2O soln. well with H_2O (the first washes have a red color), and then ext. the acid with a 2% soln. of NaOH ; the Et_2O thus obtained after evapn. gives almost pure indone. In this way the following indones have been obtained: 91% III; 85.7% 2-(n-chlorophenyl)-3-phenyl (VIII); 85.5% 2-(p-isopropylphenyl)-3-phenyl (IX); 77.5% 2-phenyl-3-(p-tolyl)-6-methyl. VIII and IX are new. VIII forms large orange crystals, m. 115-16° (cor.). 2-(p-Isopropylphenyl)-2-phenylindone forms clear red crystals, m. 103-4° (cor.). Differently substituted indones are obtained by the concd. H_2SO_4 dehydration of aryl-substituted hydroxypropanoic acids, prepd. by this method, which consists of 2 operations: the prepn. of the HO acids (yields 80-90%) and their dehydration to indones (yields 80-90%). The inconvenience which this method presents is the sepn. of the 2 isomeric indones, which are formed from HO acids contg. in the β -position 2 different aryl radicals. Tests have proved that the quantities of the 2 isomers obtained and their properties are very different and that their sepn. is easily realized.

F. S. Boig

Autoxidation of aryl-aryl substituted cyclohexenols. A method for preparing 1,3,5-triarylbenzenes. D. Ivanov, Chavdar Ivanov, and Christo Ivanov (Univ., Sofia, Bulgaria). *Annuaire univ. Sofia, Faculté sci.*, Livre 2, 45, 137-75, French summary, 170-8 (1948-49); *Compt. rend.* 231, 578-80 (1950); cf. *C.A.* 38, 3206^o.--Dypnopinacol (I) (1 g.), prepd. by condensing chalcone (II) with dypnone (III) in the presence of PhNMgBr, gives 0.155 g. BrOH and 0.48 g. 1,3,5-Ph₃C₆H₃ when its soln. in 5 cc. AcOH is satd. with O (70 hrs.). However, when O is passed through I in boiling AcOH or AcOH-HCO₂H, 1,3,5-Ph₃C₆H₃COPh is produced. This difference is explained by assuming a H bond between OH and CO in I, which resists initial-dehydration at room temp. The 1st reaction is used to make triaryl-substituted benzenes in 45-50% yields. The following dypnopinacols were subjected to autoxidation: C₁₇H₁₅O₂ (IV), m. 214-16^o, from CO(CH:CHPh)₂ and III, gave 2,4,6-triphenylchalcone, m. 192-4^o and 200-10^o; C₁₇H₁₅O₂ (V), m. 165-9.5^o, from *p*-methylchalcone and III, gave 1,3-diphenyl-5-*p*-tolylbenzene, m. 123.5-4.5^o; C₁₇H₁₃ClO₂ (VI), m. 168-9^o, from *p*-chlorochalcone and III, gave 1,3-diphenyl-5-(*p*-chlorophenyl)benzene, m. 139-40^o; C₁₇H₁₅O₂ (VII), m. 160-8^o, from *p*-methoxychalcone and III, gave 1,3-diphenyl-5-(*p*-methoxyphenyl)benzene, m. 138-9^o; C₁₇H₁₅O₂, m. 195-6^o, from II and *p,p'*-diphenyldypnone (VIII), m. 172-4^o, did not undergo autoxidation. VIII was obtained in 38% yield by condensing 0.1 mol. *p*-PhC₆H₄-

COME in the presence of 0.05 mol. PhNMgBr. The dypnopinacolones, obtained by heating for 12 hrs. the corresponding I in AcOH and HCO₂H contg. a little hydroquinone, were dehydrogenated with S to the corresponding benzophenones (cf. *C.A.* 39, 2987^o). The following dypnopinacolones were used: C₁₇H₁₅O, m. 128-9^o, from V, gave 2,4-diphenyl-6-*p*-tolylbenzophenone, m. 148-50^o; C₁₇H₁₃ClO, m. 107-8^o, from VI, gave 2,4-diphenyl-6-(*p*-chlorophenyl)benzophenone, m. 157-8^o; C₁₇H₁₅O, m. 97-8^o, from VII, gave 2,4-diphenyl-6-(*p*-methoxyphenyl)benzophenone, m. 166-8^o; C₁₇H₁₅O, m. 120-31^o, from IV, gave 2,4,6-triphenylchalcone. A discussion of the mechanism of the reaction is also included.

G. Meguerian

CA

17

Composition of Bulgarian oil of turpentine from *Pinus silvestris*. D. Ivanov and Chr. Ivanov. *Compt. rend. acad. bulgare sci., Sér. math. et nat.* 2, 41-4 (1949) (in French).—Qual. analysis of a sample from the 1947 crop showed *l*- α -pinene (I), *l*- β -pinene (II), dipentene (III), and *l*-limonene (IV) to be present. Fractionation and optical rotation were used to analyze the sample, and I 04, II 27, III and IV 6, and residue 3% were found. The sample was similar to Bordeaux oil of turpentine from *Pinus maritima*. K. G. Stone

CA

10

The structure of dehydroluteo- and dehydrodypnocolones. A new case of retro-pinacolic transposition by dehydrogenation. Dimitre Ivanov, Chavlas, Ivanov, and Bolea Stojanova-Ivanova. *Compt. rend.* 231, 637 (1950).

--Dehydroisodypnocolone (I) is postulated as 4,2,3,6-MePh₂CaHCOPh and dehydroluteodypnocolone (II) as the 2,3,4,6-isomer, based on the following degradations: 2.121 g. II and 4 times its wt. of KOH are heated 3 hrs. at 275-300° in a Ag crucible with stirring on a salt bath and the fused mass treated with H₂O, acidified with H₂SO₄, and extd. with ether. The BrOH is isolated by treatment with NaHCO₃ and purified by sublimation. A small quantity of a yellow substance is removed from the neutral product from the ether soln. by treatment with EtOH and recrystd. from Me₂CO, m. 249-51°. A brown resinous material is isolated from the mother liquor, distd. at 2 mm., and recrystd. from EtOH, to give colorless 2,3,5-Ph₂CaH₂Me (III), m. 94°. The same procedure, except for a fusion temp. of 290-310°, with I gives BrOH and III. A portion of I is lost through sublimation. The structure of the dehydrodypnocolones has been further demonstrated by a Friedel-Crafts reaction: 4.88 g. III, 43 g. CS₂, 2.5 g. AlCl₃, and 2.31 g. BrCl yield 3 g. II, m. 189-90°. No I is found, probably because of the steric hindrance of the 2 Ph groups. John W. Wilson, Jr.

V. Methods for determination of rose oil in rose flowers. D.
M. Ivanov, Chr. Ivanov, and H. Ognyanov. *Annuaire univ.
Sci. 48, Fac. sci. phys. et math., Livre 3, Pt. 1, 15-24(1953)*
D. 54 (French summary); cf. *C.A.* 49, 5782f. --A distn. app.
for the quant. extrn. of oil from small samples (100-200 g.)
of rose flowers. The oil is extracted with a suitable solvent,
the solvent is evaporated, and the amt. of oil
dissolved in water is detd. from the surface tension of the
soln. G. Meguerian

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IVANOV, Chr.

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^D ^V Determination of rose oil content of distillation waters by the Rosenthaler reaction and by the surface tension method to the end of distillation. D. Ivanov, Chr. Ivanov, N. Marceov, and H. Ognyanov. *Annuaire Inst. Sup. 48, Fac. sci. phys. et math., Livre 1, Pt. 1, 37-53(1953/54)* (French summary); cf. C.A. 49, 5782g.—The accuracy of detg. the completion of distillative extrn. of oil by both surface tension and the Rosenthaler methods was the same. The last fraction of distillate contained 0.002% oil. However, the surface tension method was quant. and allowed the detn. of oil content of distillate fractions. To make the Rosenthaler method quant., a colorimetric scale of 8 samples was prepd. by mixing various vols. of 0.2% $K_2Cr_2O_7$ soln., 0.01% $KMnO_4$ soln., and H_2O ; max. concn. of oil detd. by this scale was 0.012%. By the old method the extrn. was stopped when a fraction (25 ml) of distillate contained 0.01% oil; in this way about 18.4% less oil was extrd.

G. Mergueckan

③

Indones. III. 2,3-Diphenylindone-trisulfonic acid. J.
Lamy, Ch. Lamy, and B. Stolpman. *Compt. Rend. Acad. Sci. Paris* (Ser. B) 273 (1971) 1045-1047 (in French), cf. C.A. 44, 1345. --The 1-hr. reaction between 2,3-diphenyl indone with a 5:1 mixt. of fuming and concd. H₂SO₄ results in a trisulfonic acid, the 2,3-bis(p-sulfophenyl)-1-sulfindone, yellow crystals, m. 195-7° (uncr.) and a dark substance used to dye wool fibers golden yellow.
Gerard Aufleger

MA
CMA

L. Ivanov, L. N.

Composition of the stereoptene of Bulgaria Nos. 841,
 D. Ivanov, Ch. Ivanov, and R. Stoyanova-Lengova (1947)
 (Bul. Chem. Acad. Sci., 20: 32 (1947))

... 4% in 70-96
 ... 30 g. stereoptene
 ... A small portion of I put on a porous
 ... 30-5°. Oxygenated products
 ... removed from I by filtration through alumina. Tan
 ... dissolved in petr. ether was filtered through a column
 of 100 g. alum. packed with alumina to a height of 20 cm.
 Two fractions were obtained: (1) 7.8 g. cryst. mass at room
 temp. at 20-25° a liquid which solidified in H₂O; 1.862 g. of
 the color. part was chromatographed in a column 40 cm.
 long and 15 mm. in diam. contg. 60 g. alumina. The
 chromatogram was developed with 8 fractions of 25 cc.
 each of petr. ether, one of petr. ether plus benzene, one of
 benzene, one of benzene plus EtOH, and one of EtOH.
 The residue of the 2nd and 3rd fraction was again chro-
 matographed under the same conditions. The distillate was
 very shiny, 2.460 g. giving 0.90 g. in 34.5-4.5. This
 product was crystal. masses from EtOH and m. 37-8°
 n_D 1.390

2 may

2 *Not given*

IVANOV, Chavdar

BULG

~~1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 841. 842. 843. 844. 845. 846. 847. 848. 849. 850. 851. 852. 853. 854. 855. 856. 857. 858. 859. 860. 861. 862. 863. 864. 865. 866. 867. 868. 869. 870. 871. 872. 873. 874. 875. 876. 877. 878. 879. 880. 881. 882. 883. 884. 885. 886. 887. 888. 889. 890. 891. 892. 893. 894. 895. 896. 897. 898. 899. 900. 901. 902. 903. 904. 905. 906. 907. 908. 909. 910. 911. 912. 913. 914. 915. 916. 917. 918. 919. 920. 921. 922. 923. 924. 925. 926. 927. 928. 929. 930. 931. 932. 933. 934. 935. 936. 937. 938. 939. 940. 941. 942. 943. 944. 945. 946. 947. 948. 949. 950. 951. 952. 953. 954. 955. 956. 957. 958. 959. 960. 961. 962. 963. 964. 965. 966. 967. 968. 969. 970. 971. 972. 973. 974. 975. 976. 977. 978. 979. 980. 981. 982. 983. 984. 985. 986. 987. 988. 989. 990. 991. 992. 993. 994. 995. 996. 997. 998. 999. 1000.~~

Structure of derivatives obtained by Raney nickel hydrogenation of dypnopinacols. I. Hydrogenation of dypnopinacol and dypnopinacolone. D. Ivanov, Chr. Ivanov, Tzy. Boutchev, and G. Ivanov. *Chem. Zvezd. Bulgare sci.* 6, No. 3, 33-6 (1953) (Pub. 1954) (in French); *Chim. Ind. (Milan)* 36, 2283 (1954). Dypnopinacol (I) hydrogenated in C_6H_6 gives 2 products: one (III), m. 185-7°, in benzene, and a 2nd, considered to be the hydrogenated III, m. 119-21°, in benzene. Hydrogenation of III with Raney Ni in C_6H_6 gives IV, showing the maintenance of the 1,2-integration and the inactivity of the C=O group. Analysis and the Hequiv. of III indicate the 1-methyl-1,3,5-triphenyl-2-benzoyl-2-cyclohexene V structure. Heating V with alc. KOH gives III with AcOH but 40% of 1,3,5-triphenyl-2-benzoyl-2-cyclohexene reduction product (VI), m. 139-41°, isomeric with hydroindoterpinoquinolones (VII). Dehydrogenation of VI yields IV, whose mixed m.p. with VII also confirms its structure as 1-methyl-1,3,5-triphenyl-2-benzoyl-2-cyclohexene. Heating V with alc. KOH gives a mixt. of $C_{18}H_{15}$ isomers m. 150°, for which a mechanism is considered. 2-Methyl-2,4,6-triphenyl-2,3-dihydrobenzophenone (VIII), hydrogenated in C_6H_6 or iso- C_4H_9OH gives 2 products: (IX), m. 119-21°, and (X), m. 185-7°. IX seems to be completely hydrogenated and the structure 1-methyl-1,3,5-triphenyl-2-benzoylcyclohexane is proposed.

X seems to be identical with II and the structure 1-methyl-1,3,5-triphenyl-2-benzoyl-2-cyclohexene is proposed. Hydrogenation of VIII with Zn and AcOH gives a product identical with VI. Attempts to debenzoylate II, VI, and IX with alc. KOH yielded an isomerization product, m. 173-5°, whose double bond is suggested as being at the 4- or 5-position. II Hydrogenation of dypnopinacolone (Pub. 37-40) with Raney Ni yielded 2 products: one (II), m. 143-5° (from EtOH). Hydrogenation of I in iso- C_4H_9OH with a H-atom catalyst gave a resinous product, m. 143-5° after 2 crystals from EtOH. On isopyridrogenation with S II gave 2,4,6-triphenyl-2,3-dihydrobenzophenone (X), m. 167-8° from EtOH. With alc. KOH II yielded 1,3,5-triphenyl-2-benzoylcyclohexane (X) from EtOH.

(3)

Condensation of aromatic aldehydes with 3-methyl-2-butenone. Chaydar Lyunny (Stalin State Polytech Inst., Sofia). *Comp. rend. acad. bulgare sci.* 4, 31-4 (Feb. 1954) (in French). --By treating aromatic aldehyde (0.01 mole) with 3-methyl-2-butenone (0.01 mole) in 20 ml MeOH, adding 5 ml of 20% KOH in MeOH, heating 5-10 hrs. at 90°, there is obtained after cooling a dark brown oil which, after the MeOH is distd. off, is washed with H₂O and recrystd. from EtOH. There were prepared 7 new condensation products (5% yield in parentheses): *PhCH=CHCOCH₂Me* (4) (37.7), lemon yellow, m. 123-6°; *PhCH=CHCOCH₂Me-p* (62.1), slightly darker than 1, m. 116-7°; *p-ClC₆H₄CH=CHCOCH₂Me* (5.8) pale yellow, m. 162-3°; *p-ClC₆H₄CH=CHCOCH₂Me-p* (46.2), dichromate color, m. 84.5°; *p-MeC₆H₄CH=CHCOCH₂Me* (74.3) lemon yellow, m. 112-13°; *C₆H₅OCH=CHCOCH₂Me* (71.8) orange yellow, m. 94.4°; *C₆H₅OCH=CHCOCH₂Me-p* (67.1), yellow-orange, m. 111.5-82°.

MS-Gen

Gerard Antegen

The action of concentrated sulfuric acid upon triaryl-substituted 3-hydroxypropionic acids. *Chimber, I. et al.*
Bull. inst. chim. acad. bulgare sci. 2, 123-38 (1953) ~~Chem. Abstr.~~
acid bulgare sci. 6, No. 1, 21 (1953) (in French); cf. *C.A.*
44, 2090d. A series of exper. were run to det. the effect of H_2SO_4 concn., temp., and duration of reaction upon the yield of 2,3-diphenylindole (I) by dehydration of 3-hydroxy-2,3,3-triphenylpropionic acid. The results show that: (1) increasing the H_2O content of 28.5% H_2SO_4 decreases the yield of I and its sulfonic acid deriv. (II); (2) increasing the temp. from 0° to 30° increases the yield of I (max. at 20°) and II; and (3) the longer the duration of the reaction the greater is the yield of I and II, but prolonged reaction gives also trisulfonic acid which is not pptd. by NaCl. G. Mequierian I

MS

... to their distillation for
... and Chr. Ivanov.
... No. 1, 13-18 (1953)
... of Bulgarian origin, handed 4-5
... maintained their entire quantity of rose
oil when preserved in a 20% NaCl soln. J. Colacci

G E R M .

✓ Application of the Rosenthaler reaction to determine the end of the distillation in rose-oil production. D. Ivanov, Chr. Ivanov, N. Marecov, and H. Ognyanov. *Compt. Rend. Acad. Bulg. Sci.*, No. 3, 21-24 (1963) (Pub. 1654) (in French).—A color scale, based on the Rosenthaler color reaction (I) for alc., was reproduced by the addn. in varying ratios of a 0.01% $KMnO_4$ soln. (II) and H_2O to one vol. 0.2% $K_2Cr_2O_7$ soln. (III). It was then used for verifying the end of the steam distn. of roses. This was found to be when the concn. of the oils in the distn. waters was 0.004%. This amt. gave a coloration equiv. to a mixt. of 2 II, 0.5 water, and 1 vol. III. It was found to be a more exact test than the common methods of taste and watch-glass observation.

Joseph Colucci

3

BULG.

✓ A new analytical method for the determination of the essential oil of roses. D. Ivanov, Chr. Ivanov, and B. Ogunyanov. *Compt. rend. acad. bulg. sci.* 3, 25-8 (1963) (Pub. 1964) (in French).—The method involves the measure of the surface tension of the distn. waters.
Joseph Celucci

Antitubercular compounds of the biphenyl series. Alkyl ethers of 4-amino-4'-hydroxybiphenyl. Ch. Lyagzy and I. M. Panalotov (Inst. Chem., School, Mezhdurg., Sofia, Bulgaria). *Doklady Akad. Nauk S.S.S.R.* 63, 1041-3 (1953). To 0.6 g KOH in 4 ml 70% EtOH was added 2.27 g 4-acetamido-4'-hydroxybiphenyl, followed by 0.65 ml MeI; after 7 days at room temp. there was obtained 0.6% 4-acetamido-4'-methoxybiphenyl, m. 233-9° (from aq. EtOH). Similarly were obtained: EtO analog, m. 130-16.5°; PrO analog, m. 201.5-7.0°; BuO analog, m. 103.5-24°; ArO analog, m. 190.5-1.0°; C₆H₅O analog, m. 131.5-2.0°. Hydrolysis by refluxing with alc. KOH 6 hrs. gave the *p*-H₂NC₆H₄C₆H₄OH (*R* shown): Me, m. 146.5-7°; Et, m. 131.5-4.0°; Pr, m. 99-9.3°; Bu, m. 69.5-4.0°; Am, m. 69-90.5°; C₆H₅, m. 88.5-9.0°. Treatment of the MeO deriv. with Na formaldehydesulfonate gave the corresponding 4-amino-4'-methoxybiphenyl Na sulfonate, C₁₂H₁₁N₂O₂SNa, which begins to melt at 160° and is molten at 244°; the Bu analog, m. 230-60°. Both were poorly sol. in H₂O and suffer decompn. on attempted crystal. from H₂O. The substances are to be tested against tuberculosis.

C. M. K.

Composition of stearoptene from Bulgarian rose oil. CH
II. Saturated hydrocarbons other than eicosane. D. Ivatov, Ch. Ivanov, and B. Stokanova-Ivanova (Univ. Sofia). *Compt. rend. acad. bulgare sci.* 7, No. 1, 17-20 (1954) (in French); cf. C.A. 48, 12373p. The hydrocarbon fraction (I) (78.8%), obtained by passing stearoptene through alumina, is crystd. from EtOH, giving eicosane (II), m. 36° (62.1% of I). The mother liquors from II fractionally distd. at 0.7-0.8 mm., treated with Br in CCl₄ to remove unratd. hydrocarbons present in I, redistd. twice at 0.4-0.5 mm., and the fractions crystd. from EtOH give heptadecane (III), m. 22.5-3.5°, b_m 301.1°, monadecane (IV), m. 32.5-2.8°, b_m 328.5°, hendecane (V), m. 40-1°, b_m 363.9°, and a fraction, m. 13-15°, b_m 276.4°, probably pentadecane (VI) contaminated with hexadecane (VII). No octadecane (VIII) is isolated. Detg. the b.ps. of II and VII and graphic inter- and extrapolation gives the following values (compd. and b.p./0.4 mm. given): VI, 81°; VII, 68°; III, 93°; VIII, 102°; IV, 108°; II, 114°; V, 120°. A. W. S.

IVANOV, CH. P.

BULGARIA/Organic Chemistry. Synthetic Organic Chemistry.

G-2

Abs Jour: Ref. Zhur.-Khimiya, No II, 1958, 36177.

Author : ~~Ivanov, Ch. P.~~ and Fabrikant. AM

Inst : Not given.

Title : Synthesis of Sulphonylamides and of Gomosulphonylamides
with Furonic Structure of the Amide Radicals.Orig Pub: Godishnic Khim. tekhol. Institutz. 1954,⁷ I, 21-24.

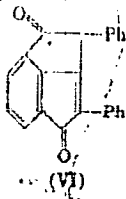
Abstract: Through the condensation reaction of 5-Bromide-2-Fur-
furylamine with n-acetylsulphonylchloride in acetone and
in the presence of NaHCO₃, n-CH₃CONHC₆H₄SO₂NHCH₂. $\overset{\text{C}}{\text{C}}=\text{CHCH}=\text{CBrO}$
CBrO was synthesized. Its melting point was 135-136°. When hydrolyzed with the solution of NaOH a compound
n-H₂NC₆H₄SO₂NHCH₂ $\overset{\text{C}}{\text{C}}=\text{CHCH}=\text{CBrO}$ of 149.5-150.5° melting
point was isolated from water solution. When n-Acetyl-

Card : 1/2

Dehydration of 1,2,3-triaryl-2-hydroxyglutaric acids.
 A method for the synthesis of 1-aryl-3-hydroxy-1-benzofluorenes. Ch. Ivanov (Inst. chim. technol., Sofia). *Compt. rend. acad. bulgaresc. Sci.*, No. 1, 29-32 (1951) (in French). --H₂SO₄ dehydration of HO₂CCH(Ph)C(Ar)(OH)CH(Ph)CO₂H (I) (Ar = Ph or substituted Ph; cf. D. Ivanov and N. Nicolov, *C.A.* 27, 1330) gives, not the anticipated α -2-diphenyl-1-oxo-3-indenone acids, but 5-hydroxy-6-phenyl-11-chrysofluorenes (II). Diln. with H₂O of a H₂SO₄ soln. of I (Ar = Ph) gives a red-orange ppt. of II (parent compd.) (III), m. 255-57.0° from alc. The filtrate with NaCl gives a ppt. which from alc. gives yellow 3-sodium sulfonate deriv. of III (IV), m. 302-3°. Anhyd. IV (orange) is hygroscopic. H₂O is a by-product of the reaction. Aq. IV at pH 4.4 is yellow-orange and at 6.3 is red-violet. With I (Ar = 2-BrC₆H₄), 9-bromo deriv. of II (V), m. 253-55.0°, is formed. The 3-sodium sulfonate deriv. of V, m. 312-314° (colorless, m. 570-572°) and ppt. H₂O is also obtained. V with Cl₂/H₂O gives the yellow-orange 6-chloro-11-oxo-3-indenone (28.0%). The presence of Fe³⁺ changes to VI is obtained when Ar is 2-BrC₆H₄ (31.2%) since *ortho* substitution prohibits the combination. 1-phenyl-

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hydration of VII with H₂SO₄ gives red 7-chloro deriv. (VIII) of II, m. 225.5-7.0°, and orange 3-sodium sulfonate deriv. of VIII, m. 272-6°, both with properties comparable to other II compounds. The halochromic properties of II are discussed and are illustrated by treatment of IV with 4% Na₂CO₃ soln. contg. some alc. to form violet-black crystals of C₂₁H₁₃O₂Na·2H₂O (IX), m. 448-50°, slightly sol. in H₂O. IX, heated in H₂O, decomp. to give IV and NaOH (titrated with HCl). Location of SO₂Na groups of II compds. is speculative.

George L. Sutherland

91 Preparation of α - and β -naphthyl phenyl indanes—desulfonation of indonemerosulfonic acids

188-9° (from alc.); 60.2 mg. with POCl₃ gave 5.4 mg. of an acid, m. 210-20°, and 73.2 mg. neutral material which was used by chromatography into 87 mg. Cl-free noncryst. solid, 9.2 mg. orange crystals, m. 137-14° VI, and 25.0 mg. of a solid, m. 111-112° VI. The solid, m. 111-112° VI, gave a colorless solution in V. The solid, m. 111-112° VI, gave a colorless solution in V. The solid, m. 111-112° VI, gave a colorless solution in V.

II were isolated from a mixture of the two acids. The product, m. 104-105° VI, gave 10.1 mg. product, m. 104-105° VI, presumptive structure, $\text{C}_{10}\text{H}_7\text{CH}_2\text{C}_6\text{H}_4\text{I}$. The β -naphthyl isomer, V, of I m.

MS
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"APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000619020012-0

APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000619020012-0"

IVANOV, Ch.

IVANOV, Ch. POLAROGRAPHIC METHOD FOR DETERMINATION OF SULFUR IN ORGANIC
COMPOUNDS. p. 3. Vol. 3 1955
IZVESTILA. Sofia, Bulgaria

SOURCE: East European Accessions List (EEAL) Vol. 6 No. 4 April 1957

IVANOV, CH.

IVANOV, CH. Preparation of α - and β -naphthylphenylindones, desulfuration
of indone monosulfonic acids. p. 291. Vol. 3, 1955
IZVESTIYA. Sofia, Bulgaria

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957

IVANOV, CH.

IVANOV, CH. Nitration of 2, 3-diaryl- and 2-aryl-3-alkylindones. p. 315.
Vol. 3, 1955 IZVESTIYA. Sofia, Bulgaria

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957

IVANOV, CH.

IVANOV, CH. Condensation of formaldehyde with dypnone. p. 525
Vol. 3, 1955 IZVESTIYA, Sofia, Bulgaria

SOURCE: East European Accessions List (EEAL) Vol. 6, No. 4--April 1957

Chem 3
Composition of saturated hydrocarbons of the wax from Bulgarian roses. D. Ivanov, B. Stefanova-Ivanova, and Ch. Ivanov (Univ. Sofia, Bulgaria). *Compt. rend. acad. Bulgare Sci. S.* No. 2, 33-6 (1955) in French; cf. *C.A.B. 196720A*.—The wax was dissolved in hot alc. and the alc. soln. cooled to 0° to yield a solid, olive-green wax consisting of 39% saponifiable, 61% unsaponifiable matter (the unsaponifiable contained 59% hydrocarbons), and 12.5% free acids. The wax had acid no. 11, sapon. no. 48.5, ester sp. 37.5, I no. (Habi) 24. The satd. hydrocarbons were redistilled, fractionated, and refractionated, the product resulting from each fraction was crystd. several times from abs. alc. and a mixt. of alc.-C₆H₆, subjected to chromatography and again crystd. until the m.p. was constant. The following hydrocarbons were isolated: hentriacontane C₃₁H₆₄, m. 67.0-7.8°; triacontane C₃₀H₆₂, m. 65.6-5.8°; nonacosane C₂₉H₆₀, m. 63.4-3.6°; octacosane C₂₈H₅₈, m. 61.4-1.5°; heptacosane C₂₇H₅₆, m. 59.0-9.1°; pentacosane C₂₅H₅₀, m. 54.3-4.0°; tricosane C₂₃H₄₆, m. 47.6 (47.7°); docosane C₂₂H₄₄, m. 44 (44.4°); eicosane C₂₀H₄₂, m. 37-8°; nonadecane C₁₉H₄₀, m. 32.0°. The mol. wts. of some of the compds. were detd. also.
L. Lampe

USSR/Chemistry

Card 1/1 Pub. 22 - 17/54

Authors : Ivanov, Ch. P., and Panayotov, I. M.

Title : Anti-tubercular biphenyl compounds. Alkyl ethers and hydrazide of 4-amino biphenyl-4'-carboxylic acid

Periodical : Dok. AN SSSR 100/3, 465-468, Jan 21, 1955

Abstract : The synthesis of antitubercular compounds of the biphenyl series is described. Experiments were conducted to determine whether the introduction of the carboxyl and carbalkoxy groups into the 4'-position relative to the amino group in the molecule of 4-aminobiphenyl would in any way affect the antitubercular effect of the compounds. The results obtained are tabulated. Nine references: 1 Bulgarian, 3 Swiss, 1 Italian, 2 German, 1 English and 1 USA (1894-1953). Table.

Institution : The Sofia Chemical Technological and Metallurgical Institute, Sofia, Bulgaria

Presented by : Academician I. N. Nazarov, November 3, 1954

Country : BULGARIA Ivanov, Ch. P. n-16
Category : Chemical Technology. Industrial Synthesis of
Dyes
Abs. Jour : Ref Zhur-Khimiya, No 14, 1959, No 50625
Author : Ivanov, Ch. P.; Alksiyev, B.V.
Institute : -
Title : Diazotizing of 2-(n-Aminaryl)-Indones.
Derivation of Azo-Dyes, Containing Indone Ring
Orig Pub. : Godishnik Khim. tekhol. in-t, 1956(1957), No 1,
21-42
Abstract : Due to the weakly basic characteristics and
difficulties involved in the diazotization of
2 -(n-aminoaryl)-indones while employing
common methods, a new method of their diazo-
tization was developed in the presence of
pyridine. by combination of the obtained
diazo-compounds with β - naphthol (I),
naphthol-2-disulfoacid-3,6 (II), and 1-amino-
naphthol-3-disulfoacid-3,6 (III) a number of
Card: 1/6

H-66

Country : H-16
Category : Chemical Technology.
Abs. Jour : Ref Zhur-Khimiya, No 14, 1959, No 50625
Author :
Institute :
Title :
Orig Pub. :
Abstract : azo-dyes was obtained. A solution containing
Con'd : 0.446 gr of 2-(n-aminophenol)-3-phenylindone
(IV) in 10 ml of pyridine at $\leq 10^\circ$ was added
to a cooled solution of 0.310 \leq 0.414 gr
KNO₂ in 14 ml of conc. H₂SO₄ and 7 ml of water
agitated for 1 hour, diluted with 62 ml of
water, followed by the addition of 2 gr of
urea. To the obtained diazo-solution at $< 10^\circ$
was then added a solution of 0.227 gr I in
10 ml of pyridine, neutralized with 20% NaOH
Card: 2/6

Country : H-16

Country :

H-16

Country :
Category : Chemical Technology.

Abs. Jour : Ref Zhur-Khimiya, No 14, 1959, No 50625

Author :
Institute :
Title :

Orig Pub. :

Abstract : solution, agitated for approx. 1 hour, acidified
Con'd with dilute H₂SO₄, extracted with ether, fol-
lowed by washing the extract with 18% NaCl
solution and with a dilute NaOH solution, and
by the removal of ether. In the above reaction
a 52.7% yield of 197-199° melting point
1- [4'-(3''-phenylindonyl-2'')- benzolazo] -
-naphthol-2 was produced. From the mother
liquor diazo hydrate of diphenylindone of
281-282.5° melting point was separated.

Card: 3/6

H-67

Country : H-16
Category : Chemical Technology.
Abs. Jour : Ref Zhur-Khimiya, No 14, 1959, No 50625
Author :
Institute :
Title :
Orig Pub. :
Abstract : Analogically 2-(n-aminophenyl)-3-(n-tolyl)-
Con'd -indone (V) and 2-(n-aminophenyl)-3-ethyl-
indone (VI) were diazotized. The diazo-solution
from IV was diluted with an equal volume of
water, adding urea, and, while agitating, adding
it drop by drop at 75-80° to a 30% H₂SO₄,
followed by standing, extraction with ether,
and transferring from the ether solution into
a 5% NaOH solution, and acidifying with dilute
H₂SO₄. From the latter reaction 61% yield of
Card: 4/6

H-16

Country :
Category : Chemical Technology.

H-16

Abs. Jour : Ref Zhur-Khimiya, No 14, 1959, No 50625

Author :
Institute :
Title :

Orig Pub. :

Abstract : 130° melting point 2-(n-oxyphenyl)-3-phenyl-
Con'd indone and benzoate of 144-145° melting point
(evap. from alcohol) were derived. Presented
below are examples of syntheses of the follow-
ing azo-dyes (indicated are yield in % and
color in dyeing of wool fibers): IV → II, 80.2,
dark red; IV (acid) → III, 79.5, violet-red;
IV (alkaline) → III, 84.9, violet-black;
IV → III ← IV, 52.2, bluish-black; V → I, 46.0
(226-228° melting point from alcohol) — ;

Card:

5/6

H-68

Country : H-16
Category : Chemical Technology.
Abs. Jour : Ref Zhur-Khimiya, No 14, 1959, No 50625
Author :
Institute :
Title :
Orig Pub. :
Abstract : V → II, 80.7, — ; V(acid.) → III, 76.8, — ;
Con'd VI → I, 48.4 (187.5-189° melting point from
alcohol), — ; VI → II, 70.9, — ; VI (acid) →
→ III, 67.7, —. -- V. Ufimtsev
Card: 6/6

Country : CDE

H-16

IVANOV, CH.; ALEKSIEV, B.

Reduction of nitroderivatives of 2, 3-diaryl and 2-aryl-3-alkylindones.

p. 125 (Izvestiia) Vol. 4, 1956. Sofia, Bulgaria.

SO: Monthly Index of East European Accessions (EEAR) IC, Vol. 7, No. 1, Jan. 1958

BULGARIA/Organic Chemistry Synthetic Organic Chemistry

G-2

Abs Jour: Ref Zhur-Khim., No 24, 1958, 81637.

Author : Ivanov Ch., Jelyaskov L., Dodova M., Agova M.

Inst : AN Bulgaria.

Title : The Preparation of Nitrofuran Substitutes Having Possible Antitubercular Activity.

Orig Pub: Dokl. Bolg AN, 1957, 10, No 4, 313-316

Abstract: In search of new preparations which possess anti-tubercular activity, there were obtained: 5-nitofurfurylidene salicylhydrazine, yield 80.3%, m.p. 246-250°C. (with decomposition; from alcohol); 5-nitrofurfurylidene benzylcyanoacetyl hydrazine, yield 64%, m.p. 181-185°C (with decomposition; from alcohol), and 5-nitrofurfurylidene isonicotynoyl hydrazine (I). It was demonstrated that cyanoacetyl

Card : 1/2

BULGARIA / Organic Chemistry. Synthetic Organic
Chemistry.

G-2

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 77628.

Author : Ivanov, C. and Dodova, M.
Inst : Bulgarian Academy of Sciences.
Title : On the Preparation of Derivatives of 5-Bromofuran
Possessing Probable Tuberculostatic and Bacterio-
static Activity.

Orig Pub: Doklady Bolg Akad Nauk, 10, No 6, 477-480 (1957)
(in English with a Russian summary).

Abstract: For the purpose of investigating the effect of the
substitution of the NO₂ group by a Br atom in der-
ivatives of 5-nitrofurfurol on the pharmacological
activity, the authors have synthesized a number of
acylhydrazones of 5-bromofurfurol (mp 80-82°; thio-
semicarbazone yield 73.2%, mp 166-168° (from water);

Card 1/3