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

koy tekhnologii im. M.V. Lomonosova)

SUBMITTED: March 12, 1957

Card 4/4

20-5-31/60

AUTHOR NAZAROV, I.N., member of the Academy,
YANOVSKAYA, L.A., GUSEV, B.P., MAKIN, S.M. and
NAZAROVA, I.I.

TITLE The Synthesis of Geranylacetone, 3-Methylgeranylacetone,
Pseudoionon and Pseudoiron.
(Sintez geranilatsetona, 3-metilgeranilatsetona,
psevdoionona i psevdoirona.- Russian)

PERIODICAL Doklady Akademy Nauk SSSR 1957, Vol 114 Nr 5,
pp 1029-1032 (U.S.S.R.)

ABSTRACT In the course of systematic work on the synthesis of isoprenoid compounds a paper by Carrol attracted the attention of the author. That author reports that with the heating of linalool with acetoacetic ether, in the presence of a small amount of sodium alcoholate, geranylacetone with a 40-45 % yield develops. Kimel and Cope obtained 61 % linalylacetoacetate from interaction of linalool with diketone, in the presence of metallic sodium. Its pyrolysis at 170-235 % yielded 78 % geranylacetone. The authors thoroughly examined both synthesis varieties on linalool and 3-methyllinalool, in order to work out a production method for geranylacetone and 3-methylgeranylacetone. It was found out that reaction proceeds best at 160-180°C without any catalysts.

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The Synthesis of Geranylacetone, 3-Methylgeranylacetone, Pseudoionon and Pseudoiron.

90-95% of the theoretical CO_2-amount precipitate, and an almost theoretical amount of alcohol (with admixture of acetone) is distilled. Since the latter process is terminated considerably earlier than the CO_2-elimination, it may be assumed that the reaction passes the acetoacetate-stage. A system is given. This mechanism was proved by the authors for the reaction between dimethylvinylcarbinol and acetoacetic ether. From a study of the second variety of synthesis the authors found that the acylation of linalool and methylinalool with diketone may best be performed in the presence of pyridine or triethylamine, and not of metallic sodium. Based upon the results obtained, the authors decided to investigate both varieties in dehydrolinalool and 3-methyl dehydrolinalool, in order to work out synthesis methods for pseudoionon and pseudoiron. Sometime during the beginning of this work a paper by Lacey was published demonstrating the possibility of a synthesis of dienones on most simple ethinylcarbinols according to a general system mentioned here. The second half of the reaction the pyrolysis of acetoacetate, was performed by Lacey in the presence of small amounts of p-toluolsulfonic acid. This kind of dienone synthesis was thoroughly

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studied in the laboratory of the authors. During the work the paper by Naves of the same topic was published. He also described a production method for 3-methylpseudoiron from 3-methyldehydrolinalool and α-methyl acetoacetic ether. Recently Preobrazhenskiy and collaborators wrote on this topic. The authors studied both synthesis varieties and found that the reaction between dehydrolinalool or 3-methyl dehydrolinalool and acetoacetic ether proceeds best at 1[illegible]0-180° C. The yield of pseudoionon and pseudoiron amounts to about 55 %. The acylation of dehydrolinalool or 3-methyldehydrolinalool by diketone proceeds best in the presence of pyridine or triethylamine. The pyrolysis of the two mentioned substances thus obtained was performed at 185-195° C. In this connection about 80 % of the theoretical CO$_2$-amount.is obtained. The yield of pseudoionon and pseudoiron amounted to 50-55 %, of the initial materials. The cyclization of the thus obtained pseudionon with a mixture of sulfur- and ice-acetic acid gave ionon

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The Synthesis of Geranylacetone, 3-Methylgeranylacetone, Pseudoionon and Pseudoiron.

with a 65 % yield. Experimental part with the usual date. (2 Slavic references)

ASSOCIATION: "N,D. ZELZINSKY" Institute for organic chemistry of the Academy of Sciences of the U-SSR.
(Institut organicheskoy khimii im.N.D. Zelinskogo Aka[illegible] nauk SSSR)

PRESENTED BY: -
SUBMITTED: 7.2.57
AVAILABLE: Library of Congress.

CARD 4/4

20-114-6-23/54

AUTHORS: Nazarov, I. N., Academician, Makin, S. M., Vinogradov, V. P., Mochalin, V. B., Nazarova, D. V., Kruptsov, B. K., Nazarova, L. I. and Shavrygina, O. A.

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

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

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

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leads to methylheptenone analogues. Method B. At 140 - 190°C tertiary vinyl alcohols directly react with the same ether. An almost theoretical quantity of ethanol and CO_2 is separated and the same analogues as in A) are obtained. Method V. By the action of diketene upon tertiary vinyl alcohols in the presence of small amounts of triethylamine or piperidine, acetoacetic ethers of these alcohols are obtained (table 2). Their pyrolysis also leads to the above--mentioned analogues (reference 6). The 2,3-dimethyl-2--heptene-6-on (IV) necessary for the synthesis of irone was produced all three ways mentioned. Dimethylisopropenyl-carbinol (initial substance) was produced by the influence of methyl-lithium upon methyl-metacrylate. All methyl-heptenone analogues produced are comprised in table 1. The authors further produced: allyl- (I) (reference 9), crotyl- (II) and chlorocrotyl-acetone (III) (reference 8), dimethyl-isopropenyl-carbinol-acetoacetate, dimethylheptenone (IV), cyclohexylidenpentanone (IX) and tertiary butylheptadienone (XIII). The production methods and constants of these substances are given. There are 2 tables and 12 references, 6 of which are Slavic.

Card 2/3

ASSOCIATION. Institute of Organic Chemistry [illegible] elinskiy
AS USSR and Institute for F[illegible] tonal
M. V. Lomonosov, Moscow (Instit[illegible] ii im.
N. D. Zelinskogo Akademii nau[illegible] nstitut
tonkoy khimicheskoy tekhnolog[illegible] va)

SUBMITTED March 12, 1957

Card 3/3

AUTHORS: Nazarov, I. N., Member, Academy of Sciences, USSR (Deceased), Nazarova, I. I., Torgov, I. V. SOV/20-122-1-2[illegible]/44

TITLE: Synthesis of Polyene Aldehydes and Ketones by Condensation of Aldehyde Acetals With Vinyl and Isopropenyl Ether (Sintez poliyenovykh al'degidov i ketonov kondensatsiyey atsetaley al'degidov s vinilovym i izopropenilovym efirami)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 1, pp 82 - [illegible] (USSR)

ABSTRACT: Polyene aldehydes and ketones are well known. Some of them (citral, farnesal) occur in nature, others are intermediate products in the synthesis of isoprenoids (Ref 1). Polyene carbonyl compounds of unramified structure were, however, less carefully investigated though they may be used as intermediate products in the synthesis of so important natural substances as fatty acids and some types of sugar. It is the aim of this paper to apply the method of aldehyde polycondensation - in practice this is the only possible method - to the substances mentioned in the title with a normal carbon chain. Thus, by

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Synthesis of Polyene Aldehydes and Ketones by Condensation of Aldehyde Acetals With Vinyl and Isopropyl Ether   SOV/20-121-1-22/44

condensation of crotonic aldehyde (I) with vinyl ethyl ether 3-ethoxy hexene-4-Al-acetal (II) was produced in the presence of zinc chlorine. By saponification the latter compound yields sorbic aldehyde (III). Since sorbic aldehyde (III) is changed to acetal (IV) it may subsequently be condensed by means of vinyl ethyl ether. After saponification octatriene-2,4,6-Al (V) is formed in a 71% yield. By means of such a subsequent lengthening of the chain deca-tetraene-2,4,6,8-Al-(VI) and dodeca-pentaene-2,4,6,8,10-Al (VII) are synthetized. The intermediate acetals were produced in a high yield under the action of tetraethoxy silane on the aldehydes (Ref 5). In all stages high yields are obtained (70-80%). Thus it may be said that the authors' method showed without any doubt advantages as compared to the method of Kuhn (Kun). It could be proved that also isopropenyl ethyl ether reacts with acetals similar to vinyl ethyl ether. Thus a new method of synthesis of polyene ketones was found. The condensation of isopropenyl ethyl ether with crotonic

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Synthesis of Polyene Aldehydes and Ketones by Condensation of Aldehyde Acetals With Vinyl and Isopropenyl Ether SOV/2[illegible]-1[illegible]-[illegible]-2[illegible]/44

aldehyde acetal (I) leads to 4-ethoxy-heptene-5-On-2-acetal (VIII) which, after saponification of heptadiene-3,5-On-2 (IX) yields 5[illegible]%. According to the same scheme nonatriene-3,5,7-On-2 (X) and undecatetraene-3,5,7,9-On-2 (XI) were synthetized from sorbic aldehyde acetals and octatriene-2,4,6-Al. The structure of the ketones produced was proved by the hydration to the corresponding saturated ketones which were identified as their derivatives. There are 8 references, [illegible] of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N.D. Zelinskiy, AS USSR)

SUBMITTED: May [illegible], [illegible]

Card 3/4

S/062/60/000/008/029/033/XX
B013/B055

AUTHORS: Kucherov, V. F., Kovalev, B. G., Nazarova, I. I., and Yanovskaya, L. A.

TITLE: Application of the Wittig Reaction for the Synthesis of α,β-Unsaturated and Polyene Acids

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 8, pp. 1512-1514

TEXT: This is a short communication on the investigation of the reaction of carboethoxymethylene triphenyl phosphorane (I) with various aldehydes. This investigation was undertaken with the purpose of synthesizing different polyene acids. It was found that (I) reacts readily with saturated, unsaturated, aromatic and heterocyclic aldehydes giving the corresponding ethyl esters of α,β-unsaturated acids in high yields. Particularly good results were obtained with polyenals polyene acid esters being formed in yields of over 80%. By hydrolysis of these esters with sodium hydroxide in aqueous methanol, the polyene acids, up to now difficultly accessible substances, were obtained in satisfactory yields. Owing to the simplicity of execution, general applicability, high yields and purity of reaction

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Application of the Wittig Reaction for the Synthesis of α,β-Unsaturated- and Polyene Acids

S/062/60/000/008/029/033/XX
B013/B055

products, the Wittig reaction surpasses many of the better-known preparation methods. It is undoubtedly one of the most convenient methods to prepare polyene acids and their esters. There are 1 table and 10 references: 1 Soviet, 1 US, 2 French, 5 German, and 2 Swiss.

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

SUBMITTED: January 15, 1960

Card 2/2

NAZAROVA, I.I.; YANOVSKAYA, L.A.; KUCHEROV, V.F.

Chemistry of acetals. Report No.1[illegible]: Selective hydrolysis of 1,1,3-triethoxy-4-hexene and some reactions of 3-ethoxy-4-hexenal.
Izv. AN SSSR Ser. khim no.7:124[illegible]-1249 Jl '64. (MIRA 1[illegible])

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR.

L 54441-65 EWT(m)/EPF(c)/EWP(j)/EWA(c) Pc-4/Pr-4 RPL JW/RM
ACCESSION NR: AP5012452 UR/0062/65/000/004/0688/0692
547.362

28
26
B

AUTHORS: Gusev, B. P.; Nazarova, I. I.; Kucherov, V. F.

TITLE: The chemistry of polyene and polyacetylene compounds. Communication 12. Hydration of tertiary alcohols and glycols of the diacetylene series

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 4, 1965, 688-692

TOPIC TAGS: polyene, acetylene, alcohol, glycol, hydration, organic synthesis

ABSTRACT: In studying thermal splitting of glycols of the diacetylene series, catalyzed by bases, the authors found that heating 2,7-dimethyl-octadiine-3,5-diol-2,7 with an aqueous solution of dimethylamine leads to the formation of liquid reaction products having the composition $C_7H_{10}O_2$ (with a yield up to 60%), a product from splitting the acetone molecule and simultaneous combination with water. This product has the grouping of alpha,beta-unsaturated ketone and contains no acetylene group or exocyclic double bond. It must therefore have a cyclic structure with a dihydrofuran or dihydropyran ring. The structure of the product was studied by the reforming of diacetylene glycol, and it was found that glycol, under similar conditions, gives a product that also forms during the

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ACCESSION NR: AP5012452

heating of indole with an aqueous solution of dimethylamine. This indicates that the product has a hydrofuran structure. It was discovered that diacetylene alcohol is completely decomposed when heated with dimethylamine, but that diacetylene glycol is not hydrated when heated in an aqueous potash solution. This means that the final stage of furan formation from diacetylene glycol is apparently the attachment of secondary amines by an acetylene bond, with subsequent splitting of the acetone molecule (and not the reverse). It is shown that when various diacetylene tertiary glycols are heated with dimethylamine, the corresponding furanones form. The same type of reaction also takes place readily with diacetylene alcohols that do not contain the acetylene ring. The hydration of the diacetylene system probably follows the same course. Orig. art. has: 5 formulas.

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

SUBMITTED: 28Apr63 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 002 OTHER: 003

JD

Card 2/2

NAZAROVA, I.I.; GUSEV, B.P.; KUCHEROV, V.F.

Regularities in the addition of secondary amines to diacetylenic alcohols. Izv. AN SSSR. Ser. khim. no.4:729-731 '65. (MIRA 18:5)

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

ATROSHENKO, F.M., glavnyy metodist; NAZAROVA, L.K.; ZAKHAROVA, N.A.;
KADYRBEKOV, I.K.; GRIGOR'YEV, V.V., otvetstvennyy redaktor;
TERESHCHENKO, N.I., redaktor; PAVLOVA, M.M., tekhnicheskiy
redaktor

[The "Kazakhstan" pavilion; a guidebook] Pavil'on "Kazakhskaia
SSR"; putevoditel'. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956.
23 p. (MLRA 9:10)

1. Moscow. Vsesoyuznaya sel'skokhozyaystvennaya vystavka, 1954-
2. Direktor pavil'ona (for Kadyrbekov)
(Kazakhstan--Agriculture)
(Moscow--Agricultural exhibitions)

NAZAROVA, I.K.; ZAKHAROVA, N.A.

Where once was desert. Nauka i pered. op. v sel'khoz. no.10:
37 0 '56. (MLRA 9:12)

1. Metodist pavil'ona "Kazakhskaya SSR."
(Golodnaya Steppe--Cotton growing)

NAZAROVA, I.M., assistant

Some data on hypertension in machine operators in agriculture. Sbor. trud. Kursk. gos. med. inst. no.13:81-86 '58. (MIRA 14:3)

1. Iz klinik gospital'noy (zav. - dotsent I.G.Chernetsov) i obshchey terapii (zav. - prof. M.A.Cherkasskiy) Kurskogo gosudarstvennogo meditsinskogo instituta.

(AGRICULTURAL LABORERS--DISEASES AND HYGIENE)
(HYPERTENSION)

NAZAROVA, I. N.

USSR/Chemistry - Acetylene Derivatives Jun 52

"Acetylene Derivatives. 141. Heterocyclic Compounds. XVII. Structure and Mechanism of Formation of Tetrahydro-γ-Thiopyrones and Their Reduction by Kizhner's Method," I. N. Nazarova, I. A. Gurbich, A. I. Kuznetsova; Inst of Org Chem, Acad Sci USSR

"Zhur Obshch Khim" Vol XXII, No 6, pp 984-989

Sulfur heterocycles prepd by the action of H_2S on vinyl allyl ketones have a 6-membered structure. On reduction of tetrahydro-γ-thiopyrone by Kizhner's method the corresponding tetrahydro

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USSR/Chemistry - Acetylene Derivatives Jun 52
(Contd)

thiopyrones were obtained in a 60% yield. The yield of 2-methyltetrahydro-1-thiopyrone-4-one was improved. Discusses the mechanism of its formation.

218T23

ZAKHAROVA, Ye.A.; NAZAROVA, I.N.; DUKHOVNAYA, O.L.

Correlations of indexes of circulatory function and the central nervous system in hypertension patients. Vop. kur., fizioter. i lech. fiz. kul't. 24 no. 4:289-295 Jl-Ag '59. (MIRA 13:8)

1. Iz laboratorii funktsional'nykh issledovaniy i terapevticheskoy kliniki Nauchno-issledovatel'skogo instituta fizioterapii Ministerstva zdravookhraneniya RSFSR (dir. - chlen-korrespondent AMN SSSR porf. A.N. Obrosov).

(HYPERTENSION) (NERVOUS SYSTEM)

YASNOGORODSKIY, V.G.; STUDNITSINA, L.A.; OLEFIRENKO, V.T.; SAFIULINA, S.N.;
NAZAROVA, I.N.

Treatment of hypertension patients with a ultrahigh-frequency electric pulse current. Vop. kur., fizioter. i lech. fiz. kul't. 25 no.2:114-119 Mr-Ap '60.
(MIRA 13:9)

1. Iz Gosudarstvennogo nauchno-issledovatel'skogo instituta kurortologii i fizioterapii v Moskve (dir. - kandidat meditsinskikh nauk G.N. Pospelova).

(ELECTROTHERAPEUTICS) (HYPERTENSION)

ZAKHAROVA, Ye.A.; NAZAROVA, I.N.; SAFIULINA, S.N.

Changes in central nervous system function and in the reactive properties of the peripheral vessels following treatment of hypertension patients with physical exercise and massage. Vop. kur., fizioter. i lech. fiz. kul't. 26 no. 2:143-150 Mr-Ap '61. (MIRA 14:4)

1. Iz Nauchno-issledovatel'skogo instituta fizioterapii Ministerstva zdravookhraneniya RSFSR (dir.-chlen-korrespondent AMN SSSR prof. A.N. Obrosov).

(HYPERTENSION) (NERVOUS SYSTEM) (EXERCISE THERAPY)
(MASSAGE)

GRINEVA, A.V.; NAZAROVA, I.N.; PILIPENKO, V.V.; POCIGUN, A.I.

Electroconductivity method used in investigating complex formation in the systems $CdCl_2$ - KCl - H_2O and $CdCl_2$ - KBr - H_2O. Nauch. ezhegod. Khim. fak. Od. un. no.2:7-12 '61.

(MIRA 17:8)

NAZAROVA, I.V.

Uninterrupted duration of various wind velocities in the U.S.S.R. Trudy NIIAK no.18:50-137 '62. (MIRA 16:8)

KOLOSKOV, P.I.; NAZAROVA, I.V.

Wind velocity in Moscow Province. Trudy NIIAK no.4:46-143 '58.
(MIRA 11:9)
(Moscow Province—Winds)

NAZAROVA, I.V.

Calculating the frequency of different combinations of the air temperature and wind velocity and direction in Moscow by the use of analytical calculating machines. Trudy NIIAK no.12:70-92 '61. (MIRA 14:10)

(Punched card systems--Climatology)

POPOV, V.A.; POPOV, Yu.K.; PRIYEZZHEV, G.P.; KULAYEVA, T.M.; VORONOV, N.P.;
GARANIN, V.I.; NAZAROVA, I.V.; IZOTOVA, T.Ye.; KRASOVSKAYA, L.A.

Results of studying the animal kingdom in the flood zone of the Kuybyshev Hydroelectric Power Station. Trudy Kazan. fil. AN SSSR. Ser. biol. nauk no.3:7-217 '54 (MLRA 10:5)
(KUYBYSHEV RESERVOIR REGION--ZOOLOGY)
(WILD LIFE, CONSERVATION OF)

NAZAROVA, I.V.

Studies on the silvicultural significance of elk in the Tatar A.S.S.R. Soob.Inst.lesa no.13:94-96 '59. (MIRA 13:2)

1. Biologicheskiy institut Kazanskogo filiala AN SSSR.
(Tatar A.S.S.R.--Elk)
(Tatar A.S.S.R.--Forests and forestry)

AM5000994 BOOK EXPLOITATION UR/

Nazarova, Irina Varfolomeyevna

Influence of the wind on air temperature in the European part of the U.S.S.R. (Vliyaniye vetra na temperaturu vozdukha Yevropeyskoy chasti S.S.S.R.) Leningrad, Gidrometeoizdat, 1964. 125 p. illus., biblio., append. Errata slip inserted. 510 copies printed. (At head of title: Glavnoye upravleniye gidrometeorologicheskoy sluzhby pri Sovete Ministrov S.S.S.R.) Managing editor: V. S. Samoylenko; Editor: G. I. Slabkovich; Technical editor: M. I. Braynina; Proofreaders: T. V. Alekseyeva, Z. A. Belkina

TOPIC TAGS: air temperature, climatology, meteorological station, wind direction, wind velocity

PURPOSE AND COVERAGE: In this booklet, the relationship between the air temperature and the wind direction and velocity in the European part of the U.S.S.R. is investigated by the method of dispersion analysis and on the basis of quantitative statistical characteristics obtained with the aid of punched-card calculators, utilizing observations from 63 meteorological stations. Maps of the distribution of air-temperature deviations, at different wind directions and velocities,

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AM5000994

from the monthly average are presented and analyzed. A methodology is proposed for typing curves of complex climatic characteristics, and also a methodology for their machine manipulation.

TABLE OF CONTENTS:

SUB CODE: 04 /SUBM DATE: 13May64 /SOV REF: 048 /OTH REF: 006

Card 2/2

LYASHENKO, A.F., VYAZ'KOVA, Ye.A., NAZAROVA, [illegible]

Separate determination of the calcium salts in additives by the potentiometric method. Prim. i tekh. topl. i masel. no.9:62-65 S '64. MIRA [illegible]

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gazov i polucheniyu iskusstvennogo zhidkogo topliva.

NAZAROVA, K.S., studentka; STEKOL'NIKOV, I.S., prof., doktor

Investigation of gradients in a leader channel. Izv. TPI 95: 88-91 '58. (MIRA 14:9)
(Electric spark) (Dielectrics)

[illegible]

Foremost workers. Avt. transp. 36 no.11:52 n '58. (MIRA 11:11)
(Highway transport workers)

NAZAROVA, L.A.

Integral representations of a quaternary group. Dokl. AN SSSR 140 no.5:1011-1014 O '61. (MIRA 15:2)

1. Leningradskiy gosudarstvennyy universitet im. A.A.Zhdanova. Predstavleno akademikom P.S.Novikovym.
(Groups, Theory of)

NAZAROVA, L.A.; ROYTER, A.V.

Integral representations of a symmetrical third-order group.
Ukr. mat. zhur. 14 no.3:271-288 '62. (MIRA 15:9)
(Groups, Theory of)

NAZAROVA, L. A., Cand of Med Sci -- (diss) "Blood supply of sic mice of the lower extremities." Kazan', 1957, 10 pp (Kazan' State Medical Institute)

(KL, 31-57, 105)

NAZAROVA, L.A.

S

USSR / Human and Animal Morphology, (Normal and Pathological).
Cardiovascular System.

Abs Jour : Ref Zhur - Biol., No 21, 1958, No 97104

Author : ~~Nazarova, L.A.~~

Inst : Kazan Medical Institute

Title : Blood Supply of Muscles of the Lower Extremity.

Orig Pub : Sb. nauchn. rabot Kazansk. med. in-t, Kazan', 1957, 23-31

Abstract : It was shown in 1,683 muscles (M) of 51 human lower extremities (LE) that M of LE receive nourishment from 1-12 sources. The number of main sources for M of the thigh is 1-6, of the calf 1-3, of the foot 1-2. Into the thickness of M of LE, 1-34 arteries of diam. 0.5-4.5 mm. are implanted along in adults; in children, 1-33 arteries of diam. 0.2 -1.5 mm. The majority of M along their entire length receive short vascular branches, which are segmentally distributed in the mass of M and usually branch according to loose type. The amount of

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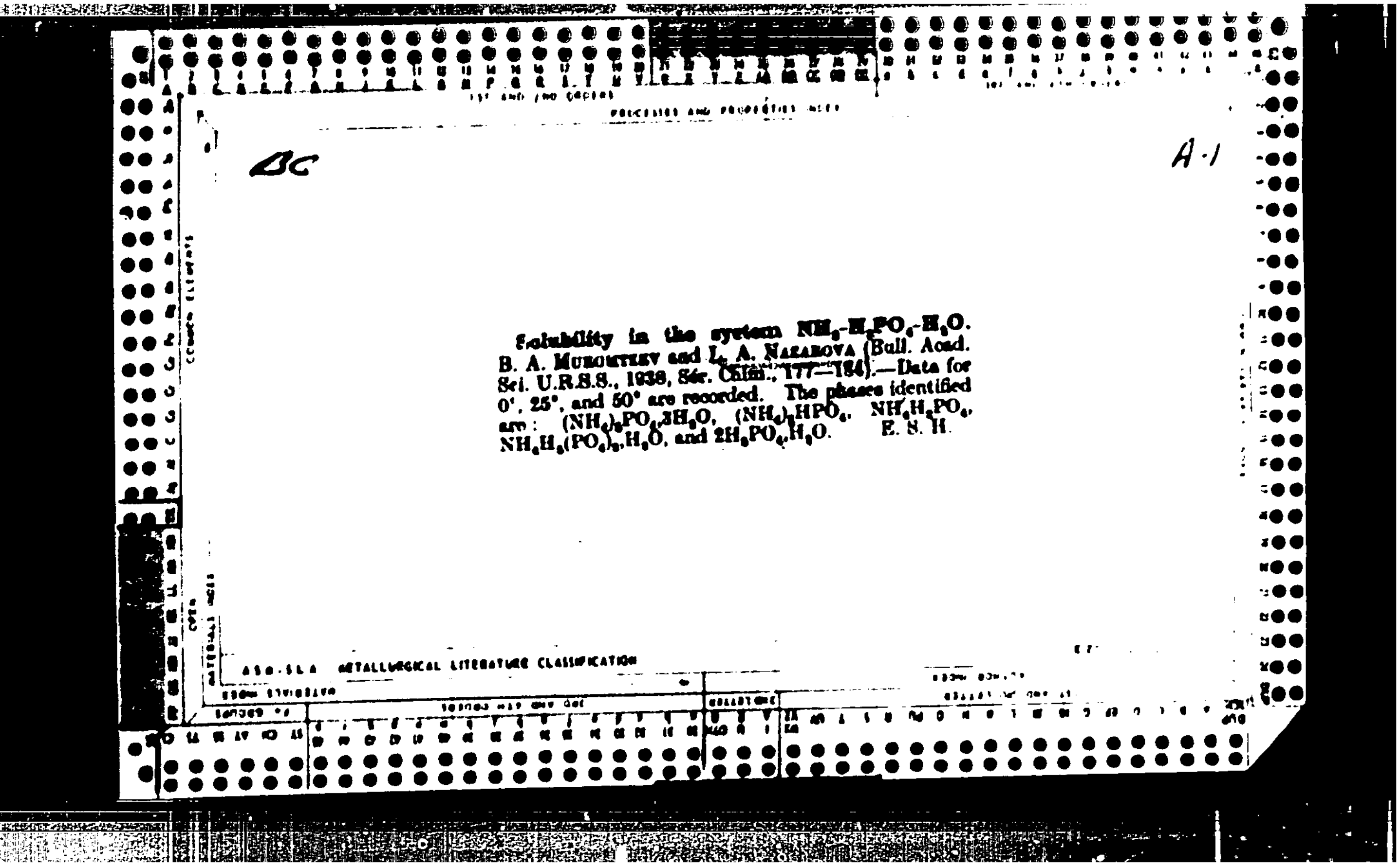
NAZAROVA, L.A. (Kiyev)

Integral representations of a fourth-order alternating group.
Ukr. mat. zhur. 15 no.4:437-444 '63. (MIRA [illegible])

NAZAROVA, L.A.; CHERNYAYEV, I.I., MOROZOVA, A.S

Rhodium acetate compounds. Zhur. neorg. khim. 10 no.2:539-
541 F '65. (MIRA 18:11)

1. Submitted July 20, 1964.



PROCESSES AND PROPERTIES INDEX

BC

A-1

Solubility in the system NH_3-H_3PO_4-H_2O. B. A. Muromtsev and L. A. Nazarova (Bull. Acad. Sci. U.R.S.S., 1938, Sér. Chim., 177—184).—Data for 0°, 25°, and 50° are recorded. The phases identified are: $(NH_4)_3PO_4,3H_2O$, $(NH_4)_2HPO_4$, $NH_4H_2PO_4$, $NH_4H_5(PO_4)_2,H_2O$, and $2H_3PO_4,H_2O$. E. S. H.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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[illegible] composition in the binary mixtures lead [illegible] and stannous chloride–ferrous chloride. [illegible] and L. A. Nasmova. *J. Gen. Chem.* (U.S.S.R.) 16, 1767-76(1946)(in Russian).—In connection with the treatment of polymetallic ores by chlorination, measurements were made by satn. in a stream of Cl or A, the temp. being kept const. within 2° and its variations along the furnace space not exceeding 3° over 30-40 cm. Compns. of the liquid and vapor phases and the corresponding partial and total vapor pressures p are given in tables, the partial and total p as a function of the compn. of the liquid, and total p as a function of the compn. of both the liquid and the vapor, in graphs. For fused $ZnCl_2$ + $PbCl_2$ (complete range) at 700°, in a stream of Cl_2, p is practically linear for $PbCl_2$, very nearly so for $ZnCl_2$; there is only a slight neg. deviation from additivity. For liquid 85.24, 48.04, 25.10 mol. % $PbCl_2$, vapor 26.66, 6.44, 2.75 mol. %, $p(PbCl_2)$ 22.2, 15.1, 9.6 mm., $p(ZnCl_2)$ 61, 220, 240 mm. For fused $SnCl_2$ + $FeCl_2$ (up to 45 wt. %) at 550°, in a stream of A: liquid 84.21, 66.82, 48.19 mol. % $SnCl_2$, vapor 98.81, 97.26, 93.13 mol. %, $p(SnCl_2)$ 267, 164, 113 mm., $p(FeCl_2)$ 3.2, 4.8, 8.3 mm.; the p lines have only a slight curvature. Beyond 45 wt. % $FeCl_2$, the mixt. becomes heterogeneous, part of the $FeCl_2$ going over into solid at 550°. In both systems, the partial p of the components are very widely divergent and azeotropy is absent; this makes sepn. by distn. possible.

N. Thon

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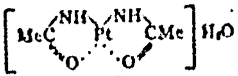
NAZAROVA, L.A.

"Quantative Spectral Determination of Palladium in Platinum, Platinum in Palladium and Rhodium in Iridium, by A.V. Bavaeva, V. Belova, L.A. NAZAROVA.
Russian, per. Iz Sektora Platiny, Vol XX, USSR, 1946
so; [redacted]

NAZAROVA, L.A.

Complex compounds of platinum with acetamide. I. I. I. Chernyaev and L. A. Nazarova. *Izvest. Sektora ~~Platiny i Drug.~~ Blagor*[illegible]*Obshchei i Neorg. Khim., Akad. Nauk S.S.S.R.* 26, 101-14(1951); cf. preceding abstr.—A water soln. of K_2PtCl_4 and *cis*-$[Pt(NH_3)_2]Cl_2$ with $AcNH_2$ give an anomalous colored compd., having the compn. and properties of an internal complex compd. of bivalent Pt with the structure I. An attempt is made to account for the singular relation of $AcNH_2$ to the various complex compds. of Pt and their deviations from the classic law of Peiron and Jergensen.



(I)

J. R. Behrman

NAZAROVA, L.A.

Chem

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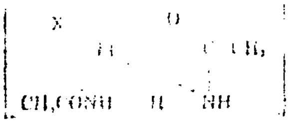
The complex compounds of platinum with amides. II. I. I. Chernyaev and [illegible] *Platiny i Drug. Blagor.* [illegible] *Khim., Akad. Nauk S.S.S.R.* **27**, 175-90(1954); cf. C.A. **48**, 13517*g*.—The complex compds. of Pt(II) with acetamide with the general formula [Pt(NH$_2$COCH$_3$)(NHCOCH$_3$)X$_2$], where X = Cl, NO$_2$, [illegible] were synthesized. The properties of these compds., stability toward oxidizing agents, etc., lead to the conclusion that they have the following structure



Royal Leach

NAZAROVA, L.A.

~~Complex compounds of platinum and acetamide.~~ I. I. Chernyaev and L. A. Nazarova. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1953, 220-6; *Bull. Acad. Sci. U.S.S.R., Div. of Chem. Sci.* 1953, 199-203 (Engl. translation); *Izvest. Sektora Platiny* 28(1952).—Compds. have been prepd. having the type formula $[Pt(NH_2COCH_3)(NHCOCH_3)(A)]X$, where A is NH_3 or $C_2H_4(NH_2)_2$ and X is nitrate, chloride, bromide, iodide, thiocyanate, or nitrite ion. Values of molar cond. at 35° for 0.25*M* solns. of imidoethylenediamineacetamidoplatinum(II) nitrate and the corresponding nitrite are 120 and 120.4 mho-cm.^{2}, resp. It is suggested that a H bond exists in ethylenediamine-acetamide compds. of Pt between the N atom of the free amide group and the O atom of the adjacent acetamide mol.

J. W. Loveberg, Jr.

Inst. Gen. & Inorg. Chem. im. Kurnakov, AS USSR

complexes, [illegible] (X), of bivalent Pt, like the acetamide complexes, are exceptionally stable toward oxidizing agents. Instead of oxidation of Pt, displacement of acid constituents occurs. The structure of [illegible] apparently analog [illegible]

[illegible] with 25-30 ml. H_2O, 3-4 g. [illegible]NH_2, 2 ml. EtOH, and 2-3 drops [illegible] days the mixt. was filtered [illegible] and [illegible]

[illegible]

HCl, reaction [illegible] not go to completion. V reacted with HCl with [illegible]. The NO_2 group was the most easily displaced. IV and aqua regia, or III and gaseous Cl_2 gave II. Lawrence Sumners

5(2)

SOV/78-4-4-7/44

AUTHORS: Chernyayev, I. I., Nazarova, L. A., Mironova, A. S.

TITLE: Nitrito Compounds of Tetravalent Platinum. Communication I. (Nitrosoyedineniya chetyrekhvalentnoy platiny) (Soobshcheniye I)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 4, pp 747-754 (USSR)

ABSTRACT: The mechanism of the reaction between sodium nitrite and sodium hexachloroplatinate was investigated. The synthesis of nitritoplatinum compounds and an investigation of the intermediate complex compounds formed were carried out. The reaction between sodium chloroplatinate and sodium nitrite apparently occurs first through a reduction of the tetravalent platinum compound to yield platinum (II) compounds in which the chloride ion is exchanged with the nitrito group and the Pt(II) is finally oxidized to Pt(IV). The preparation of the mononitrito- and dinitrito chloro compounds of platinum (IV) is very difficult. Tetra- and penta nitritoplatinates can be prepared more easily. Hexa nitritoplatinates cannot be prepared. The trinitrito-

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SOV/78-4-4-7/44

Nitrito Compounds of Tetravalent Platinum. Communication I.

and tetranitrito chloro compounds of platinum (IV, were isolated in the purest form. The refractive indices of the crystals were determined, and specific reactions were carried out. The formation of the coordinates NO_2-NO_2 in chloronitrito compounds of Pt(IV) cannot be carried out by a substitution of the chlorine into the position trans to the nitrito group. The synthesis of potassium trinitrito trichloroplatinate is carried out by using a mixture of 3 g-moles $NaNO_2$ and 1 g-mole $Na_2PtCl_6.6H_2O$ with an excess of KNO_2. Yellow prismatic crystals are formed in this process. The compound formed has the composition $K_2[Pt(NO_2)_3Cl_3]$. By recrystallization from aqueous solution crystals of high purity were isolated. This compound crystallizes in two forms: facets and ribs. To ascertain each structure of the potassium trinitrito chloro platinate reactions with $AgNO_3$ and tetrammino platinum chloride were carried out. The synthesis of potassium tetranitrito dichloroplatinate

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Nitrito Compounds of Tetravalent Platinum. SOV/78-4-4-7/44
Communication I.

was carried out using 4 g-moles of sodium nitrite and 1 g-mole of $Na_2PtCl_6.6H_2O$. The potassium salt produced has the homogeneous composition $K_2\left[PtCl_2(NO_2)_4\right]$. The synthesis of potassium pentanitrito chloroplatinate was carried out using 5 g-moles of $NaNO_2$ to 1 g-mole $Na_2PtCl_6.6H_2O$. The homogeneity of the compound was confirmed by crystal-optic investigations. The solubility of $K_2\left[Pt(NO_2)_5Cl\right]$ at 25^C is 2.85 %. The crystal-optic investigations were carried out by E. Ye. Bureva. There are 2 figures and 5 Soviet references.

SUBMITTED: January 30, 1958

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5 (2)

AUTHORS: Babayeva, A. V., Golovnya, V. A., Nazarova, L. A. SOV/78-4-8-7/43

TITLE: On Complex Compounds of Platinum and Dichloro Diethyl Sulphide (O kompleksnykh soyedineniyakh platiny s dikhlordietilsul'fidom)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 8, pp 1741 - 1746 (USSR)

ABSTRACT: In contrast to thiourea and organic monosulphides (R-S-R) dichloro diethyl sulphide $S(C_2H_4Cl)_2$, termed also as yperite, is capable of entering the internal sphere of the platinum complex compound only with maximally two molecules and it is not capable of substituting ammonia or amines. The platinum complex compounds of yperite are very unstable, an yperite molecule is easily separated by heating. Yperite reacts especially easily with acido complex compounds of platinum. With $K_2[PtCl_4]$ it forms an almost quantitative precipitate of the composition $Pt2S(C_2H_4Cl)_2 2Cl$ the trans-form of which was confirmed by the reaction with NH_3: amino-thioglycol-electrolyte

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On Complex Compounds of Platinum and Dichloro Diethyl Sulphide SOV/78-4-8-7/43

$[PtS(C_2H_4OH)_2(NH_3)_3]Cl_2$ is formed. NH_3 thus has not only displaced the two chlorine substituents but also one molecule of yperite which may be explained by the trans-effect. The saponification of yperite into thioglycol took place due to the NH_3 excess. With $K_2[PtNO_2Cl_3]$ yperite reacts under formation of $[Pt2S(C_2H_4Cl)_2NO_2Cl]$ with cis-configuration, as was proved by the reaction with pyridine, Since yperite is not capable of displacing NH_3 from the platinum complex compounds it substitutes the two chlorine atoms in cis-position in the cis-dichloro diamino platinum. Also in the reactions with tetravalent platinum only two yperite molecules act and are saponified. It was found that under the action of pyridine a mixture of cis- and trans-isomers is formed. There are 6 Soviet references.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences, USSR)

SUBMITTED: May 16, 1958

Card 2/2

CHERNYAYEV, I.I.; NAZAROVA, L.A.; MIRONOVA, A.S.

Potassium hexanitroplatinate. Zhur.neorg.khim. 6 no.11:2444-2450 '61. (MIRA 14:10)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova AN SSSR.

(Platinum compounds)

AVTOKRATOVA, [illegible].D.; ANDRIANOVA, O.N.; BABAYEVA, A.V.; BELOVA, V.I.; GOLOVNYA, V.A.; DERBISHER, G.V.; MAYOROVA, A.G.; MURAVEYSKAYA, G.S.; NAZAROVA, L.A.; NOVOZHENYUK, Z.M.; ORLOVA, V.S.; USHAKOVA, N.I.; FEDOROV, I.A.; FILIMONOVA, V.N.; SHENDERETSKAYA, Ye.V.; SHUBOCHKINA, Ye.F.; KHANANOVA, E.Ya.; CHERNYAYEV, I.I., akademik, otv. red.

[Synthesis of complex compounds of platinum group metals; a handbook] Sintez kompleksnykh soedinenii metallov platinovoi gruppy; spravochnik. Moskva, Izd-vo "Nauka," 1964. 338 p. (MIRA 17:5)

1. Akademiya nauk SSSR. Institut obshchey i neorganicheskoy khimii. 2. Institut obshchey i neorganicheskoy khimii AN SSSR (for all except Chernyayev).

NAZAROVA, L.A.

Arteries of the muscles of a human foot. Nauch. trudy Kaz. gos. med. inst. 14:247-248 '64.

Morphology of the arterial system of the human foot. [illegible]

1. Kafedra anatomii (zav. - prof. A.G.Korotkov) Kazanskogo meditsinskogo instituta.

NAZAROVA, [illegible], [illegible], KOL[illegible], A.N.

N[illegible] compounds of platinum and the reaction of [illegible] platinum compounds with nitric acid. Zhur.neorg.khim. [illegible] no.12:2[illegible] [illegible] '61. (MIRA [illegible])

1. Institut obshchey i neorganicheskoy khimii AN [illegible] imeni Kurnakova.

AUTHORS: Semenov, A.A., Kvavadze, D.K., Nazarova, L.G. SOV/55-58-1-13/33
and Zvyagintseva, I.I.

TITLE: The Investigation of the Properties of Reflection of Some Systems With a Periodic Structure (Issledovaniye otrazhatel'nykh svoystv nekotorykh sistem, imeyushchikh periodicheskuyu strukturu)

PERIODICAL: Vestnik Moskovskogo universiteta, Seriya fiziko-matematicheskikh i yestestvennykh nauk, 1958, Nr 1, pp 107-114 (USSR)

ABSTRACT: The paper contains the results of an experimental investigation of the reflection of electro-magnetic waves 1) from metal grids with different grid constants d and wire radii r, 2) from the system screen - grid with different parameters. To 1): Case a: The vector E of the wave lies in the grid plane parallel to the axis of the wire. It is stated that for d = const the radius r influences the reflection only then essentially if d/λ is relatively small. The theoretical results obtained by Yampol'skiy [Ref 6] are confirmed by the experiment only for angles of incidence up to 50° . Case b: The vector H of the wave lies in the grid plane perpendicular to the axis of the wire. For large d/λ the influence of r also here is very little. To 2): Let the reflecting grid be replaced by a conducting plane and a rotating

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The Investigation of the Properties of Reflection of Some Systems With a Periodic Structure SOV/55-58-'-13/33

grid. It is stated that the coefficient of reflection can be diminished essentially by the introduction of the grid. There are 9 references, 3 of which are Soviet, 4 German, 1 Canadian, and 1 American.

ASSOCIATION: Kafedra rasprostraneniya, izlucheniya i kanalizatsii radiovoln (Chair of Propagation, Emission, and Guiding of Radio Waves)

SUBMITTED: February 16, 1957

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L 49415-65 EWT(d)/EWT(1)/EEC(k)-2/EEC-4/EEC(t)/T/FCS(k) Pg-4/Pi-4/Pj-4/Pl-4/
Pn-4/Pac-4/Pt-7 RB/WS-4/WR

ACCESSION NR: AP5011572 UR/0106/65/000/004/0071/0075

68
B

AUTHOR: Nazarova, L. G.

25B

TITLE: Losses of antenna gain in tropospheric radio propagation

19-

SOURCE: Elektrosvyaz', no. 4, 1965, 71-75

TOPIC TAGS: tropospheric radio propagation, centimeter band, decimeter band, antenna gain, antenna loss

ABSTRACT: Losses in antenna gain in long-distance tropospheric radio propagation have been studied on the basis of data compiled for the centimeter and decimeter bands in the U.S., England, Japan, and the USSR for the period 1955-1963. The data include: length of propagation path, beamwidth of transmitting and receiving antennas, gain of transmitting (G_1) and receiving (G_2) antennas, antenna system gain (G_1G_2), and ratio of the angle of dispersion to antenna beamwidth α/θ. An increase in losses was observed with increased G_1G_2, which can be expressed by the formula $\Delta G_{db} = (G_1G_2 - 35) \times 0.11$. The loss was noticeable only in antenna systems with $G_1G_2 \geq 35$ db. In determining the relationship between loss and distance, losses along all the measured paths were referred to the system whose gain was 80 db.

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ACCESSION NR: AP5011572

At distances of 500—600 km, losses increased with path length. For longer paths, the data were inconsistent; e.g., losses at 802 km were 13.5 db, while at 960 and 1024 km, they reduced to zero. Losses increased with increasing α/θ. No relation between losses and wavelength could be detected. Orig. art. has: 1 table, 5 figures, and 2 formulas. [KM]

ASSOCIATION: none

SUBMITTED: 30May64 ENCL: 00 SUB CODE: EC, ES

NO REF SOV: 002 OTHER: 010 ATD PRESS: 4003

Card 2/2

ARMAND, N.A.; VVEDENSKIY, B.A.; GUSYATINSKII, I.A.; IGOSHEV, I.P.;
KAZAKOV, L.Ya.; KALININ, A.I.; KOLOSOV, M.A.; LEVSHIN, I.P.;
LOMAKIN, A.N.; NAZAROVA, L.G.; NEMIROVSKIY, A.S.; PROSIN,
A.V.; RYSKIN, E.Ya.; SOKOLOV, A.V.; TARASOV, V.A.; TRASHKOV,
P.S.; TIKHOMIROV, Yu.A.; TROITSKIY, V.N.; FEDOROVA, L.V.;
CHERNYY, F.B.; SHABEL'NIKOV, A.V.; SHIREY, R.A.; SHIFRIN, Ya.S.;
SHUR, A.A.; YAKOVLEV, O.I.; ARENBERG, N.Ya., red.

[Long-distance tropospheric propagation of ultrashort radio waves] Dal'nee troposfernoe rasprostranenie ul'trakorotkikh radiovoln. Moskva, Sovetskoe radio, 1965. 414 p. (MIRA 18:9)

ACC NR: AM5027749 Monograph UR/

Armand, N. A.; Vvedenskiy, B. A.; Gusyatinskiy, I. A.; Igoshev, I.P.; Kazakov, L. YA.; Kalinin, A. I.; Nazarova, L. G.; Nemirovskiy, A. S.; Prosin, A.V.; Ryskin, E. YA.; Sokolov, A. V.; Tarasov, V.A.; Tashkov, P. S.; Tikhomirov, YU. A.; Troitskiy, V. N. Fedorova, L. V.; Chernyy, F. B.; Shabel'nikov, A. V.; Shiroy, N. A.; Shifrin, YA. S.; Shur, A. A.;;YAkovlev, O. I.; Kolosov, M. A.; Lovshin, I. P.; Lomakin, A. N.

Upper tropospheric propagation of ultrashort radio waves (Dal'noye troposfernoye rasprostraneniye ul'trakorotkikh radiovoln) Moscow, Izd-vo "Sovetskoye radio", 1965. 414 p. illus., biblio. 4000 copies printed.

TOPIC TAGS: radio wave propagation, tropospheric radio wave, radio communication, space communication, tropospheric scatter communication, signal processing, signal distortion, field theory

PURPOSE AND COVERAGE: This monograph is intended for specialists working in the field of radiowave propagation, designers of long-distance radio communication systems, and teachers and students of the advanced courses in schools of higher technical education. The monograph contains, for the most part, heretofore unpublished results of Soviet experimental and theoretical investigations in the field of long-distance tropospheric ultrashortwave propagation.

UDC: 621.371.24

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ACC NR: AM5027749

Problems of investigating the troposphere by means of refractometers, the mean level of signals, meteorological conditions and topography, fluctuation of arrival angles and distortions of antenna directivity patterns, losses in antenna gain, and quick and slow fadings of signal levels are discussed. The statistical characteristics of the signals at diversity reception in time, space, frequency and angle as well as the distortion of signals in the communication systems are also investigated. The long-distance propagation theory is analyzed, and the engineering method of calculating field intensity at long-distance tropospheric propagation is given. At present, there is no theory of Long-Distance Tropospheric Propagation which can be applied effectively enough in practice. Thus, in the investigation of that propagation, considerable attention has to be paid to experiments. The special characteristics of geographical conditions of the territory involved should be taken into consideration during the analysis of experimental data and in their practical application because the conditions of propagation in arctic and tropical climates differ from those existing over seas and continents. A considerable part of the monograph deals with the investigations of long-distance tropospheric propagation carried out over dry land routes, 800 km long, in the central part of the USSR under the general supervision of B. A. Vvedenskiy and A. G. Arenberg (up to 1957). V. I. Siforov investigated problems con-

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ACC NR: AM5027749

nected with distortions and fluctuations of signals. References follow each chapter.

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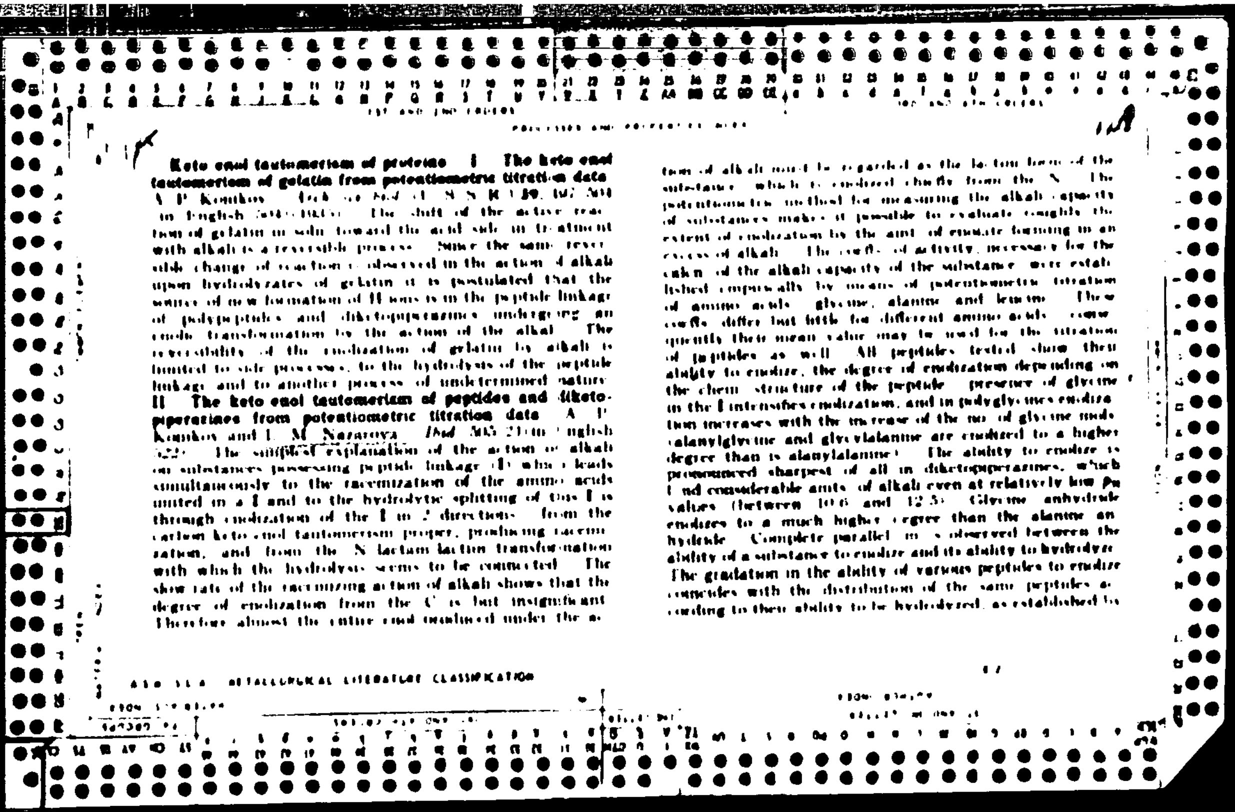

PROCESSES AND PROPERTIES INDEX

Keto-enol tautomerism of proteins. I. The keto-enol tautomerism of gelatin from potentiometric titration data. A. P. Konikov. Doklady Akad. Nauk S.S.S.R. 59, 497-501 (in English 502-3). The shift of the active reaction of gelatin in soln. toward the acid side on treatment with alkali is a reversible process. Since the same reversible change of reaction is observed in the action of alkali upon hydrolyzates of gelatin, it is postulated that the source of new formation of H ions is in the peptide linkage of polypeptides and diketopiperazines undergoing an enolic transformation by the action of the alkali. The reversibility of the enolization of gelatin by alkali is limited to side processes, to the hydrolysis of the peptide linkage and to another process of undetermined nature. **II. The keto-enol tautomerism of peptides and diketopiperazines from potentiometric titration data.** A. P. Konikov and L. M. Nazarova. *Ibid.* 505-21 (in English 522). The simplest explanation of the action of alkali on substances possessing peptide linkage (I) which leads simultaneously to the racemization of the amino acids united in a I and to the hydrolytic splitting of this I is through enolization of the I in 2 directions: from the carbon keto-enol tautomerism proper, producing racemization, and from the N lactam-lactim transformation with which the hydrolysis seems to be connected. The slow rate of the racemizing action of alkali shows that the degree of enolization from the C is but insignificant. Therefore almost the entire enol neutralized under the action of alkali must be regarded as the lactim form of the substance, which is enolized chiefly from the N. The potentiometric method for measuring the alkali capacity of substances makes it possible to evaluate roughly the extent of enolization by the amt. of enolate forming in an excess of alkali. The coeffs. of activity, necessary for the calcn. of the alkali capacity of the substance, were established empirically by means of potentiometric titration of amino acids: glycine, alanine and leucine. These coeffs. differ but little for different amino acids; consequently their mean value may be used for the titration of peptides as well. All peptides tested show their ability to enolize, the degree of enolization depending on the chem. structure of the peptide: presence of glycine in the I intensifies enolization, and in polyglycines enolization increases with the increase of the no. of glycine mols. (alanylglycine and glycylalanine are enolized to a higher degree than is alanylalanine). The ability to enolize is pronounced sharpest of all in diketopiperazines, which bind considerable amts. of alkali even at relatively low pH values (between 10.6 and 12.5). Glycine anhydride enolizes to a much higher degree than the alanine anhydride. Complete parallelism is observed between the ability of a substance to enolize and its ability to hydrolyze. The gradation in the ability of various peptides to enolize coincides with the distribution of the same peptides according to their ability to be hydrolyzed, as established by

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the researches of Abderhalden, Levene and others. This
connection between enolization and hydrolysis is par-
ticularly striking in diketopiperazines. alanine anhydride,
which enolizes but slightly, is more resistant to hydrolysis
free end, the stability of which decreases with the de-
crease of the pH of the medium, seems to participate in the
reaction of alk. hydrolysis, therefore decompn. of the
enolate by acid leads to a sharp intensification of hydroly-
sis. W. A. Perlzweig

NAZAROVA, L. M. Cand. Chem. Sci.

Dissertation: "Dipole Moments of Compounds of the Furan Group." Sci Res Order of the Labor Red Banner Physicochemical Inst imeni L. Ya. Karpov, 1 Dec 47.

SO: Vechernyaya Moskva, Dec, 1947 (Project #17836)

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Dipole moments of compounds of the furan group. L. M. Nazarova and Ya. K. Syrkin. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1949, 35-45.—(1) Measurements by the heterodyne method in soln. in C_6H_6 at 25° gave the following data for the [illegible] consts. α and β (C.A. 33, 2810), the total polarization at infinite diln. P_∞, the molar refraction R_D (in parentheses if calcd. from bond refractions), and the dipole moment μ (× 10^{18}): sylvan (I) 0.8166, 0.0547, 24.8, 23.3, 0.74; furfuryl alc. (II) 5.0732, 0.3000, 101.1, 24.0, 1.92; furil (III) 14.2800, 0.7140, 250.1, (48.6), 3.15; 2-nitrofuran (IV) 27.3444, 0.4277, 428.1, (28.0), 4.41; 5-nitrosylvan (V) 28.8110, 0.4200, 457.4, (30.9), 4.61; $(2\text{-}C_4H_3O)CH{:}CHNO_2$ (VI) 36.1288, 0.4707, 554.8, (32.5), 5.07; 2,5-dinitrofuran (VII) 21.8400, 0.7980, 341.1, (31.8), 3.88; 2-nitrothiophene (VIII) 26.9010, 0.5460, 408.6, 32.0, 4.27; 2,5-dinitrothiophene (IX) 8.0332, 0.8000, 183.1, (38.5), 2.66; pyromucic acid (X) 2.6800, 0.2760, 64.0, (24.6), 1.36; 5-nitropyromucic acid (XI) 28.6000, 0.7880, 378.6, (31.1), 4.08; 5-bromopyromucic acid (XII) 6.6000, 1.1000, 151.0, (33.3), 2.10; 4-bromopyromucic acid (XIII) 1.8864, 1.1100, 88.0, (32.0), 1.03; 2-bromofuran (XIV) 2.9456, 0.7641, 70.4, 25.1, 1.46; 2-iodofuran (XV) 3.2875, 1.2000, 76.1, 34.2, 1.03; 3-bromofuran (XVI) 1.1163, 0.7064, 48.1, 23.9, 0.91; 2,5-dibromofuran (XVII) 3.0800, 1.4000, 88.7, (33.0), 1.43; 2,3-dibromofuran (XVIII) 3.6167, 1.3035, 84.4, 25.7, 1.53. (2) The difference between the exptl. value of μ for C_4H_4O, 0.71 (Smyth and Walls, C.A. 26, 4008) and the calcd. vector sum, 6 1.33, indicates presence of resonance forms with a pos.-charged O, producing a moment in the opposite direction; this accounts also for the high resonance energy of 16.4 [illegible]. A similar comparison of the exptl. and the calcd. μ for I indicates that the resonance between the Me group and the furan ring is comparable to that between Me and the C_6H_5 ring (in toluene). In II, the exptl. μ = 1.92 is below [illegible] calcd. for the H atom of the OH group pointing toward the O of the ring, producing hindered rotation. In the case of III, the exptl. μ is not consistent with any possible planar structure, hence the 2 rings must lie in different planes. From IV, V, and VII it appears that the NO_2 group in furan has a polarity close to that in aromatic compds., i.e. higher than in aliphatic nitro derivs. In contrast thereto, the exptl. μ of XIV and XV is distinctly lower than the corresponding vector sums, indicating presence of structures with a pos. charged dicovalent Br or iodine. In XVI, the lowering of μ is much less pronounced than in XIV, but is still greater than in Br derivs. of C_6H_6. In XVII, the difference between the exptl. and the calcd. μ is smaller, which may be due to mutual hindrance of resonance between Br and the furan ring, or to a broadening of the angles between the vectors ending in O and in Br; a change by 10° is sufficient to account for the exptl. μ. (3) By cryoscopic detns., X and XI in soln. in C_6H_6 are monomeric, whereas XII and XIII are partially assocd. Absence of dimerization in X and XI should be linked with orientation of the H of the CO_2H group relative to the O atom of the ring, but none of the possible models gives a μ close enough to the exptl. value. N. T.

ASO-SLA METALLURGICAL LITERATURE CLASSIFICATION

Synthesis of 2,3-dibromofuran and the structure of 3-bromo- and 3,5-dibromopyromucic acids. L. M. Nazarova and Ya. K. Syrkin. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 19, 777-80(1949). Bromination of *pyromucic acid* with solvents according to Hill and Sanger [Ann. 232, 42(1885)] gave the *4,5-di-Br deriv.*, m. 17[illegible] 71.2° (from H_2O, after purification through the Ba salt). This (2 g.), 20 g. quinoline, and 1 g. powd. Cu upon decarboxylation at 110-80° in an inert atm. (illuminating gas), with completion at 220° in vacuo, gave 100% *2,3-dibromofuran*, b$_{760}$ 166-27°, n_D^{20} 1.5458, d_4^{20} 1.8807, resinifying rapidly in the air. Detn. of the dipole moment in C_6H_6 gave 1.53D. The data indicate that H. and S.'s 3-bromopyromucic acid is the 4 isomer, and their 3,5-di-Br deriv. is the 4,5 isomer. G. M. Kosolapoff

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1,3-Dimethylcyclopentane. [illegible] Nazarova and B. A. Kazanskii (M. V. Lomonosov [illegible] Univ., Moscow). *Zhur. Obshchei Khim.* 20, 1498-1503(1950); [illegible] — *2-Methyl-5-hexen*-[illegible] dehydrated with 50% H_2SO_4 at 50-60° gave 68-70% [illegible] *methyl-1,5-hexadiene*, b. 85.7°, n_D^{20} 1.40[illegible]. Hydration by heating with $HgSO_4$ in 60% MeOH with H_2SO_4 gave a mixt. of CH_2:CMeCH₂CH₂CH [illegible] and Me [illegible] ketone, b. 67-100°, which was cyclized by H_3PO_4 (d. 1.70) yielding 47% *2,4-dimethyl-2-cyclopenten-1-one*, b. 71.3°, n_D^{20} 1.4650. Hydrogenation in EtOH with Pt-C and in the presence of a little H_2PtCl_6 gave rapid addn. of 2.1 moles H and yielded after fractionation 21% *hydrocarbon*, C_7H_{14}, b. [illegible], n_D^{20} 1.4094, d_4^{20} 0.7457, and 60% *2,4-dimethylcyclopentanol*, b. 150.01°, n_D^{20} 1.4418, d_4^{20} 0.8882. Hydrogenation with Raney Ni in EtOH at 100 atm. H at 85° utilized 2 moles H and gave 85% of the *latter alc.* only, b. 155-7°, n_D^{20} 1.4473. Dehydration of the alc. with $(CO_2H)_2$ at 115° gave 78.8% *unsatd. hydrocarbon*, which had the same consts.: b. [illegible] 2.8°, n_D^{20} 1.4288, d_4^{20} 0.7711, regardless of the source of the alc. This 2,4-*dimethylcyclopentene* on hydrogenation over Pt-C in EtOH took up 1 mole H and gave a 1,3-*dimethylcyclopentane*, b. 90.5°, n_D^{20} 1.4085, d_4^{20} 0.7454, also formed by vapor-phase hydrogenation over Pt-C at 160°; its properties checked those of the hydrocarbon product of hydrogenation of the ketone (above). The possibility of stereoisomers in this prepn. has not been cleared up. G. M. K.

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1 3 Dimethylcyclopentane A N Koperina, I M Nazarova, and B A Kazanskii [illegible] 45 [illegible] 20 1301 (in Engl translation) [illegible] R M S

NAZAROVA, L.M.; SYRKIN, Ya.K.

Dipole moments of some derivatives of furan and thiophene. Zhur. Obshchey Khim. 23, 478-81 '53. (MLRA 6:3)
(CA 47 no.16:7847 '53)

1. L.Ya. Karpov Phys.-Chem. Inst., Moscow.

NAZAROVA, L.M.

Dipole moments of some derivatives of furan and thiophene. L. M. Nazarova and Ya. K. Syrkin. J. Gen. Chem. U.S.S.R. 23, 473(1953)(Engl. translation).—See C.A. 47, 7847f. H. L. H.

NAZAROVA, L.M.

Equivalence of bonds in quaternary ammonium compounds. L. M. Nazarova, M. G. Shirmazan and Ya. K. Syrkin. *Doklady Akad. Nauk S.S.S.R.* 90, 1045-6 (1953).—All 4 bonds N—C in R_4N^+ are equiv., as shown by the following expts. with C^{14}-labelled MeI. Me_3N and labelled MeI (derived from labelled HCO_2Me) yielded labelled Me_4NI, which was thermally decompd. 30 hrs. at 250° in a N stream, the Me_3N being recovered in H_3PO_4 while the evolved MeI was treated with unlabelled Me_3N and the resulting Me_4NI examd. for C^{14} activity. Preliminary tests showed no recombination of Me_3N and MeI during the decompn. of the initial salt and that no Me group exchange occurs between MeI and Me_3N in H_3PO_4. The C^{14} activity of the MeI evolved in the thermal decompn. was precisely 0.25 of the activity of the labelled quaternary salt. When Me_3NPhI, prepd. from Me_2NPh and labelled MeI, was decompd. at 170°, the resulting MeI after reaction with ordinary Me_2NPh gave a quaternary salt whose activity was 0.33 of that of the initial salt, thus again showing equivalence of the C—N links. G. M. K.

Nazarova, L. M.

USSR/Chemistry - Physical chemistry

Card 1/1 Pub. 147 - 7/26

Authors : Nazarova, L. M.

Title : Dipole moments of certain triphenylmethane derivatives

Periodical : Zhur. fiz. khim. 28/1, 36-41, Jan 1954

Abstract : The dipole moments were measured for the following triphenylmethane derivatives: triphenylcarbinol, triphenylfluroromethane, triphenylchloromethane, triphenylbromomethane, triphenyliodomethane, triparatolylchloromethane, triphenylmethylsodium and sodiumthriphenylcarbinolate. The polarity of the O - Na bond in sodiumtriphenylcarbinolate was established at 1.62 D. The dipole moment of triphenylmethylsodium was found to be 10 times greater than the moment of aliphatic lithium derivatives. Only the dipole moments of triphenylcarbinol and halogen derivatives of triphenylchloromethane appear to correspond to the dipole moments of aliphatic derivatives. Nine references: 1-USSR; 3-USA and 5-German (1902-1952). Tables; drawing.

Institution : The L. Ya. Karpov Physico-Chemical Institute, Moscow

Submitted : February 16, 1953

NAZAROVA, L. M.

USSR/Chemical Technology. Chemical Products and Their I-1
Application--Treatment of natural gases and
petroleum. Motor fuels. Lubricants.

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 9308

Author : Lavrovskiy, K. P., Makarov, D. V., and Nazarova, L. M.
Inst : Petroleum Institute of the Academy of Sciences USSR
Title : The Combined Deep-Seated Hydrogenation Method

Orig Pub: Tr. In-ta nefti AN SSSR, 1956, Vol 8, 145-154

Abstract. The combined deep-seated hydrogenation of residual oils from Romashkin crude has been investigated in pilot plant installations of the continuous type. The charge stock (d_4^{20} [illegible], 10.3% boiling below 350°, 17 [illegible] boiling between 350 and 400°) is mixed with 2% carbon-base Fe-catalyst and subjected to a single-pass hydrogenation in a tubular reactor at 470° and 350 atm; the reactor throughput is 2.5 kg/liter/hour. A contact time of 3 min is used. The hydrogenate obtained in 90% yields is subjected

Card 1/3

USSR/Chemical Technology. Chemical Products and Their I-14
Application--Treatment of natural gases and
petroleum. Motor fuels. Lubricants.

Abs Jour: Ref Zhur-Khimiya, No 3, 1957, 9306

Abstract: to distillation; residue boiling above 470° (7.8% of the residual oil charge) and containing 23.5% asphaltenes is separated. A broad cut (boiling below 470°), containing no asphaltenes, is sent through a second hydrogenation treatment over a highly active fixed bed catalyst (WS_2) at 390-400° and 200 atm; the throughput of the second stage is 2.0 kg/liter/hour with a recycle coefficient of 1.0. No poisoning of the catalyst is observed and the yield of hydrogenate (d_4^{20} 0.7395, gasoline of bp up to 200° 43,5%, gas oil of bp 200-340° 4?.5%, [illegible] the hydrocarbons 22.5%, naphthenic [illegible], S 0%) is 97%. The application of [illegible] presented hydrogenation to petroleum distillation residues rich in asphaltenes and resins makes possible a marked increase

Card 2/3

USSR/Chemical Technology. Chemical Products and Their I-14
Application--Treatment of natural gases and
petroleum. Motor fuels. Lubricants.

Abs Jour: Ref Zhur-Khimiya, No 7, 1957, [illegible]

Abstract: in the output of useful products, lowers the H_2 requirements, and leads to the production of a desulforized motor fuel of high quality requiring no further treatment; the yield of the latter is 79.5% calculated on the residual oil charge. The flow sheet and equipment used in combined deep-seated hydrogenation are considerably simpler than those of industrial installations using fluidized catalyst beds.

Card 3/3

NAZAROVA, L.M.

Investigation of the mobility of the tertiary butyl group in derivatives of terti-butylbenzene by the method of isotope exchange. Zhur.ob.khim. 26 no.6:1640-1646 Je '56. (MIRA 11:1)

1.Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. Karpova.
(Chemistry, Organic--Synthesis) (Benzene) (Isotopes)

AUTHOR: [illegible] zarov, [illegible] [illegible]

TITLE: Investigations of the Mobility of the Ethyl Group in Benzene and Its Derivatives Using the Method of Isotopic Exchange (Issledovaniye podvizhnosti etil'noy gruppy v benzole i yego proizvodnykh metodom izotopnogo obmena)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 8, pp [illegible] US

ABSTRACT: The work reported in this paper was concerned with the ethyl group exchange between ethyl benzene (its o-, m-, and p-derivatives) and ethyl phenol (o-, m-, and p-) on the one hand and ethyl bromide on the other. Also considered was the decomposition of ethyl benzene in the presence of several metallic ethyl compounds, and for comparison the behavior of tertiary butyl benzene with metallic ethyl compounds was cited. On the basis of the work by Anschütz (Ref 2), Heise and Töhl (Ref 3) (Anshyutts, Kheyze, Tol'), in which the mobility of the ethyl group was demonstrated for boiling ethyl benzene in the presence of $AlCl_3$, and on the basis of the Friedel-Crafts reaction, which indicates this mobility in ethyl bromide, it can be argued that the group exchange between ethyl benzene and ethyl bromide in the presence of

Card 1/3

SOV/79-28-8-9/66

Investigations of the Mobility of the Ethyl Group in Ethyl Benzene and Its Derivatives Using the Method of Isotope Exchange

$AlCl_3$ must take place. The investigations of the authors, however, show the opposite to be true, with the exception of the Friedel-Crafts case. Here results show that the lack of decomposition in the case of ethyl benzene and [illegible] results from its dependence on the various δ-charges on the carbon atoms of the ethyl groups in ethyl benzene and ethyl bromide, in contrast to the charge requirements on the carbon atoms of the butyl groups. Marking the ethyl groups with C^{14} it was found that at 150° ethyl benzene, nitroethyl benzene and several ethyl phenols do not exchange ethyl groups with ethyl bromide. Ethyl benzene reacts with metallic ethyl compounds which tend to dissociate into ions (C_2H_5MgBr, C_2H_5Na). In contrast to ethyl benzene, the tertiary butyl benzene does not dissociate its side chain along with the dissociation of ethyl magnesium bromide or sodium ethylate. The [illegible] point to the influence of the δ-charges on the carbon atoms of the reacting groups. There are 1 table and 5 references, 1 of which is Soviet.

Card 2/3

SOV/79- [illegible]

Investigations of the Mobility of the Ethyl Group in Ethy[illegible] Derivatives Using the Method of Isotope Exchange

ASSOCIATION: Nauchno-issledovatel'skiy Fiziko-khimicheskiy institut
L. Ya. Karpova
(Scientific Physico-Chemical Research Institute imeni [illegible]
Karpov)

SUBMITTED: July 1, 1957

Card 3/3

MAKAROV, D.V.; NAZAROVA, L.K.

Autofining process of mixed fractions. Trudy Inst.nefti 13:250-255 '59. (MIRA 13:12)

(Petroleum--Refining)

(3), 5 4, SOV/79-29-8-28/[illegible]

AUTHOR: Nazarova, L. M.

TITLE: Investigation of the Nature of the "Carbon-Metal" Bonds According to the Isotopic Exchange Method. I. Exchange of the Ethyl Groups

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 8, pp [illegible] (USSR)

ABSTRACT: In the present paper, the author investigated the exchange of ethyl groups between the organo-metallic compounds of mercury, lead, sodium, magnesium, zinc, and aluminum, in eight systems: Diethyl mercury-tetraethyl lead, tetraethyl-lead-ethyl sodium, tetraethyl-lead-tetraethyl aluminum, tetraethyl-lead-ethyl-magnesium bromide, diethyl-mercury-ethyl sodium, diethyl-mercury-ethyl-magnesium bromide, diethyl-mercury-diethyl zinc, diethyl-mercury-triethyl aluminum. The results are given in the table. In most of the cases, the exchange was accompanied by a partial [illegible] of the product, in such a way that the exchange in percent represents only a conditional number, and the change in the mole ratio of the product is not considered when determining the percentage content. The table indicates that in systems containing tetraethyl lead, the exchange takes place readily, except for system 8 (tetraethyl-lead-tri[illegible] [illegible] [illegible] mercury, [illegible] exchange [illegible] better than, especially in the cases [illegible]

Card 1/[illegible]

Investigation of the Nature of the "Carbon-Metal" Bond. SOV/[illegible]
According to the Isotopic Exchange Method. I. Exchange of the Ethyl Gr

ethyl-magnesium bromide, or triethyl aluminum). In the latter case, no noticeable signs of a decomposition can be seen. On the whole, it must be noted that in systems with diethyl mercury the decomposition takes place in a far lesser degree than in systems with tetraethyl lead. Consequently, the lability of the bond and the exchangeability are not parallel. The radioactivated organo-metallic compounds are denoted in the table with C^{14}. There are 1 table and 13 references, 8 of which are Soviet.

ASSOCIATION: Fiziko-khimicheskiy institut imeni L. Ya. Karpova (Physicochemical Institute imeni L. Ya. Karpov)

SUBMITTED: July 7, 1958

Card 2/2

NAZAROVA, L.M.; ALEKSANDROVA, G.Ye.

Relationship between the capacity of organometallic compounds for exchanging organic groups and their catalytic activity in polymerization. Vysokom.soed. 3 no.12:1822-1826 D '61. (MIRA 15:3)

1. Fiziko-khimicheskiy institut imeni L.Ya.Karpova.
(Organometallic compounds) (Polymerization) (Catalysis)

NAZAROVA, L.M.

Study of the nature of carbon-to-metal bonds by means of isotopic exchange. Part 2: Exchange of phenyl groups. Zhur. ob. khim. 31 no.4:1119-1121 Ap '61. (MIRA 14:4)

1. Fiziko-khimicheskiy institut imeni L. Ya. Karpova.
(Chemical bonds) (Phenyl groups)(Organometallic compounds)

2790
S/079/61/031/010/006/010
D243/D304

5.3700

AUTHORS: Nazarova, L.M., Kharlamova, Ye. N., Aleksandrova, G. Ye., and El'tekova, Ye. B.

TITLE: Interaction of benzole with phenyl derivatives of elements in Group IV of the Periodic Table and of their molecular composition by methods using tagged atoms

PERIODICAL: Zhurnal obshchey khimii, v. 31, no. 10, 1961, 3308-3311

TEXT: The report was to fill a gap in literature and investigate further the 1:1 molecular combination of triphenylmethane and benzole described previously by Anschütz (Ref. 2: Lieb. Ann., 235, 208 (1886)). The combustion of the molecular compounds and benzole for activity analysis was effected by the method of moist oxidation with a Van Slayk-Fol'kh mixture, the carbon monoxide being absorbed by a saturated solution of barium hydrate which was later filtered, washed and dried. Activity measurements were

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S/079/61/031/010/006/010
D243/D304

Interaction of benzole ...

taken over five minute periods, alternating with background measurements: At least five readings were taken with each specimen. Exchange experiments with benzole were done in glass ampoules. $Э(C_6H_5)_4$ (where Э = Sn, Si, Pb) was placed in a dry ampoule and benzole added in a molar ratio of 1:15. The ampoule was sealed under nitrogen and heated at 150° until complete solution of $Э(C_6H_5)_4$. After cooling the ampoule was opened, and excess benzole removed by a current of nitrogen. The dry remainder was left for some days in a fume cupboard and then removed to a desiccator for storage. Conclusions: 1) Tetraphenylsilicon, tetraphenyltin and tetraphenylead form stable moleculat compounds with benzole which have a general formula $(Э(C_6H_5)_4)_7 \cdot C_6H_6$, whilst triphenylmethane forms a highly unstable 1:2 molecular compound with benzole. 2) A method of determining the molecular compositions of these compounds using tagged C^{14} atom was suggested. There are 2 tables and 2 references: 1 Soviet-bloc and 1 non-Soviet-bloc.

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27906
S/079/61/031/010/006/010
D243, D304

Interaction of benzole ...

ASSOCIATION: Fiziko-khimicheskiy institut imeni L. Ya. Karpova (Institute of Physical Chemistry imeni L. Ya. Karpov)

SUBMITTED: September 24, 1960

Card 3/3

NAZAROVA, L.M.

Limited electron-donor and electron-acceptor capacity of atoms and groups in organic compounds. Zhur.ob.khim. 32 no.5:1423-1427 My '62. (MIRA 15:5)
(Organic compounds--Dipole moments)

L 62170-65 EPR/ARG/EWG(s)-2/EWP(c)/EWT(d)/EWP(h)/FBD/FBO/FCS(k) Pn-4/Ps-4/Pw-4
ACCESSION NR: AR5016487 UR/0124/65/000/006/A006/A006

SOURCE: Ref. zh. Mekhanika, Abs. 6A43

29
B

AUTHORS: Vereshchagin, I. F.; Nazarova, L. P.

TITLE: Parallel approach of two points in an inclined plane

CITED SOURCE: Uch. zap. Permsk. un-t, no. 118, 1964, [illegible]-60

TOPIC TAGS: pursuit course

TRANSLATION: The problem of the pursuit of a target moving uniformly in a horizontal straight line is solved. The pursuit of the target is produced according to the scheme of parallel approach. The forces of gravity and of drag of the surrounding medium are assumed to act on the pursuer. Control by the motion of the pursuer is accomplished by means of thrust directed in a plane perpendicular to the plane of pursuit and containing the velocity vector of the pursuer. Under these conditions the equations determining the trajectory of the pursuer motion are extracted and integrated in finite form. The trajectory of the pursuer is written in terms of exponential functions. Conditions are given for

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which interception of the target occurs. A transcendental equation determining the time of interception is obtained. The equations for the magnitude and direction of the thrust are not integrated in the general form. Their integration is carried out only for the case of the pursuer motion in a vacuum. V. I. Kirgetov

SUB CODE: AC ENCL: 00

Card 2/2