

BULGARIA / Organic Chemistry. Synthetic Organic
Chemistry.

G-2

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

Abstract: contains $3H_2O$), having a general formula $5-BrC_4H_2OCH = NNHCOR$ (I) and a number of (5-bromofur-
oyl-2)-hydrazones of the general structure
 $5-BrC_4H_2OCONHN = R$ (II), starting from the hy-
drazone of 5-bromofuran-2-carboxylic acid (mp 134-
135°) and various carbonyl compounds. The deriva-
tive obtained (R in parentheses), the yield in %, and the mp in °C (decomp; from alc) are given be-
low: I (4-pyridyl), 68, 210-214; I(CH₂CN), 78.1,
170-173; I(C₆H₄OH-2), 64.9, 228-232; I(5-BrC₄
H₂O), 55, 175-179; I(C₁₅H₃₁), 66.2, 88-91;
II(CHC₆H₅), 40.9, 162-165; II(CHC₆H₄CH₃-4),
65.1, 159-162; II(CHC₆H₄OH-2), 71.5, 194-197;

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"APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619020013-9

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Disruption of 2-... Preparation of
... the ...

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APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619020013-9"

S/081/63/000/002/025/088
B166/B138

AUTHORS: Ivanov, Ch., Yankov, L.

TITLE: Synthesis of 5-sulfofurfural. 5-sulfofuran derivatives
with a possible tuberculostatic and bacteriostatic actionPERIODICAL: Referativnyy zhurnal. Khimiya, no. 2, 1963, 201-202,
abstract 2Zh136 (Godishnik Khim.-tehnol. in-t, v. 7,
nos. 1-2, 1960 (1961), 231-240 [Bulgarian; summaries in
Russ. and Eng.])

TEXT: The interaction of furfural diacetate (I) with $C_5H_5N \cdot SO_3$ (II) yielded 5-sulfofurfural (III) and a number of its derivatives. The authors do not prove that position 5 is occupied by an SO_3H group, but take it to be so by analogy with 5-nitrofurfural, produced by nitrating, and 5-bromofurfural, produced by bromating I. 0.04 moles I and 0.03 moles II are heated for 8 hrs at $100-105^\circ C$ in a tube; the resinous mass is thoroughly mixed with $BaCO_3$ paste and heated for 45 min at $\sim 100^\circ C$, it is filtered hot and the residue washed with ~ 10 ml water. The combined

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Synthesis of 5-sulfofurfural. ...

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filtrate is evaporated down to a residual volume of ~40 ml, purified with charcoal, an equal volume of saturated NaCl is added, and after ~12 hrs the Na salt of III, $C_5H_3NaO_5S$ (IIIa), is produced, yield 37%,

m.p. 288-292°C. To 1 mmole IIIa in 2 ml water are added 1 mmole 4-NO₂C₆H₄NHNH₂ in 20 ml alcohol and 3 drops glacial CH₃COOH, this is boiled for 15 min; 0.05 g NaHCO₃ is added and then it is boiled for a

further 10 min; from the filtrate after ~12 hrs is separated IIIa 4-nitrophenylhydrazone, $C_{11}H_8N_3NaO_6S$, yield 70.5%, m.p. 222-226°C

(decomp.; from aqueous alcohol). IIIa 2,4-dinitrophenylhydrazone, $C_{11}H_7N_4NaO_8S$, is produced in the same way, m.p. 174-177°C (decomp.)

from aqueous alcohol). 1 mmole NH₂NHCONH₂·HCl is dissolved in 1 ml water

whilst heating, 10 ml alcohol and 0.092 g NaHCO₃ are added, this is

boiled for 10 min, then 1 mmole IIIa in 2 ml water are added to the filtrate which is then boiled for 10 min and purified with charcoal; after this the Na salt of III semicarbazone, $C_6H_6N_3NaO_5S$, is separated

out by the addition of 15 ml ether, the yield being 97.2%, m.p.

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Synthesis of 5-sulfofurfural. ...

228-231°C (decomp.; from aqueous alcohol). The Na salt of III thioseal-
carbazone, $C_6H_6N_3NaO_4S_2$, was produced in the same way, with a yield of
90.8%, m.p. 210-212°C (from aqueous alcohol). 1 mmole IIIa and 1 mmole
hydrazide of isonicotinic acid in 3 ml water are heated until completely
dissolved, 10 ml alcohol are added and this solution is heated for 15 min
at ~100°C and then purified with charcoal, after which the Na salt of
5-sulfofurfurylidene isonicotinoylhydrazone, $C_{11}H_8N_3NaO_5S$, is separated
by the addition of 20 ml ether; its m.p. is 301-304°C (decomp.; from
aqueous alcohol). [Abstracter's note: Complete translation.]

Card 3/3

IVANOV, Ch.P.; ALEKSIYEV, B.V.; KRYSTEVA, M.A.; YORDANOV, B.I.

Infrared spectrometric determination of methionine. Izv.
AN SSSR. Otd.khim.nauk no.7:1356 J1 '61. (MIRA 14:7)

1. Sofiyskiy khimiko-tekhnologicheskiy institut i Institut
organicheskoy khimii Bolgarskoy Akademii nauk.
(Methionine)

ALEKSIEV, B.; IVANOV, Ch.; IUKHINOVSKI, Iv.

Interaction of 2,3-diaryl- and 2-aryl-3-alkylindones with nitric oxides. *Godishnik khim tekhn* 8 no.1:73-88 '61 [publ. '62].

IVANOV, Ch.; GANCHEV, K.

Proteins in maize. Pt.1. Godishnik khim tekhn 9 no. 1:215-221
'62 [publ. '63].

IVANOV, Ch.; MLADENCVA-ORLIKOVA, L.

Dehydration of 1,3-diphenyl-2-arylmethyl-2-oxyglutaric acids
with concentrated sulfuric acid. Doklady BAN 16 no.7:
721-724 '63.

1. Vorgelegt von Akademiemitglied D.Ivanoff [Ivanov,d.];
Chlen Redaktsionnoy kollegii, "Doklady Bolgarskoy Aka-
demii nauk".

ALEKSIYEV, B.V.; IVANOV, Ch.P.; YUKHNOVSKI, Iv.N.

Interaction of 2,3-diaryl- and 2-aryl-3-alkylindones with nitrogen oxides. Dokl. AN SSSR 149 no.6:1315-1318 Ap '63. (MIRA 16:7)

1. Khimiko-tehnologicheskiy institut, Sofiya, Bolgariya.
(Indone) (Nitrogen oxides)

ALEKSIYEV, B.V.; IVANOV, Ch.P.; YUKHNOVSKI, Iv.N.

Stability and spectroscopic characteristics of the intermediate products formed in the nitration of some 2,3-disubstituted indones.
Dokl. AN SSSR 150 no.1:89-92 My '63. (MIRA 16:6)

1. Khimikotekhnologicheskii institut, Sofiya, Bolgariya.
Predstavleno akademikom B.A.Kazanskim.
(Indone) (Nitration) (Spectrum analysis)

YANOV, Gr. S.; MLADENOVA-CHLINOVA, A.

Dehydration of symmetrical naphthyl-substituted hydroxyglutaric acids. Dokl. Akd. Nauk SSSR 159 no.1:131-134 N '64.

(KERA 17:12)

1. Khimiko-tekhnologicheskiy institut, Sofiya, Bulgariya.
Predstavleno akademikom B.A. Kazanski.

L 34509-66 EWP(J) RM

ACC NR: AP6024750

SOURCE CODE: BU/0011/65/018/010/0943/0946

AUTHOR: Ivanov, Ch.; Mladenova-Orlinova, L. -27ORG: Department of Organic Chemistry, Institute for Chemical Technology, Sofia BTITLE: Oxidation of 2-phenyl-3-benzylidone and of 4-phenyl-3-oxy-1,2-benzfluorenone

SOURCE: Bulgarska akademiya na naukite. Doklady, v. 18, no. 10, 1965, 943-946

TOPIC TAGS: dehydration, isomerization, phenyl compound, oxidation

ABSTRACT: The authors established earlier (DAN, SSSR, 159, 1964, 131) that one obtains two isomeric 4-phenyl-3-oxydibenzfluorenones A and B and a single 2-phenyl-3-benzylbenzidone C during the dehydration of 1,3-diphenyl-2-(2'-naphthyl)-2-oxyglutaric acid. The present investigation aims at the clarification of the behavior during oxidation of the 3-benzyl substituted indones and of the 3-oxybenzfluorenone. To test the possibility that the products of such an oxidation could contribute to the clarification of the structure of analogously constructed compounds, the authors used as models certain easily accessible analogs with known structure, i.e., the 2-phenyl-3-benzfluorenone (D. Dalev, J. Pharmacy and Pharmacol., 1, 1949, 401) and 4-phenyl-3-oxy-1,2-benzfluorenone (Ch. Ivanov, Compt. rend. Acad. bulg. Sci., 7, 1954, 29). The article gives experimental details and theoretical interpretation of the oxidation by means of potassium permanganate of the two above mentioned compounds. This paper was presented by Academician D. Ivanov on 12 July 1965. [Orig. art. in German.] [JPRS: 34,805]

SUB CODE: 07 / SUBM DATE: none / ORIG REF: 004 / SOV REF: 002

OTH REF: 004
Card 1/1 mgs

L 01753-67 EWP(1) RM

ACC NR: AP6035624

SOURCE CODE: BU/011/65/018/011/1003/1006

IVANOV, Ch., MLADENOVA-ORLINOVA, L., Department of Organic Chemistry, Institute of Chemical Technology, Sofia [Original-language version not given]

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" Structure of the 2-Phenyl-3-Benzylbenzindone and the 4-Phenyl-3-Hydroxydibenzfluorenone Isomer Compounds Obtained During Dehydration of 1,3-Diphenyl-2-(2'-naphthyl)-2-Hydroxyglutaric Acid"

Sofia, Doklady Bolgarskoy Akademii Nauk, Vol 18, No 11, 1965, pp 1003-1006

Abstract: [German article] The authors proved in an earlier communication (DAN SSSR, 159, 1964, 131) that 4-phenyl-3-hydroxydibenzfluorenone A and B and 2-phenyl-3-benzylbenzindone C are obtained during dehydration of 1,3-diphenyl-2-(2'-naphthyl)-2-hydroxyglutaric acid with concentrated sulfuric acid. The present paper 1) presents the structure of these three compounds; 2) discusses the steps leading to the establishment of the respective structural formulae; and 3) describes the experimental procedures and techniques used during the investigation. This paper was presented by D. Ivanoff on 12 July 1965. Orig. art. has: 2 figures. [JPRS: 36,002]

TOPIC TAGS: dehydration, fluorinated organic compound, isomer, benzene derivative

SUB CODE: 07 / DATE SUBM: 12 Jul 65 / ORIG REF: 001 / OTH REF: 001
SOV REF: 003

Card 1/1 pb

0722 0024

VOLKOV, L.; IVANOV, D.

New form of the letter of credit in international payments. Den.
i Mred. 21 no.6:78-82 Je '63. (MIRA 16:8)
(Balance of payments)

IVANOV, D.

15 years of irrigation construction and its future development until 1965. p. 97

KHIDROTEKHNIKA I MELIORATSII. (Nauchno-tehnicheski suluz v Bulgaria i
Ministerstvo na elektrifikatsiata i vodnoto stopanstvo) Sofia, Bulgaria.
Vol. 4, no. 4, 1959

Monthly List of East European Accessions (MEAI), LC, Vol. 8, No. 12,
December 1959
Uncl.

IVANOV, D.; GOCEV, V.; RALEVA, M.

Extraction of potassium from the eruptive rocks of the village Svidrya,
region of Sofia. Godishnik khim ~~tech~~ 7 no.1/2:1-12 '60 [publ. '61].

IVANOV, D.

The origin and localization of the accessory obturator nerve. Nauch.
tr. vissh. med. inst. Sofia 39 no.1:1-12 '60.

1. Predstavena ot prof. D. Kadanov, zav. Katedrata po anatomia na
choveka.

(OBTURATOR NERVE anat & histol)

IVANOV, D.

On the problem of the innervation of the pectineal muscle. Nauch. tr. vissh. med. inst. Sofia 39 no.1:13-22 '60.

1. Predstavena ot prof. D. Kadanov, zav. Katedrata po anatomia na choveka.

(THIGH innervation)

IVANOV, D.

On the problem of the development of nerve plexuses and non-capsulated endings in the urinary bladder in man. Nauch. tr. vissh. med. inst. Sofia 39 no.1:23-35 '60.

1. Predstavena ot prof. D. Kadanov, zav. Katedrata po anatomia na choveka.

(BLADDER innervation)

YUGOSLAVIA

LJUSTINA-IVANCIC, Dr Nevenka; GRGIC, Dr Zvonimir; and IVANOV, Dr Dako, Eye Clinic (Očna Klinika) and Clinic of Internal Medicine (Interna Klinika), Faculty of Medicine (Medicinski Fakultet), University (Sveuciliste), Zagreb.

"Changes in the Eyes in Cases of Hemoblastosis."

Zagreb, Lijecnicki Vjesnik, Vol 85, No 8, 1963, pp 853-860.

Abstract: [Authors' English summary modified] The authors discuss the results of clinical examinations of the external and internal parts of the eye in 100 patients suffering from hemoblastosis including 30 cases of Morbus Hodgkin, 17 of acute leucosis, 20 of chronic lymphatic leucosis, 17 of chronic granulocytic leucosis, 12 of reticulum-cell sarcoma, and three of multiple myeloma. Subconjunctival or orbital infiltrates were found in 30 cases, a corneal pannus in five, and retinal hemorrhages or exudates in 13. Congestion of the retinal vessels was the single symptom in 32 cases. Various other retinal changes were noted in 17 cases and sclerosis of the chorioid in 24. The authors conclude that ophthalmological examination is not enough for a safe diagnosis of hemoblastosis but that some retinal changes may be suggestive of the duration and phase of the disease. One drawing, three photographs, 34 references (24 Western, nine Yugoslav, one Soviet).

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YUGOSLAVIA

Drs ČEPELJA, Zvonimir; GRGIĆ, Zvonimir; and IVANOV, Dako, Clinic of Internal Medicine (Interna Klinika), Faculty of Medicine (Medicinski Fakultet), Zagreb.

"Damage to the Bone Marrow from 'Chloramphenicol'."

Zagreb, Liječnički Vjesnik, Vol 85, No 9, September 1963, pp 995-1000.

Abstract: [Authors' German summary modified] The aforementioned antibiotic, discovered in 1947 and in use since 1948, became subsequently the object of warnings against the possibility of toxic effect. The drug continued to be used, however, and disturbing reports of negative effects have repeatedly appeared. The current article reports on nine patients treated between 1954 and 1963 for damage to the bone marrow due to the application of this antibiotic, seven of whom died under a diagnosis of pancytopenia. The possibility of damage to the hematopoietic composition is discussed, and advice is offered as to the advisability and inadvisability of applying the drug on the basis of foreign literature and the authors' own observations. Under Yugoslav conditions, the blood picture must be checked before and during therapy, especially the reticulocytes and thrombocytes.

One diagram, two tables, three Yugoslav and 27 Western references.

1/1

DIMITROV, Mitiu; IVANOV, Diko, inzh.

Production of iron catalysts for the synthesis of ammonia from
Ardino magnetite. Tekhnika Bulg 13 no.4:15-18 '64

IVANOV, D

"From the experiences of the machine-tractor stations; digging around vines with a 10/22 k.c. Fordson", p 140 (KOOPERATIVNO ZEMEDELIE, Vol 6 #4, Apr. 1951, Bulgaria)

East European Vol 2 #8
SO: Monthly List of ~~Russian~~ Accessions, Library of Congress, August 1953, Uncl.

IVANOV, D.

Seed production from vegetable plants on cooperative farms. p. 12.
KOOOPERATIVNO ZEMEDELJE, Sofiya, Vol. 11, no. 4, Apr. 1956.

SJ: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 6 June 1956,
Uncl.

IVANOV, D; POPOV, T.

IVANOV, D; POPOV, T. The collective farm in the village of Ustina, Flodiv District, uncovers its internal production reserves. p.4.

Vol. 11, no. 10, Oct. 1956
KOOPERATIVNO ZEMEDELIE
AGRICULTURE
Sofia, Bulgaria

SO: East European Accession, Vol. 6, No. 3, March 1957

IVANOV, D. (Col. of Med. Serv.) and FOMENKO, M. (Col. of Med. Service)

"Radioactive Decontamination of Skin and Clothing," from a series "Atomic Weapon and Anti- Atomic Weapon Defense," Krasnaya Zvezda, No.304, page 3, 24 Dec 54.

Summary of article - D 256364, Jun 55

IVANOV, D.I. (Col. Med. Services)

"Nuclear Radiations and Medicine" - one of a series of articles under the main heading of Problems of Utilization of Atomic Energy, Krasnaya Evozda, No.80, 5 April 55

The article describes the application of radioactive radiation in the Soviet Union for medical and scientific purposes.

D 257602, June 55

IVANOV, D.

"Nuclear Radiation and Medicine," a chapter from the book Problems in the Utilization of Atomic Energy, the second revised edition of a collection of articles, published in 1956, Moscow, USSR

IVANOV, D., and FOMENKO, M.

"Sanitary Treatment and Decontamination of Clothing and Equipment,"
a chapter from the book Problems in the Utilization of Atomic Energy, the
second revised edition of a collection of articles, published in 1956,
Moscow, USSR

VASILEV, I.; IVANOV, D.; LUKANOV, I.

Miniature transistor apparatus for long-distance recording
of pulse shocks. Ratsionalizatsiia 13 no. 11:16-17 '63

IVANOV, D; KOLEV, N.

"Producing absorbers of hydrogen sulfide and carbon dioxide by the alkaline hydrolysis of waste material of albumins."

p. 18 (Tezhka Fromishlenost) Vol. 6, no. 9, Sept. 1957. Sofia, Bulgaria

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, no. 5, May 1958

Ivanov, D.

BULGARIA / Chemical Technology. Chemical Products and Their Application. Leather. Fur. Gelatin. Tanning Materials. Industrial Proteins. H

Abs Jour: Ref Zhur-Khimiya, No 9, 1959, 33675.

Author : Ivanov, D., Kolev, M.

Inst : Not given.

Title : Obtaining Hydrogen Sulfide and Carbon Dioxide Absorbers by the Alkaline Hydrolysis of Waste Albuminous Substances.

Orig Pub: Tezhka promishlenost, 1957, 6, No 10, 18-23.

Abstract: The application of amino acids as absorbing agents may be substituted by mixtures of natural amino acids, obtained by an alkaline hydrolysis of albuminous substances - horny keratin (alkaloid PA); the properties of the latter are similar to the properties of the alkaloid DIK. -- Yo. Stefanovskiy.

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APPROVED FOR RELEASE: 08/10/2001 CIA-RDP86-00513R000619020013-9

COUNTRY : Bulgaria H-10
ABS. JOUR. : RZKhim., No. 16 1959, No. 57660
Applications--Catalysts and Sorbents.

AUTHOR : Ivanov, D. and Vitkov, Ts.
INST. : Not given
TITLE : Catalysts for the Conversion of Carbon Dioxide with Steam [Water Gas Reaction]

ORIG. PUB. : Tezhka Promyshlenost, 7, No 3, 12-17 (1958)

ABSTRACT : The following catalysts have been prepared in the laboratory of the Stalin Chemical Trust (Dimitrovgrad): (1) 92% Fe₂O₃ and 7% Cr₂O₃, (2) 90% Fe₂O₃-7% Al₂O₃, (3) 60% MgO, 30% Fe₂O₃, 3% Cr₂O₃, and 3% Al₂O₃. The first catalyst listed closely approximates in structure and in composition the commercial catalysts. Laboratory tests failed to show any marked differences in catalytic activity (all of the catalysts used were subjected to a preliminary low-temperature reduction).
Ya. Satunovskiy

CARD: 1/1

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IVANOV, D.; DIMITROVA, A.

~~TECHNOLOGY~~
TECHNOLOGY

Periodicals: TEZHKA PROMISHLENOST. Vol. 7, no. 12, Dec. 1958

IVANOV, D.; DIMITROVA, A. Absorption properties of natural alkazid obtained through alkaline hydrolysis of albumin. p. 17

Monthly List of East European Accessions (EEAI) LC, Vol. 8, No. 5
May 1959, Unclass.

IVANOV, D.; PETROVA, O.

"Obtaining ferric-chromous catalyzer for oxidation of ammonia"

Tezhka Promishlenost. Sofia, Bulgaria. Vol. 8, no. 2, Feb. 1959

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 6, Jun 59, Unclass

IVANOV, D.; KLISURSKI D.; PETROVA, K.

"Preparation and testing of a cobalt-oxide catalyst for oxidization of ammonia up to nitrogen oxide."

TEZHKA PROMISHLENOST, Sofia, Bulgaria, Vol. 8, no. 5, Mar. 1959

Monthly list of East Europe Accessions (EEAI), LC, Vol. 8, No. 6, ^{Sept.} Jun 59,
Unclas

DIMITROV, M.; IVANOV, D.

Preparation of ferrous catalysts for the synthesis of the Propad
magnetite ammonia. Khim i industriia 35 no.2:43-49 '63.

IVANOV, D.; SHISHKOV, D.; KIROVA, I.

Equilibrium of various copper-ammonium acetate and carbonate solutions studied with carbon monoxide under the pressure of 300 kg/cm². *Godishnik khim tekhn* 8 no.1:55-72 '61 [publ. '62].

IVANOV, D.; DEBETROV, M.

Preparation of iron catalysts for the synthesis of ammonium
from Bulgarian raw materials. Pt. 2. *Godishnik khim tekhn* 9
no. 1:99-110 '63 [publ. '63].

IVANOV, D.; DEJITROV, K.

Influence of calcium and magnesium oxides on the activity
of iron catalysts for the synthesis of ammonia. Pt. 1.
Dokl. Akad. Nauk SSSR 239:251-252 '62 [publ. '63].

IVANOV, D.; SHISHKOV, D.

Phase equilibriums in the system: copper ammonium acetate
and copper ammonium carbonate solution-carbon monoxide
under general pressures of 100, 200, and 300 kg/cm².
Godishnik khim tekhn 9 no.2:87-102 '62 [publ. '63].

DEMITROV, M.; IVANOV, D.; STAVRAKEVA, D.

Influence of calcium and magnesium oxides on the activity of iron catalysts for the synthesis of ammonium; mineralogical study. Godishnik khim tekhn 9 no.2:103-117 '62 [publ. '63].

IVANOV, D.; GOCHEV, V.; TSOICHEVA, L.

Baking of alkali syenite with calcium dichloride and calcium oxide for obtaining potassium chloride from syenite. *Godishnik khim tekhn* 9 no. 3:101-109 '62 [publ. '63]

IVANOV, D., akad.

The International Colloquium on Organometallic Compounds
in Paris. Spisanie BAN 7 no.4:91-93 '62.

BLAGOEV, B.; IVANOV, D.

Polyfunctional organomagnesium reagents containing a carboxyl group and a triple or cumulated double bonds. Izv Inst org khim 1:13-31 '64

PROCESSES AND REPERITIES INDEX

Alcoholysis of esters by (mixed) alcoholates and mixed organomagnesium phenolates. D. Ivanov and T. Ruschev. *Ann. univ. Sofia II, Facult. phys.-math.* 29, 331-8 (in French 339-40)(1933).—In the 1st series of reactions between alc. esters of monocarboxylic acids and alcoholates it was found that the heavy radicals R' of alcoholates were displaced by light radicals R_1 of esters. In the reactions between phenolic esters of monocarboxylic acids and alcoholates the aryl radicals R were displaced by alkyls R' . A reverse reaction does not take place. The phenolates were often less sol. in Et_2O than alcoholates. In the 3rd series of reactions between esters of dicarboxylic acids and alcoholates the mixed esters were obtained in 20-6% yield only by displacing the alkyls by other heavier alkyls because 1 part of the mother substance is transformed to a s) m. ester, corresponding to Mg alcoholate. The mode of operation for the 1st series of expts. is as follows: Prep. 0.15 g.-mol. of Grignard reagent with about 130 cc. Et_2O and oxidize completely at 0° in a closed vessel. Add 0.15 g.-mol. of ester in 50 cc. Et_2O and heat under a reflux for 5 hrs. Hydrolyze the reaction mixt. cautiously at 0° to prevent sapon. Ext. 3 times with Et_2O , wash the ether soln. with 5-10 cc. H_2O , dry over $CaCl_2$ and distill the ether, using a Vigreux column. Finally distill fractionally. The fraction contg. the ester sought contains also the corresponding alc.; the detn. is performed in $EtOH$ by sapon. The phenolates were prepd. by the reaction of phenols with $EtMgBr$. These substances were heated for 10 hrs. under a reflux and after hydrolysis the phenol not undergoing reaction was extd. with a freezing mixt. of $NaOH$.

J. Kucera

ASB-11A METALLURGICAL LITERATURE

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PROCESSES AND PROPERTIES INDEX

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The velocity of evolution of hydrocarbons formed by the action of indene on aliphatic organomagnesium derivatives. A method of measuring the bond strength between alkyl radicals and the MgBr group. H. D. Ivanov and Br. Ivanov. *Ann. univ. Sofia II, Facult. phys.-math.* 30, 53-8 (in French 58-0)(1934); *cf. C. A.* 26, 6090. — As detd. by the gas evolved, the rate of reaction of indene with RMgBr (0.02 mole of each in 21.5 cc. Bu₂O at 115°) indicates that the strength of the R-MgBr bond decreases in the order iso-Bu, Me, Bu, sec-Bu, Pr, Et, iso-Pr. H. A. Beatty

A S B - S L A METALLURGICAL LITERATURE CLASSIFICATION

FROM SUBJECT

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o-Benzoylbenzil. D. Ivanov and D. Ivanov Dalev. *Ann. univ. Sofia, II, Facult. phys.-math.*, Livre 2, 33, 315-9 (in French 310) (1937) — Oxidation of *o*,*o*-diphenylindone with $KMnO_4$ gives *o*-benzoylbenzil in quant. yield. It m. 85-8°. The formation of this triketone is explained by the following scheme: $C_6H_5CPh: CPh.CO \rightarrow o-PhCH(OH)COC_6H_4CH(OH)Ph \rightarrow PhCOCOC_6H_4COPh$. It is lemon-yellow in color and gives a *monoxime* only which m. 187-8°, probably due to steric hindrance. Its constitution is proved by careful oxidation with $K_2Cr_2O_7$, whereby *o*-benzoylbenzoic acid and H_2O are obtained. On reduction with Zn or Mg in AcOH, a red coloration is produced which on contact with air changes to yellow. F. F. R.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND DEGREE PROCESSES AND PROPERTIES INDEX

IVANOV, Dm. 5

ca

Three-color Carbro process. Dm. Ivanov. *Soviet Foto M*, No. 6, 10-31(1933).—Ivanov describes the successive steps in obtaining Carbro prints. Formulas for the sensitizing soln. are given with which Ivanov was more successful than with the usual sensitizing bath. Troubles commonly experienced in this process are enumerated and their remedies given. W. R. Eichler

COMMON ELEMENTS

MATERIALS INDEX

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND DEGREE PROCESSES AND PROPERTIES INDEX

1ST AND 2ND DEGREE PROCESSES AND PROPERTIES INDEX

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Dehydration of aryl disubstituted 3-hydroxypropanoic acids. Method of preparation of indones. Dimla's Ivanov and Chavdar Ivanov. *Annuaire univ. Sofia. Facult. sci.* 44, Livre 2, 121-42 (1947-1948).—In attempting to prep. *α,β,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 mixt. 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. 196-7°. 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 chloromethylated 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 50-80% 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. 185-0° (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. (25 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-(m-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

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Composition of Bulgarian oil of turpentine from *Pinus silvestris*. D. Ivanov and Chr. Ivanov. *Compt. rend. acad. bulgare sci., Sci. 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 64, 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

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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*, 43, 157-75, French summary, 176-8 (1948-49); *Compt. rend.* 231, 578-80 (1951); cf. *C.A.* 38, 3266. —Dypropinacol (I) (1 g.), prepd. by condensing chalcone (II) with dyprone (III) in the presence of PhNMgBr , gives 0.153 g. BrOH and 0.48 g. $1,3,5\text{-Ph}_3\text{C}_6\text{H}_3$ when its soln. in 5 cc. AcOH is satd. with O (70 hrs.). However, when O is passed through I in boiling AcOH or $\text{AcOH-HCO}_2\text{H}$, $1,3,5\text{-Ph}_3\text{C}_6\text{H}_3\text{COPH}$ 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 dypropinacols were subjected to autoxidation: $\text{C}_{18}\text{H}_{15}\text{O}_2$ (IV), m. 214-13°, from $\text{CO}(\text{CH}_2\text{CHPh})_3$ and III, gave 2,4,6-triphenylchalcone, m. 192-4° and 200-10°; $\text{C}_{18}\text{H}_{15}\text{O}_2$ (V), m. 168-9.5°, from *p*-methylchalcone and III, gave 1,3-diphenyl-5-*p*-tolylbenzene, m. 123.5-4.5°; $\text{C}_{18}\text{H}_{15}\text{ClO}_2$ (VI), m. 168-9°, from *p*-chlorochalcone and III, gave 1,3-diphenyl-5-(*p*-chlorophenyl)benzene, m. 139-40°; $\text{C}_{18}\text{H}_{15}\text{O}_2$ (VII), m. 168-8°, from *p*-methoxychalcone and III, gave 1,3-diphenyl-5-(*p*-methoxyphenyl)benzene, m. 138-9°; $\text{C}_{18}\text{H}_{15}\text{O}_2$, m. 195.6°, from II and *p,p'*-diphenyldyprone (VIII), m. 172-4°, did not undergo autoxidation. VIII was obtained in 38% yield by condensing 0.1 mol. *p*- $\text{PhC}_6\text{H}_4\text{-I}$

COME in the presence of 0.05 mol. PhNMgBr . The dypropinacolones, obtained by heating for 12 hrs. the corresponding I in AcOH and HCO_2H contg. a little hydroquinone, were dehydrogenated with S to the corresponding benzophenones (cf. *C.A.* 39, 2989). The following dypropinacolones were used: $\text{C}_{18}\text{H}_{15}\text{O}_2$, m. 128-0°, from V, gave 2,4-diphenyl-6-*p*-tolylbenzophenone, m. 148-50°; $\text{C}_{18}\text{H}_{15}\text{ClO}_2$, m. 107-8°, from VI, gave 2,4-diphenyl-6-(*p*-chlorophenyl)benzophenone, m. 157-8°; $\text{C}_{18}\text{H}_{15}\text{O}_2$, m. 97-8°, from VII, gave 2,4-diphenyl-6-(*p*-methoxyphenyl)benzophenone, m. 160-8°; $\text{C}_{18}\text{H}_{15}\text{O}_2$, m. 129-31°, from IV, gave 2,4,6-triphenylchalcone. A discussion of the mechanism of the reaction is also included. G. Mergerian

"Analysis of the Essence of Turpentine from Pinus Negra, Wood Turpentine, and Colophony of Bulgarian Origin," p. 17. "Speed of Crystallization of Supersaturated Solutions of Calcium Sulfate and Strontium Sulfate." p. 21. (DOKLADY, Vol. 3, No. 1, Jan./Mar. 1950 /Published 1951/. Sofiya, Bulgaria.)

So: Monthly List of East European Accessions, LC, Vol. 3, No. 5, May 1951/Unclassified

IVANOV, Dimitre

The structure of dehydroluteo- and dehydroyppinacolones. A new case of retro-pinacolic transposition by dehydrogenation. Dimitre Ivanov, Ch. G. J. Lyngby, and Boucha Stojanovic-Ivanova. *Compt. rend.* 231, 657-3 (1959).

Dehydroyppinacolone (I) is postulated as 1,2,3,6-MePh₃C₆H₂COPh and dehydroluteodyppinacolone (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 275-80° 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 BzOH 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-Ph₃C₆H₃Me (III), m. 94°. The same procedure, except for a fusion temp. of 290-310°, with I gives BzOH and III. A portion of I is lost through sublimation. The structure of the dehydroyppinacolones has been further demonstrated by a Friedel-Crafts reaction: 4.88 g. III, 43 g. CS₂, 2.5 g. AlCl₃, and 2.33 g. BzCl 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.

A-2
 irreversible (e.g., formation of MeCHO from CH₃CH-OR).
 Saturation of CH₃CH-OMe (I), b.p. 5-5.2°/745 mm., d₄ 0.7723,
 n_D 1.4100 (lit. n_D 1.4100) methyl 1-bromoethyl ether.

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Organic Chemistry

IVANOV, D.

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Synthesis with the magnesium halide derivative of 2-furylacetic acid. D. Ivanov and D. Stoev. *Compt. rends. Acad. Bulgare sci.* 5, 85, 278; 20-31(1952) (Publ. 1953) (in French). — To a soln. of the Mg halide deriv. of 2-furylacetic acid (prepd. by treating the acid with iso-C₄H₉MgCl in Et₂O), a ketone, dissolved in Et₂O, was added, and after hydrolysis, the product isolated. The following acids were prepd.: 52% 3,3-diphenyl-1-hydroxy-3-(2-furyl)propionic acid, m. 177-8°, from Ph₂CO; 55% 3-hydroxy-3-methyl-3-phenyl-2-(2-furyl)propionic acid, m. 128.5-9.5°, from PhCOMe; 55.5% C₆H₅CH₂CH₂PhCH(2-C₄H₇O)CO₂H, m. 210-11°, from chalcone. When PhMgBr was treated with 2-furylacetic acid 40% 1,1-bis(2-furyl)-1-hydroxy-3-phenylbutyric acid, m. 171-2°, was obtained. O. Megerian

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Synthesis with the magnesium halide derivative of sodium phenylacetate and chlorides of aliphatic dicarboxylic acids. Banzvi diketones. D. Ivanov and N. Marekov. Annuaire Soc. Sci. Phys. et Nat. Bulg. Chem. 47, 41-51 (1952); French summary. — $\text{PhCH}(\text{MgCl})\text{CO}_2\text{Na}$ (C.A. 27, 1336) (0.05 mole) was treated with 0.025 mole $\text{CH}_3(\text{COCl})_2$ in Et_2O at -10° , the mixt. stirred 2 hrs. at room temp., hydrolyzed with cold H_2O , acidified with HCl , extd. several times with Et_2O , the exts. were concd., treated with 5% NaHCO_3 to pH 9.5, and the sepd. oil was extd. with Et_2O , dried, and evapd. to give 0.4 g. $\text{CH}_3(\text{COCH}_2\text{Ph})_2$, m. 68-7.5°. $(\text{CH}_3\text{COCl})_2$ (0.7 mole) gave 2.3 g. $(\text{CH}_3\text{COCH}_2\text{Ph})_2$, m. 64-5°. Asemicarbazone, m. 179-80°. $\text{CH}_3(\text{CH}_2\text{COCl})_2$ (0.05 mole) yielded 2.1 g. $\text{CH}_3(\text{CH}_2\text{COCH}_2\text{Ph})_2$ (I), m. 72° (Asemicarbazone, m. 210°) and 0.4 g. crystals, (II), m. 173-8°. $(\text{CH}_3\text{CH}_2\text{COCl})_2$ (0.025 mole) gave 4.8 g. $(\text{CH}_3\text{CH}_2\text{COCH}_2\text{Ph})_2$, (III), m. 73.5-5°, and 1.6 g. crystals, (IV), m. 135-43° (decomp.). II and IV on boiling with 20% KOH produced $\text{PhCH}_2\text{CO}_2\text{H}$, and I and III, resp. G. Meguerian

M. S. S. S.

V Methods for determination of rose oil in rose flowers: D. Ivanov, Chr. Ivanov, and M. Ognyanov. *Annuaire univ. Sofia 48, Fac. sci. phys. et math., Livre 3, Pt. 1, 15-35 (1953/54)* (French summary); c. *C.A.* 49, 5782f. --- A distn. app. for the quant. extn. of oil from small samples (100-200 g.) of rose flowers is described. After the distn. is complete, the sepd. oil is measured volumetrically, while the amt. of oil dissolved in water is detd. from the surface tension of the soln. G. Maguarian

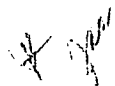
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D ✓ Determination of rose oil content of distillation waters by the Rosenthaler reaction and by the surface tension method to the end of distillation. D. Ivanov, Chr. Ivanov, N. Maronov, and H. Ognyanov. *Khimicheski vestnik* 48. *Fac. sci. phys. et math.* Livre 3, Pt. 1, 37-82(1953/54) (French summary); cf. C.A. 49, 5182g. —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 detg. of oil content of distillate fractions. To make the Rosenthaler method quant., a colorimetric scale of 8 samples was prepd. by mixing various volts. 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 (55 ml.) of distillate contained 0.004% oil; in this way about 18.4% less oil was extrd.

G. Mezgerian

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Synthesis from sodium magnesiumphenylacetate and aliphatic dicarboxylic acid chlorides. A preparation procedure for benzyl diacetates. D. Ivanov and N. Muzikova (J. Gen. Chem. USSR, Acad. Sci. Ser. Chem. 4, 41-42, Pub. 1953 (in French)). The reaction between $C_{11}H_{13}(MgCl)_2O_2Na$ with chlorides of oxalic (II), malonic (III), succinic (IV), succinyl (V), and stibic (VI) acids is described. Thus, adding dropwise III (0.025 mole) in Et_2O to I (0.05 mole) at -10° in a H atm., maintaining this temp. 1 hr., then 2 hrs. at room temp. under continuous agitation, and with dist. after acidification with HCl , yielded 6.6% 1,3-diphenyl-2,4-pentanedione (VII), m. 68-7.5° (from aq. EtOH). VII crystallizes in flakes, is sol. in Et_2O , C_6H_6 , glacial AcOH. Similarly was prepd. 13% 1,6-diphenyl-2,5-hexanedione (VIII), m. 84-5° (from aq. EtOH), sol. as VII, dimeric carbazole deriv. m. 179-80° (from EtOH). In glacial AcOH VIII and semicarbazide gave a product m. 203-4° suspected to have a pyrrole or pyridazine nucleus. 1,3-Diphenyl-2,7-octanedione, 20%, m. 72° (at 4° the yield was only 22%), dimeric carbazole, m. 210°, was prepd. from I and V. I and VI at -8° yielded 65% 1,12-diphenyl-2,11-dodecandione (at 18° the yield was 46%), m. 73.5-5° (from petr. ether), crys. in elongated lamellas, sol. in Et_2O , C_6H_6 , EtOH, slightly sol. in petr. ether. The product from I and II, a yellow-brown oil, could not be obtained in

cryst. form. Certain by-products obtained in smaller quantities were identified as hydroxy acids. C. A. 

BULG.

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Apparatus for titrating small quantities of essential oils
in plant material and specially in rose flowers. D. Ivanov,
Khr. Ivanov, and H. Ganyakov. *Compt. rend. acad. sci. URSS*
ser. B, 6-12(1953)(in French).--A new app. is described
in detail which permits operating on a smaller sample than
used with the traditional app. For an analysis, 250 g. of
rose petals and 750 ml. H₂O were used and the results
agreed within 0.001 ml. of rose oil. Tables and a drawing
accompany the report.
A. Hainz

EH
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②

Trial for determining the end point of distillation in the
production of rose oil. D. Ivanov, Khr. Ivanov, and H.
Dzavkov. *Compt. rend. Acad. Sci. 6, 18-16(1905)*
(in French).—The end of distn. in the production of rose oil
is fixed by utilizing the measure of surface tension of
the distg. waters according to V. I. Varenzoff or utilizing
the end of pos. color reaction for ales. according to Rosen-
zaler (C.A. 6, 3251). Graphs and tables are given.
A. Halasa

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✓ The composition of Bulgarian rose oil obtained by the Soviet method. D. Ivanov, N. Marčev, and H. Opyanov. *Chem. Ind. (London)* 1954, 2031. *Bull. Acad. Sci. USSR Div. Chem. USSR* 1954, 17-19 (1953) (Publ. 1954) (French).—The Soviet production method for rose oil, which includes steam distn. of the petals, sepn. of the mixed oil, and adsorption of the oil with active C, with eventual desorption by an org. solvent, was applied to the whole flower giving 0.051% oil contg. 23.6% phenethyl alc., 41.1% citronellol, and 19.7% geraniol.

Joseph Colucci

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. Marcov, and H. Ognyanov. *Chem. rend. acad. bulgare sci.* 4, No. 3, 21-24 (1953) (Pub. 1954) (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 0.534%. This amt. gave a coloration equiv. to a mixt. of 2 II, 5.5 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

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✓ A new analytical method for the determination of the essential oil of reses. D. Ivanov, Chr. Ivanov, and H. Ogurvanov. *Compt. rend. Acad. Bulgare sci.* 6, No. 3, 25-8 (1953)(Pub. 1054)(in French) —The method involves the measure of the surface tension of the distill. waters.

Joseph Colucci

Composition of the stearoptene of Bulgarian Rose oil.
 D. Lyapunov, Ch. Lyapunov, and E. Stamatova Lyapunova (1970)
~~Chem. Abstr. 64:12044d (1970)~~
 The stearoptene was obtained by dissolving 30 g. stearoptene
 in 100 ml. of benzene. A small portion of I put on a porous
 plate as a product of 30.5%. Oxygenated products
 were removed from I by filtration through alumina. Ten
 g. of I dissolved in petr. ether was filtered through a column
 of 1.0 cm. diam. packed with alumina to a height of 20 cm.
 Two fractions were obtained: (1) 7.8 g. cryst. mass at room
 temp. the 2nd a liquid which solidified in H₂O; 1.052 g. of
 the solid product was chromatographed in a column 40 cm.
 long and 15 mm. diam. using 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 chroma-
 tographed under the same conditions. The elution was
 very slow, 0.051 g. giving 0.007 g. in 34.5-35.5. This
 product was crystal. 3 times from EtOH and m. 37-8°.
 n_D 1.425.

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Composition of Bulgarian rose oil. D. Ivanov and M.
Marsheva. *Chem. Zvezda*, 1964, 17, 10, 1041-1042.
No. 1. 1964, 17, 10, 1041-1042. — Oil steam-distilled from rose
damascena mixed with 10% Rosa eida contains 45-51%

citronellol. Its phys. const. and analytical values are
listed. A. W. Schreckengost.

✓Composition of steroptene from Bulgarian rose oil. CH
II. Saturated hydrocarbons other than eicosane. D.
Ivanov, Ch. Ivanov, and E. Stolanova-Ivanova (Univ.
Sofia). *Compt. rend. acad. bulgare sci.* 7, No. 1, 17-20
(1954) (in French); cf. *C.A.* 48, 15373g.—The hydrocarbon
fraction (I) (78.8%), obtained by passing steroptene
through alumina, is crystd. from EtOH, giving *sicosane* (II),
m. 39° (62.1% of I). The mother liquors from II fraction-
ally distd. at 0.7-0.8 mm., treated with Br in CCl₄ to remove
unsatd. hydrocarbons present in I, redistd. twice at 0.4-0.5
mm., and the fractions crystd. from EtOH give *heptadecane*
(III), m. 27.5-3.5°, b₇₆₀ 301.1°, *nonadecane* (IV), m. 32.6-
2.8°, b₇₆₀ 223.5°, *heneicosane* (V), m. 40-1°, b₇₆₀ 362.9°, and a
fraction, m. 13-15°, b₇₆₀ 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, 88°; III, 86°;
VIII, 162°; IV, 108°; II, 114°; V, 129°. A. W. S. ②

Notes

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Distillation of alcohols and of steoptene from oil of roses
during the hydrodistillation of rose flowers. D. Ivanov
Miroslav, 1954, *Chem. Abstr.* 49: 5781g (1954) (1954) (1954)
The distn. of the compn. of the various fractions obtained
from the distn. is affected by several factors, among which are the speed of diffusion from the tissue to the
water and the relative soly. and vapor pressure in water.
Data are given on the compn. of the various fractions obtained
from the distn. Most of the oil is obtained during the first 30 min.
Differences in the recovery of various components are noted, depending on whether the roses are
fresh, stored for one day, or scented prior to distn.

John H. Wood

IVANOV, D.

IVANOV, D. Distillation of alcohols and stearoptene of rose oil in hydro-
distillation of rose petals. p. 431 Vol. 3 1955
IZVESTIJA. Sofia, Bulgaria

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

APPROVED FOR RELEASE: 08/10/2001

CIA-RDP86-00513R000619020013-9

Composition of saturated hydrocarbons of the wax from Bulgarian roses. D. Ivanov, B. Stolanova-Ivanova, and Ch. Ivanov (Univ. Sofia, Bulgaria). *Compt. rend. acad. bulgare sci.* 8, No. 2, 33-8 (1955) (in French); cf. *C.A.B.* 49, 75720A. — 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 68% hydrocarbons), and 13.6% free acids. The wax had acid no. 11, sapon. no. 48.5, ester no. 37.5, I no. (Hübl) 24. The satd. hydrocarbons were redist., 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. 67.6-7.3°; triacontane C₃₀H₆₂, m. 65.8-5.8°; nonacosane C₂₉H₆₀, m. 63.4-3.6°; octacosane C₂₈H₅₈, m. 61.4-1.5°; heptacosane C₂₇H₅₆, m. 59.0-9.1°; pentacosane C₂₅H₅₂, m. 51.3-4.0°; tricosane C₂₃H₄₈, m. 47.5 (47.7°); docosane C₂₂H₄₆, 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. Lange

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IVANOV, D., AND OTHERS.

IVANOV, D., AND OTHERS. Method of determination of the essential oil
in the blossoms of Rosa damascena Mill. for
its selection. In French with Russian summary.
p.57.

Vol. 8, no. 2, Apr./June 1955, DOKLADY, Sofiya, Bulgaria.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 10,
Oct. 1956.

IVANOV, D., AND OTHERS

Chromatographic determination of hydrocarbons in the attar of roses.

p. 277 (Izvestiia) Vol 4, 1956. Sofia, Bulgaria.

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

IVANOV, D.

IVANOV, D. Syntheses with organic lithium compound, obtained by substituting the labile hydrogen atom. V. Syntheses with α -lithium sodium phenyl acetate, obtained by alkyl lithium compound. In German. p. 39. Vol. 9, no. 1, Jan./Mar. 1956. DOKLADY., Sofia, Bulgaria

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

IVANOV, D.; PANAIOTOV, L; FORISOV, G.

Synthesis with lithium organic compounds, obtained by substituting unstable hydrogen atoms. VI. Synthesis with α -magnesiyl- α -naphtyl acetonitrile and α -lithium- α -naphtyl acetonitrile. In German. p.21.
(DOKLADY, Vol 9, no. 3, July/Sept. 1956, Sofia, Bulgaria.)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 12, December 1957 Uncl.

IVANOV, D.; VASILEV, G.

Synthesis with lithium organic compounds, obtained by substituting unstable hydrogen atoms. VIII. Concerning the method for obtaining a γ -diphenyl-B-alkyl or aryle-B-hydroxybutyric acid. In German. p.29.
(DOKLADY, Vol. 9, no. 3, July/Sept. 1956, Sofia, Bulgaria.)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, no. 12, December 1957 Uncl.

IVANOV, D.

Chromatic determination of hydrocarbons in essence of rose. D. Ivanov, N. Markov, St. Pavlova, and L. Ivanova (Univ. Sofia). *Inds. parfum.* 11, 165-6 (1959).--The hydrocarbons in essence of rose can be analytically detd. by chromatic sepn. from the oxygenated material. The method was tested initially on artificial rose mists, over Al_2O_3 with petr. ether as the diluent. A dil. soln. gave better results than the highest concn. possible. Two g. of rose sample was dissolved in 10 cc. petr. ether and poured onto a column of Al_2O_3 . Following an eluate of 30 cc., a 2nd fraction of 140 cc. contained all the hydrocarbon. The solvent was removed at 60° to const. wt. The loss of hydrocarbon was 0.3% on the sample, and 2 samples corresponded to within 0.5%. The results agreed with those obtained by the stearoptene method. M. P. G.

IVANOV, D. ; STOLENOVA-IVANOV, CH.

On the compound of hydrocarbons isolated from stearoptene of the Bulgarian rose oil and from the wax of the blossom of the Bulgarian rose. p. 141.

GODISHNIK. KIMIIA. Sofia, Bulgaria, Vol. 50, No. 2, 1955/56 (published 1958)

Monthly List of East Accession (SEAI) LC, Vol. 9, No. 1 January 1960

Uncl.

CZECHOSLOVAKIA/Organic Chemistry. Natural Compounds and Their Synthetic Analogs.

Pub Jour: Ref Zhur-Khim., No 11, 1959, 38775.
Author : Gonyancov, I., Ivanov, D., Horak, M., Pliva, J., and Serna, F.

Inst : Chemistry of the Terpenes. LXXXVII. Structure of
Title : Germacrone, the Crystalline Component of Bulgarian Medicinal Volatile Oil.

Orig Pub: Chem Listy, 52, No 6, 1163-1173 (1953) (in Czech)

Abstract: The authors have shown that the principal component of Bulgarian medicinal essential oil (Geranum macrorhizon L.), previously designated germacrol, does not have the oxide structure (I) [see inset below], as

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Publ. Jour: Ref Zhur-Khin., No 11, 1959, 38775.

previously assumed, but that of the ketone (Ia).
The authors propose the name Germacrone for Ia.
The structure of Ia has been proved spectroscopi-
cally and by chemical reactions. The hydrogenation
of I in glacial CH_3COOH over a Pt (from PtO_2) cata-
lyst gives a liquid product (II) which on reduction
with LiH_4 gives hexahydrogermacrol (III). The oxi-
dation of II with CrO_3 in glacial CH_3COOH gives hexa-
hydrogermacrone (IV). IV like Ia does not form a
semicarbazone and 2,4-dinitrophenylhydrazone deriva-
tive. The reduction of I by aluminum isopropylate or
by Li/LiH_4 gives germacrol (V) which on dehydration
yields a hydrocarbon (VI). The dehydrogenation of V

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Abs Jour: Ref Zhur-Khin., No 11, 1959, 38775.

tion of III gives a hydrocarbon (XIII). The ozonation of X yields 1 mol of acetone, while the ozonation of I gives 1.5-1.6 mol of acetone. The oxidation of I by KMnO_4 in acetone gives $(\text{COOH})_2$ and levulinic acid. The action of $\text{C}_2\text{H}_5\text{ONa}$ on I in the cold gives crystalline isogermacrone (XIV). The hydrogenation of XIV in glacial CH_3COOH over Pt (from PtO_2) gives IV; when the hydrogenation is carried out in alcohol, tetrahydrogermacrone (XV) is obtained. The acid isomerization of I yields a liquid ketone (XVI) which on hydrogenation over Pt (from PtO_2) in glacial CH_3COOH with subsequent reduction by LiAlH_4 gives selinanone (XVII) [sic: nomenclature]; oxidation of the

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CZECHOSLOVAKI./Organic Chemistry. Natural Compounds and Their Synthetic Analogs.

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Abs Jour: Ref Zhur-Khin., No 11, 1959, 38775.

latter product yields selinanone (XVIII) [sic]. The dehydration of XVII followed by hydrogenation of the product obtained gives IX. Ia, mp $56-57^\circ$ (from CH_3OH), $[\alpha]_D^{20}$ 0° (chloroform). The hydrogenation of I (278 mg) in glacial CH_3COOH over 30 mg of freshly reduced PtO_2 gives II, bp $134-135^\circ$, n_D^{14} 1.4774, d_4^{14} 0.9162. The reduction of 2 gms II by LiAlH_4 in ether followed by chromatography on Al_2O_3 (active towards I-II) [sic] gives III, yield 1.8 gm, bp $108.5-109.5^\circ/0.05\text{mm}$. The oxidation of 2 gms II with an excess of CrO_3 in glacial CH_3COOH for 20 min at about 20° followed by chromatography on Al_2O_3 (active towards I-II) gives IV, bp $131-136^\circ/7\text{ mm}$, n_D^{15} 1.4770, d_4^{15} 0.9225. The

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Abs Jour: Ref Zhur-Khim., No 11, 1959, 38775.

The hydrogenation of 312 mg VI in 5 ml glacial CH_3COOH or freshly reduced PtO_2 gives VIII, bp $124^\circ/14$ mm, n_D^{20} 1.4681, d_4^{20} 0.8538. The hydrogenation of 390 mg V under the same conditions as described in the last case, followed by chromatography on Al_2O_3 (active towards I-II) gives IX, bp $129-132^\circ/14$ mm, n_D^{15} 1.4817, d_4^{15} 0.8939. The hydrogenation of 3 gms I over Pt (from PtO_2) in alcohol (7 days) with 4 mols of H_2 , followed by chromatography on Al_2O_3 , gives X, yield 2.6 gms, bp $108^\circ/0.8$ mm, n_D^{20} 1.5038, d_4^{20} 0.9549. The reduction of 0.90 gm X by LiAlH_4 (0.15 gm) gives XI, bp $123-125^\circ/2.5$ mm. The hydrogenation of 500 mg XI in glacial CH_3COOH over Pt (from PtO_2) followed

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Abs Jour: Ref Zhur-Khin., No 11, 1959, 38775.

by chromatography of the product obtained on Al_2O_3 (active towards I-II) and elution with petroleum ether, gives XII, yield 320 mg, bp 132-135°/22 mm, n_D^{20} 1.4717, d_4^{20} 0.8538; elution with alcohol gives 130 mg of III. The dehydration of 900 mg III with 1.0 gm $KHSO_4$ at 180-200° (30 min) gives XIII, yield 750 mg, bp 114-115°/7 mm, n_D^{25} 1.4799, d_4^{25} 0.8594; the hydrogenation of the latter product (230 mg) over Pt (from 30 mg PtO_2) in glacial CH_3COOH , gives XII, bp 115-117°/8 mm, n_D^{21} 1.4704, d_4^{21} 0.8562. When 15 gms I are treated with C_2H_5ONa (from 2 gms IIa and 50 ml alc, 12 hrs) gives XIV, yield 9.5 gms bp 131-134°/1mm, mp 50-52°, 2,4-dinitrophenylhydrazone

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CZECHOSLOVAKIA/Organic Chemistry. Natural Compounds and Their
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"APPROVED FOR RELEASE: 08/10/2001

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Abs Jour: Ref Zhur-Khin., No 11, 1959, 38775.

mp 183-183.5°. The hydrogenation of XIV (700 mg) in glacial CH_3COOH by the same procedure as that used for I, followed by oxidation of the reaction product by CrO_3 in glacial CH_3COOH and purification by chromatography on Al_2O_3 (active towards I-II) gives IV, bp 120-121°/5 mm, $n_D^{17.5}$ 1.4760, $d_4^{17.5}$ 0.9222. The hydrogenation of XIV (500 mg) over Pt (from PtO_2) in alcohol (of procedure used for I), followed by reduction of the reaction product by $LiAlH_4$ in ether and chromatography on Al_2O_3 (active towards I-II) gives 30 mg XII, bp 130-132°/20 mm, n_D^{20} 1.4720, d_4^{20} 0.8576. When 2 gms XIV are reduced by $LiAlH_4$ (0.4 gm) in ether solution, XV

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Abs Jour: Ref Zhur-Khin., No 11, 1959, 38775.

is obtained, bp 129-131°/1.1 mm, mp 64-66° (from alcohol). When a mixture of 10 gms I, 5 ml H₂SO₄, and 20 ml alcohol is heated to 60°, XVI is obtained, yield 7.75 gms, bp 130.5-138.5°/2.5 mm, n_D²⁰ 1.5270, d₄²⁰ 0.9840; XVI forms two 2,4-dinitrophenylhydrazones melting at 195-196° and 184-185°. The hydrogenation of 2 gms XVI over Pt (from 50 mg PtO) in glacial CH₃OH gives XVII, yield 1 gm, mp 107.5-108.5° (from alc). The oxidation of 150 mg XVII by CrO₃ in glacial CH₃COOH, followed by chromatography of the product on Al₂O₃ (active towards I-III), gives XVIII, n_D²⁰ 1.4894, d₄²⁰ 0.9648. The dehydration of 300 mg XVII by heating in 5 ml 100% HCCOH

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IVANOV Dimitur, prof.

Scientific and research activities of the Chemistry Branch, School of Physics and Mathematics, during the fifteen years of people's rule. Godishnik khim 53 no.3:V-XXVIII '58/'59 [publ. '59].

1. Redaktor, "Godishnik na Fiziko-matematicheskia fakultet. Khimia."

The addition of diethyl benzylphosphonate to ethyl cinnamate. D. Ivanov and G. Kalliov (Chem. Inst. Acad. Sci., Sofia, Bulgaria). *Naturwissenschaften* 45, 171 (1958).
PhCH: P(OH)(OEt)₂ (I) reacts with iso-PrMgCl to give C₂H₅ and PhCH: P(OMgCl)(OEt)₂ (II). III adds to the double bond in cinnamic acid esters. Thus, 5.9 g. I and 4.4 g. EtO₂CCH:CHPh are heated 1.5 hrs. at 70° with a small amt. of NaOH to give 3.5 g. PhCH(CHPhCO₂Et)P(O)(OEt)₂, m. 100-1°.
David Stefanya

4-2 pg (N.B)
4E2C (j)
Jan

L 12281-63

EPR/EWP(J)/EPF(c)/BDS Ps-4/FE-4/PC-1 RM/WW
5/081/63/000/005/038/075

AUTHOR: Ivanov, D., Vasilyev, G., Panaiator, I. and Borisov, G. 68

TITLE: Synthesis with lithium organic compounds, obtained by replacement of the labile hydrogen atom

PERIODICAL: Referativny zhurnal, Khimiya, no. 5, 1963, 261, abstract 5Zh263 (Godishnik Sovetsk. un-ta. Fizmatem. fak., 1957-1958 (1959). v. 52, no. 3, 1-54)

TEXT: In the course of action of RLi (R =alkyl or aryl) on $ArCH_2COONa$ (Ia-c here and hereafter $aAr = C_6H_5$, $bAr = \alpha-C_{10}H_7$, $cAr = \beta-C_{10}H_7$) $ArCHLiCOONa$ (II), is formed which is converted after action of CO_2 and acidification into $ArCH(COOH)_2$ (III). By the interaction of II with $(C_6H_5)_2CO$ (IV) there $(C_6H_5)C(OH)CHArCOOH$ (V) is obtained. The use of lithium alkyls in the place of $ArLi$ leads to a decrease in yield of III and IV. The reaction of RLi with Ia in the absence of substituents in the ortho position may proceed by a different course, with formation of $C_6H_5CH_2COR$ (VI), the interaction of which with II leads to $C_6H_5CH_2CR(OH)CH(C_6H_5)COOH$ (VIII), by the action of RLi an $ArCH_2CN$ (VIII) $ArCHLiCN$ (IX)

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is obtained which changes into $ArCH(CN)COOH$ (X). In reaction of IX with IV $(C_6H_5)_2C(OH)CHArCN$ (XI) is formed. The interaction of IIa with $Ar'CH_2Cl$ with subsequent hydrolysis leads to $C_6H_5CH_2CHAr.COOH$ (XII). In the reaction of IIa with unsaturated ketones of the type $Ar'CH=CHCOOC_6H_5$ (XIII) and $C_6H_5CH=CHCOCH + CHC_6H_5$ (XIV) the addition takes place in 1,4 position and after hydrolysis $C_6H_5CH(COOH)CHAr'CH_2COOC_6H_5$ (XV) and $C_6H_5CH(COOH)CH(C_6H_5)CH_2COCH = CHC_6H_5$ (XVI) are obtained respectively. The addition of the Schiff's bases of $Ar''N = CHAr'$ to IIa leads to $C_6H_5CH(COOH)CHAr''NHAr''$ (XVII). In the action of I_2 or N-bromosuccinimide on II meso-forms of $ArCH(COOH)CH(Ar)COOH$ are formed. The reactivity of II and IX is comparable to similar Grignard compounds. From 1.2 g of Li, 13.7 g of o-bromotoluene (XVIII) 12.7 g of Ia and 14.6 g of IV in 100 ml of ether Va is obtained, the yield for which is 67%, m.p. 187 - 188° C (from alcohol). Va is also obtained with the use of other RLi (indicated are starting bromide and yield is 71%) 1,3,5-(CH_3)₃ C_6H_2Br , 72; 1,3-(CH_3)₂ $C_6H_3Br_2$ -4,6, 33. From Ib C_6H_5Br , Li and IV, Vb are obtained with 57% yield, m.p. 159-160° C (from alcohol). In the synthesis of Va using RLi maximum yields are observed if R- is a primary radical. Below are given starting halides, solvent and yield of Va in %: n-
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C_4H_9Cl , ether, 50-52; $H-CH_2H_7Cl$, pentane ether (PE), 45-48; $C_2H_5CHClCH_3$, PE, 18; $(CH_3)_3CCl$ (PE) 12-14; $iso-C_3H_7Cl$, PE, 23-25; $C_6H_{11}Br$, PE, 20. Below the data gives RLi, the ratio RLi:I, the yield of corresponding VII in %, m. in °C (temp. of reaction from -10 to 0°): C_3H_7Li , 2:1, 45, 160-161 (from aqueous alcohol); $iso-C_3H_7Li$, 3:1, 31, 135-137 (from aqueous alcohol); $n-C_4H_9$, 1.5:1, 55, ---; $C_2H_5CHLiCH_3$, 28-; $n-C_4H_9$, 1:1, 42, 145-146 (from toluene); $n-C_4H_9$, 1.5:1, 55, ---; $C_2H_5CHLiCH_3$, 3:1, 39, 137-139 (from aqueous alcohol). Below are given starting RLi, yields of Vb and Vc in %: C_2H_5Li , 45.3, 37; $iso-C_3H_7Li$, 15.6, 8.34; $n-C_3H_7Li$, 40.7, 31.5; $iso-C_5H_{11}Li$, 10, 27.6. From 1.4 g of Li, 20.7 g of IXI and 15.8 g of Iz in 120 ml of ether IIIa was obtained with 42% yield, m.p. 152-153° C (decompose; from water); the yield of IIIv ~20%, m.p. 155-156° C. From 1.47 g of Li, 16.5 g of Ia in 80 ml of ether VIIa was obtained with 39-41% yield, m.p. 56-57.5° C (from alcohol). Also obtained with other VI's (indicated are R and yields in %): p-tolyl, 25-33, m-tolyl, 25-33; m-tolyl, 29-32; $n-C_6H_4N(CH_3)_2$, 55. Below are giving starting bromide, yield of VII in %, m.p. in °C: n-XVIII, 44.4, 169-170 (from alcohol); meta-XVIII, 40-43, 149-151; β -XIX, 53, 172-180; p- $CH_3OC_6H_4Br$.

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38, 176-177 (from alcohol). Below are given starting bromide, yields of IIIb and IIIc in %: C₆H₅Br, 38, 17.7; O-XVIII, 42.2, 42.8; meta-XVIII, 35, 19.6; p-XVIII, 19.5, 21.7; XIX, 37.4, 26.1; p-(CH₃)₂NC₆H₄Br, 29.1, 18.5 (after separation of IIIb, m. p. 147-148° C, VIb was isolated, yield 12.1%, m.p. 105-106° C (from alcohol); oxime, m.p. 138-139° C; Vc, m.p. 189-190° C (from alcohol). To a solution of 0.01-0.05 moles of VIII in 5-40 ml of ether are added and the mixture is heated. After 3 hours IV is added to the formed IX and it is heated again for 3-4 hours. Under the reaction conditions water is split from the produced XIa and (C₆H₅)₂C=C(C₆H₅)CN is obtained with 30% yield, m.p. 165-168° C (from alcohol); XIb, yield 21.2%, m.p. 179-180° C. Below are given RLi, yield of Xa and Xc in %, CH₃Li, 38, ---; H-C₃H₇Li, 40, 37.9; H-C₄H₉, 47, 54.5; C₆H₅Li, 41, 50; o-CH₃C₆H₄Li, 45, 23.7; O-C₁₀H₇Li, 44, 41.2. From 0.4 g of Li, 2.4 g of H-C₄H₉Cl, 3.95 g of Ia and 5.2 g of XII (Ar¹ - C₆H₅) in 120 ml of ether XV (Ar¹ - C₆H₅) is obtained, with 38% yield, m.p. 257-259° C. Also obtained are other IV's (given is Ar', yield in %, m.p. in °C): p-CH₃OC₆H₄, 29, 220-223; p-ClC₆H₄, 31, 242-243 (from glacial CH₃COOH). From 0.35 g of Li, 5.13 g of XVIII, 3.95 g of Ia and 5.85 g of XIV

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in 100 ml of ether XVI is obtained with 45% yield, n.p. 254-255° C (from alcohol). To IIIa (from 0.4 g of Li, 4.3 g of XVIII, 3.95 g of Ia in 70 ml ether) are added 6.35 g of $C_6H_5CH_2Cl$ and the yield of XII (Ar = C_6H_5) is 77%, n.p. 88-89° C (from chloroform). Also obtained are other VII's (indicated as Ar, yield in % and m.p. in °C): o- ClC_6H_4 , 73, 121-122 (from ether-peter, ether); p- ClC_6H_4 , 70, 140-140.5 (from aqueous alcohol); meta- NC_6H_4 , 82, 128-129 (from water). To a solution of II in ether 1 equiv. Schiff's base is added, it is heated for 6 hours, decomposed with ice and NH_4Cl , the Na-salt XVII is acidified with CH_3COOH and XVII is separated (shown are Ar: Ar', yield in %, m.p. in °C): C_6H_5 , C_6H_5 , 74, 157-158 (from aqueous alcohol); C_6H_5 , n- $CH_3C_6H_4$, 60, 178-180 (from aqueous alcohol), C_6H_5 , β -naphthyl, 70, 156-157 (purified through chlorhydrate); p- $CH_3OC_6H_4$, C_6H_5 , 78, 141-143 (from aqueous alcohol). Ya. Kuznetsov.

[Abstractor's note: Complete translation]

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G/003/60/010/001-4/005/008
B005/3060

AUTHOR: Ivanov, Dimiter (Sofia)

TITLE: Present State and Prospects of Organic Chemistry in the Bulgarian People's Republic

PERIODICAL: Journal für praktische Chemie, 1960, Vol. 10, No. 1 - 4, pp. 102 - 112 ✓

TEXT: This is the reproduction of a speech held by the author on the occasion of the 550th anniversary of Leipzig University. In Bulgaria, research work on organic chemistry is conducted by the following centers: Institute of Chemistry of the Bulgarian Academy of Sciences; Sofia University; Institute of Chemical Technology; Sofia Medical Institute; Plovdiv Medical Institute; Sofia Institute of Veterinary Science; Pharmaceutical Research Institute at the Ministry of Public Health and Social Welfare. The present state of organic chemistry in Bulgaria is illustrated here by results achieved in this field. The following major contributions are briefly dealt with: a) Theoretical organic chemistry: retropinacolin rearrangement by dehydrogenation (the author jointly with Chavdar Ivanov

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Present State and Prospects of Organic
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and B. Stoyanova-Ivanova); conversion of aldehyde aryl hydrazones into amidines (S. Robev); intramolecular action in organic compounds (Doctor N. Tytylkov); effect of substituents on the decomposition rate of β -hydroxy glutaric acids (Professor Aleksander Spasov); formation rate of hydrocarbons on the action of various organomagnesium compounds upon compounds with mobile hydrogen atoms; experiments made to clarify the interaction between hydrazides of the isonicotinic and cyanoacetic acid series, taking account of their tuberculostatic action. b) Synthetic organic chemistry: problems of structural analysis (structural analysis of compounds of the dypnopinacol group; isomeric forms of benzyl phenyl osazone and its redox products; configuration of aldoximes; chromatographic examinations of geometrically, isomeric forms); purely synthetic research work (organometallic compounds; new applications of magnesium in organic synthesis" (G. Vasilov, I. Panayotov, G. Borisov, N. Marekov); investigations of the indanone group (Professor D. Dalev); new application of sodium amide in organic synthesis; synthesis of esters of β -amino acids from hydramides or Schiff bases and aryl acetic esters in the presence of anhydrous aluminum chloride (Docent B. Kurtev, N. Mollov); complex compounds of aromatic amines of the chromate and bi-chromate series with complex-forming cations of cadmium, copper, and nickel

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(M. Genchev, I. Pozharliyev, G. Dimov); interaction of iodine chloride with ethylene hydrocarbons (M. Khaïnova); investigations of uracil; investigations of the phentiazine group; syntheses with the aid of cyanocyclohexanone (Docent Khr. Ivanov); desulfurization of sulfur dyes with the aid of Raney nickel; synthesis of phenyl alanine-1-C¹⁴); synthesis of new drugs and fungicides (M. Kyrilov, D. Borisov); organic-analytical research (polarographic sulfur determination after desulfurization with Raney nickel (A. Trifonov); identification and isolation of aromatic aldehydes in mixtures with other carbonyl compounds by means of chloral hydrate and ammonia (Professor Ivan Ivanov); oxidation of aromatic amines with manganese dioxide). c) Chemistry of natural substances: volatile oils (I. Ognyanov, Doctor Valyy Ivanov, L. Ivanova); oils and fats; alkaloids and glucosides (Docent Asen Galabov); proteins; petroleum (D. Shopov, Khr. Dimitrov). d) Chemistry of high-molecular substances: new alkyd resins (A. Popov); problems related to the synthesis of chloroprene rubber (Professor Petko Nikolinskiy); synthesis of nitroalcohols, nitroolefins, nitrodiolefins, and the respective amino derivatives; plasticity of rubber; synthesis of cyanohydrin of γ -keto butanol; isolation of methyl-vinyl ketone by corresponding dehydration (V. Kabaivanov, M. Mikhaylov); production of acetone cyanohydrin ✓

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