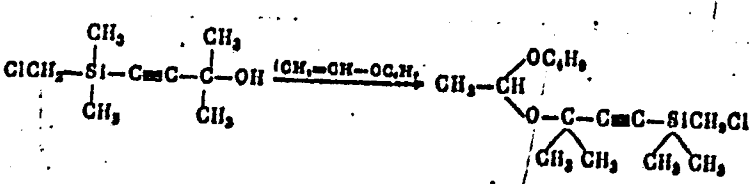
ACCESSION NR: AP4018057



1-chlormethyldimethylsilicon-3-methylbutine-1-ol-3 and 1-chlormethyldimethylsilicon-3-methylpentine-1-ol-3 are described for the first time. n.-butyl (1-chlormethyldimethylsilicon-3-methylbutine-1) acetal is obtained and determined. Orig. art. has: 2 tables.

ASSOCIATION: Institut neftekhimicheskikh protsessov Akademii nauk Azerbaydzhanskoy SSR (Institute of Petrochemical Processes, Academy of Sciences, Azerbaidzhan SSR)

| | | |
|---|---|---|
| SUBMITTED: 25Dec62 | DATE ACQ: 19Mar64 | ENCL: 00 |
| SUB CODE: CH | NO REF SOV: 005 | OTHER: 010 |

Card 3/3

SIN, G.N.; SHOKIN, G.N.; KUZNETSOVA, A.G.

Continuous method of the reduction of cuprous chloride by metallic copper. Trudy MKHTI no.47:103-110 '64.

Solubility of copper monochloride in aqueous solutions of NaCl, NaCl + $CuCl_2$ and NaCl + $Na_2SO_4$. Ibid.:111-114 (MIRA 18:9)

(A) L 12917-66 EWT(m)/EWP(j) RM

ACC NR: AP6006992 SOURCE CODE: UR/0286/65/000/022/0061/0061

44,55 44,55

AUTHORS: Kuznetsova, A. G.; Ivanov, V. I.

33

B

ORG: none

TITLE: A method for obtaining polymethylphenyl siloxanes. 1,44,55 Class 39, No. 176419 15

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 61

TOPIC TAGS: polymer, siloxane, hydrolysis

ABSTRACT: This Author Certificate presents a method for obtaining polymethylphenyl siloxanes by co-hydrolyzing with water a mixture of organochlorosilanes at a temperature of 50—60C. To simplify the process, 65—80 parts (by weight) of water are taken per hundred weight parts of the organochlorosilane mixture.

SUB CODE: 11/ SUBM DATE: 04Apr63

Card 1/1 HW

UDC: 678.84

YAKHONTOVA, Ye.L.; KUZNETSOVA, A.G.

Preparation of boric acid by sulfuric acid decomposition of borates. Zhur.prikl.khim. 38 no.11:2401-2406 N '65.

(MIRA 18:12)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni D.I. Mendeleyeva. Submitted October 17, 1963.

L 20809-66 EWP(j)/EWT(m)/T IJP(c) RM

ACC NR: AP6005948 (A) SOURCE CODE: UR/0191/66/000/002/0015/0019

AUTHOR: Kuznetsova, A. G.

ORG: none

36

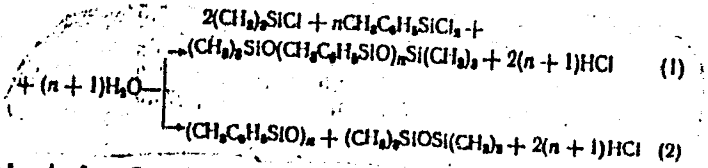
B

TITLE: Study of the composition of polymethylphenylsiloxanes according to the particle size

SOURCE: Plasticheskiye massy, no. 2, 1966, 15-19

TOPIC TAGS: siloxane. condensation reaction, catalytic polymerization, silane, sulfuric acid, polymer, fractional distillation

ABSTRACT: Composition of polymethylphenylsiloxanes (I) obtained by hydrolytic condensation of trimethylchlorosilane (II) and methylphenyldichlorosilane (III) according to the scheme



$$2(CH_3)_3SiCl + nCH_3C_6H_5SiCl_2 + (n+1)H_2O \begin{cases} \rightarrow (CH_3)_3SiO(CH_3C_6H_5SiO)_nSi(CH_3)_3 + 2(n+1)HCl & (1) \\ \rightarrow (CH_3C_6H_5SiO)_n + (CH_3)_3SiOSi(CH_3)_3 + 2(n+1)HCl & (2) \end{cases}$$

has been investigated. Samples of I, obtained with ratios of II:III = 2:3;

Card 1/2

UDC: 678.84.01:539.2

L 20809-66

ACC NR: AP6005948

0

2:5; 2:7; 2:9; and 2:1 by hydrolytic condensation only (method 1) and by hydrolytic condensation followed by treatment with sulfuric acid (method 2), were fractionally distilled (up to 250C/1-2 mm), and the residues were fractionated by reprecipitation. Molecular weight distribution curves were plotted from the molecular weights of each fraction. The results indicated that the content of polymers of low molecular weight decreases with increased amount of III. Products obtained by method 1 were considerably more dispersed than those yielded by method 2. Apparently sulfuric acid acts as: a) a dehydrating agent facilitating the condensation reaction and formation of high molecular weight products; b) a catalyst inducing regrouping of high molecular weight I and leading to a balanced distribution of polymers according to molecular weight. Orig. art. has: 4 tables, 5 figures, and 1 equation.

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

Card 2/2

L 43024-66 EWT(m)/EWP(j)/T/EWP(t)/ETI IJP(c) JD/DJ/RM

**ACC NR:** AP6030848 (A,N) **SOURCE CODE:** UR/0191/66/000/009/0022/0024

**AUTHOR:** Kuznetsova, A. G.; Ivanov, V. I.

43
B

**ORG:** none

**TITLE:** Hydrochloric acid-induced catalytic rearrangement of polymethylphenylsiloxanes 7

**SOURCE:** Plasticheskiye massy, no. 9, 1966, 22-24 21

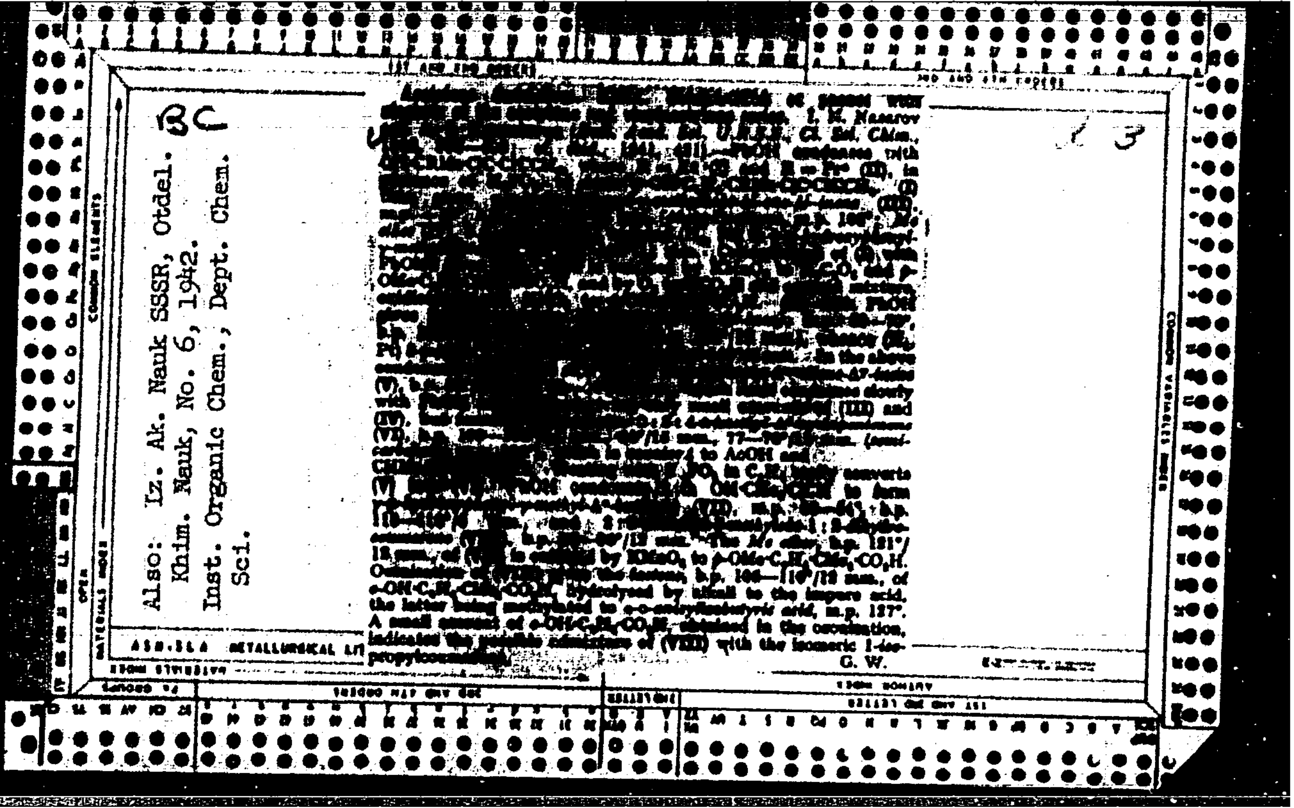
**TOPIC TAGS:** silicone, silicone lubricant, CATALYSIS, HYDROCHLORIC ACID

**ABSTRACT:** A study has been made of the feasibility of using HCl as the catalyst in the catalytic rearrangement of polymethylphenylsiloxane liquid polymers. 7 It is noted that catalytic rearrangement is used to ensure a more uniform composition of the fluid and to improve its physico-chemical properties//3 The use of HCl, which is formed in the hydrolytic condensation of the organochlorosilanes, in lieu of $H_2SO_4$ would simplify the preparative method by making hydrolytic condensation and catalytic rearrangement a one-step operation. The experiment involved catalytic rearrangement in the presence of 35% HCl or 75% $H_2SO_4$, and comparison of the catalytic-rearrangement products with one another and with the hydrolytic-condensation product. The criteria used in the comparison were the silicon-content, refractive-index, viscosity, and molecular-weight distributions. It was found that HCl was as suitable a rearrangement catalyst as $H_2SO_4$. Orig. art. has: 5 figures. [SM]

**SUB CODE:** 11/ **SUBM DATE:** none/ **ORIG REF:** 004/ **OTH REF:** 008/ **ATD PRESS:** 7 5073

Card 1/1 fv

UDC: 678.84:[678.044.8:546.131



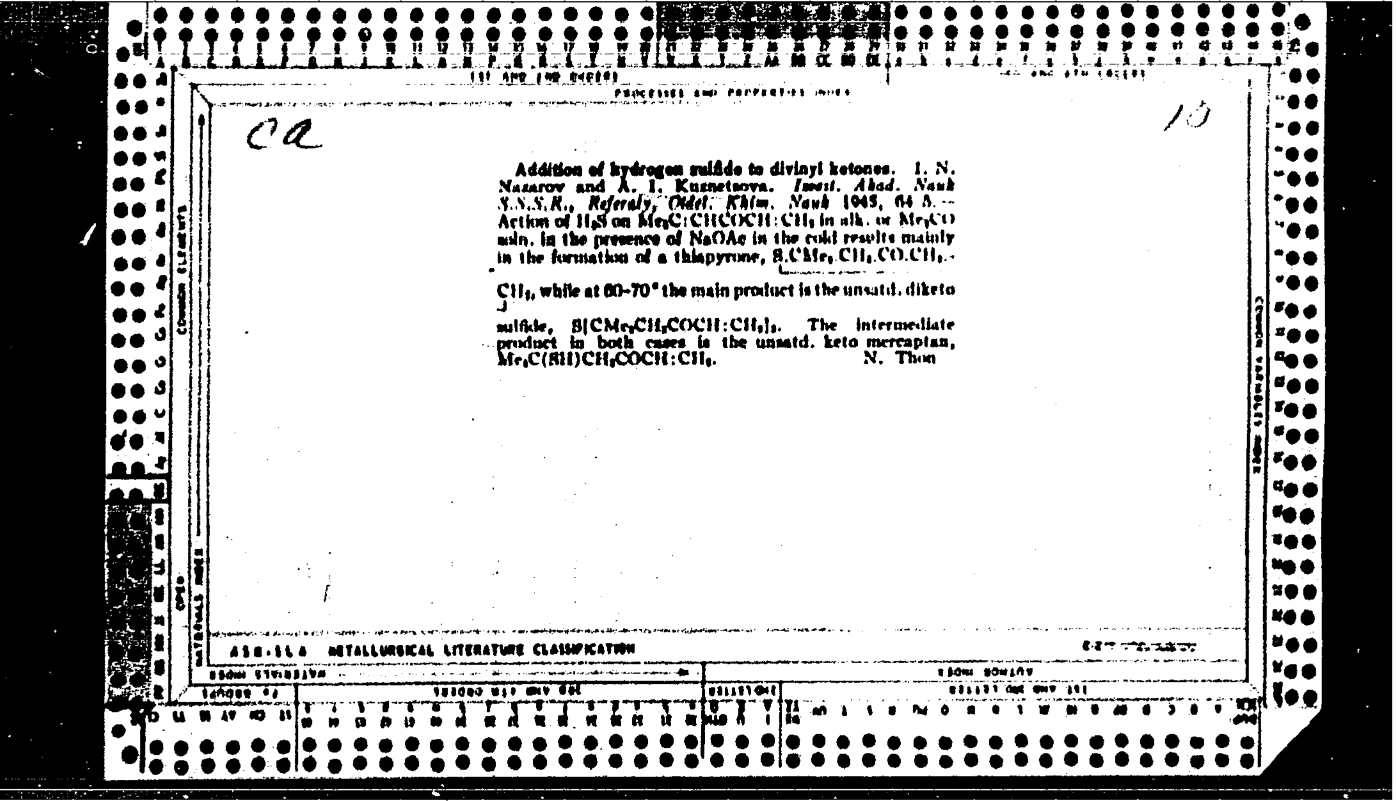
BC

Also: Iz. Ak. Nauk SSSR, Otdel. Khim. Nauk, No. 6, 1942.
Inst. Organic Chem., Dept. Chem. Sci.

2 3

[illegible] I. N. Nazarov [illegible] Cl. Sci. Chim., [illegible] condenses with [illegible] (II), in [illegible] in the above [illegible] slowly with [illegible] (III) and [illegible] /15 mm., 77—79° [illegible] to AcOH and [illegible] in $C_6H_6$ [illegible] converts (V) [illegible] condenses with $OH\cdot CMe_2\cdot C{\equiv}CH$ to form [illegible] (VIII), m.p. [illegible]; b.p. [illegible] /12 mm. The Me ether, b.p. 121°/12 mm., of [illegible] is oxidised by $KMnO_4$ to $p\text{-}OMe\cdot C_6H_4\cdot CMe_2\cdot CO_2H$. Oxidation of (VIII) [illegible] the lactone, b.p. 106—110°/12 mm., of $o\text{-}OH\cdot C_6H_4\cdot CMe_2\cdot CO_2H$, hydrolysed by alkali to the impure acid, the latter being methylated to α-o-anisylisobutyric acid, m.p. 127°. A small amount of $o\text{-}OH\cdot C_6H_4\cdot CO_2H$, obtained in the oxidation, indicated the possible admixture of (VIII) with the isomeric 1-isopropylcoumar[illegible]

G. W.



PROCESSES AND PROPERTIES INDEX

Ca

15

**Addition of hydrogen sulfide to divinyl ketones.** I. N. Nazarov and A. I. Kuznetsova. *Izvest. Akad. Nauk S.S.S.R., Referaty, Otdel. Khim. Nauk* 1945, 64 5.— Action of $H_2S$ on $Me_2C:CHCOCH:CH_2$ in alk. or $Me_2CO$ soln. in the presence of NaOAc in the cold results mainly in the formation of a thiapyrone, $S.CMe_2.CH_2.CO.CH_2.CH_2$, while at 60-70° the main product is the unsatd. diketo sulfide, $S[CMe_2CH_2COCH:CH_2]_2$. The intermediate product in both cases is the unsatd. keto mercaptan, $Me_2C(SH)CH_2COCH:CH_2$. N. Thon

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

KUZNETSOVA, A. I.

USSR/Chemistry - Detones, 1,3-Butadiene
Chemistry - Acetylene, Derivatives

Jan/Feb 1948

"Acetylene Derivatives, Part LVIII: The Chemistry of Divinyl Ketones, X, the Addition of Hydrogen Sulfide to B, B -Dimethyldivinylketone," I. N. Nazarov, A. I. Kuznetsova, Inst of Org Chem, Acad Sci USSR, 9 pp

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 1

Details study of the mechanism of the compounding of hydrogen sulfide with B, B -dimethyldivinyldetone, showing simple method of obtaining unsaturated ketothiol (II), thiopyron (V), and diketosulfide (VII).

PA 66T28

Inst. Organic Chem., Dept. Chem. Sci. AS.

KUZNETSOVA, A. I.

USSR/Chemistry - Acetylene, Derivatives
Chemistry - Synthesis

Aug 48

"Acetylene Derivatives: No 78, Combination of Hydrogen Sulfide With 1-Methoxy-5-Alkyl-4-Hexene-3-On," I. N. Nazarov, A. I. Kaznetsova, I. A. Gurvich, Inst Org Chem, Acad Sci USSR, 5½ pp

"Zhur Obshch Khimii" Vol XVIII (LXXX), No 8

Action of hydrogen sulfide on 1-methoxy-5-alkyl-4-on-3 in solution of 70-95% alcohol in presence of sodium acetate at temperature of 0° produced 1-methoxy-5-methylhexane-thiol-5-on-3 with a yield of 50%, 1-methoxy-5-methylheptane-thiol-5-on-3, and 1-methoxy-5-methyloctane-thiol-5-on-3 with yield of 25%. Action of hydrogen sulfide on mesityl oxide in solution of 70% alcohol in presence of sodium acetate at temperature 0° produced 2-methyl-pentane-thiol-2-on-4. Submitted 7 Apr 47.

PA 19/49T14

Mbr., Inst. Organic Chemistry, Dept. Chem. Sci. AS.

KUZNETSOVA, A. I.; NAZAROV, I. N.; GUREVICH, I. A.

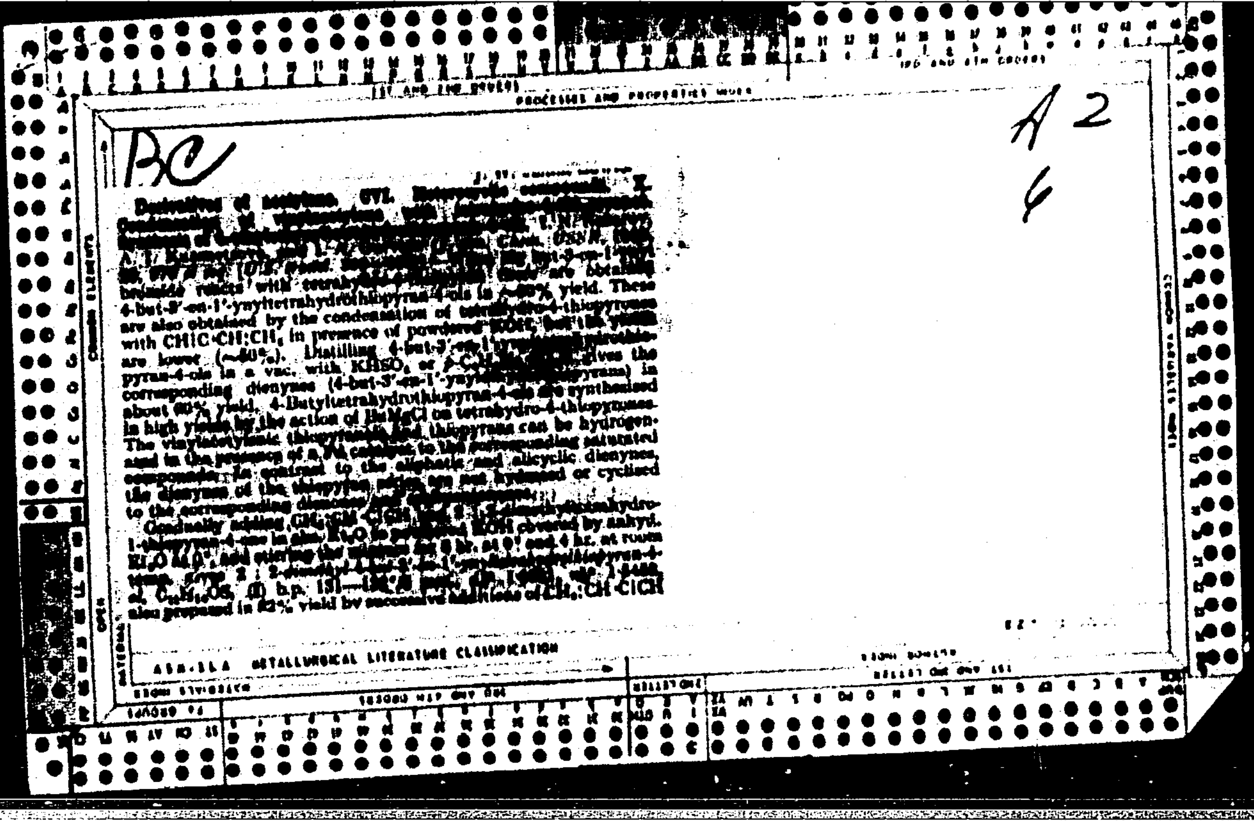
p. 2148 Acetylene derivatives. 104. Investigation of heterocyclic compounds. X. New method of synthesis of tetrahydro-ethiopyrones by the action of hydrogen sulphide on vinylallyl-ketones. Zhurnal obshchei khimii 1949, Vol. 19, No 12

Translated Contents Lists of Russian Periodicals No 11, April 1950. Department of Scientific and Industrial Research.

KUZNETSOVA, A. I.

"Acetylene derivatives. 105. Investigation of heterocyclic compounds. X. Synthesis of 4-ethinyl tetrahydro-thiopyran-4-ols by condensation of acetylene with tetrahydro-γ-thiopyrones.
I. N. Nazarov, A. I. Kuznetsova and A. V. Topchiev and Ya. M. Paushkin." (p. 2164)

SO: Journal of General Chemistry (Zhurnal Obshchei Khimii) 1949, Vol. 19, No. 12

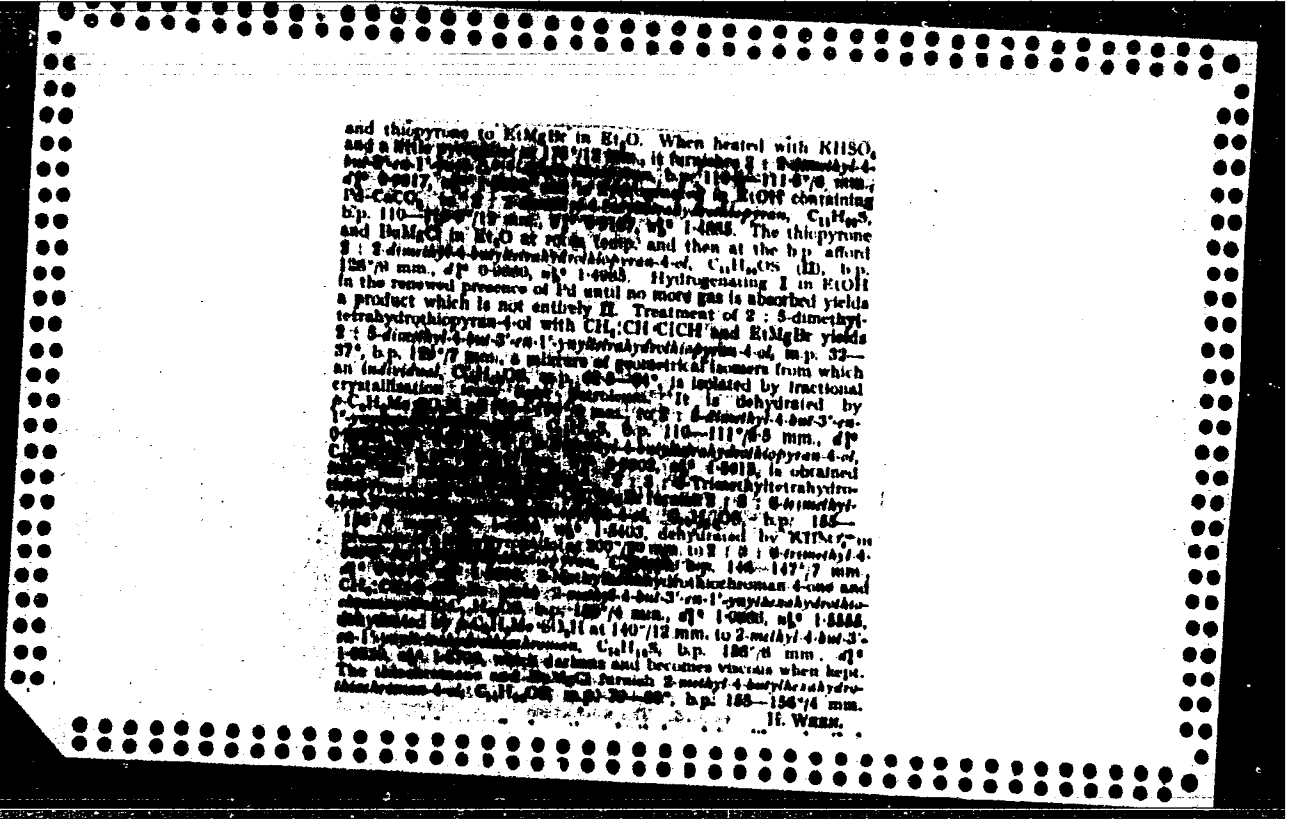


BC

A 2
4

Derivatives of acetylene. CVI. [illegible] compounds. X. Condensation of vinylacetylene with [illegible] I. N. Nazarov, A. I. Kuznetsova, and I. [illegible]. J. Gen. Chem. U.S.S.R. [illegible] [illegible] bromide reacts with tetrahydro[illegible] in ~80% yield. These 4-but-3'-en-1'-ynyltetrahydrothiopyran-4-ols are also obtained by the condensation of tetrahydro-4-thiopyranones with CH⋮C·CH:CH$_2$ in presence of powdered KOH, but the yields are lower (~60%). Distilling 4-but-3'-en-1'-ynyl[illegible]pyran-4-ols in a vac. with KHSO$_4$ or p-C[illegible] gives the corresponding dienynes (4-but-3'-en-1'-ynyl[illegible]thiopyrans) in about 80% yield. 4-Butyltetrahydrothiopyran-4-ols are synthesized in high yields by the action of BuMgCl on tetrahydro-4-thiopyranones. The vinylacetylenic thiopyranols and thiopyrans can be hydrogenated in the presence of a Pd catalyst to the corresponding saturated compounds. In contrast to the aliphatic and alicyclic dienynes, the dienynes of the thiopyran series are not hydrated or cyclized to the corresponding dienones [illegible] dimethyltetrahydro-

Gradually adding CH$_2$:CH·C⋮CH [illegible] KOH covered by anhyd. [illegible] 1-thiopyran-4-one in abs. Et$_2$O [illegible] and stirring the mixture for [illegible] hr. at 0° and 4 hr. at room temp. gives 2:2-dimethyl[illegible]thiopyran-4-ol, C$_{11}$H$_{16}$OS (I), b.p. 131—132° [illegible] also prepared in 82% yield by successive additions of CH$_2$:CH·C⋮CH



and thiopyrone to EtMgBr in $Et_2O$. When heated with $KHSO_4$ and a little [illegible] °/12 mm., it furnishes 2 : 5-dimethyl-4-but-3'-en-1' [illegible] b.p. 110—111·5°/6 mm., $d^{20}$ 0·9017, [illegible] in EtOH containing Pd-$CaCO_3$ [illegible] thiopyran, $C_{11}H_{20}S$, b.p. 110—[illegible]/12 mm., [illegible] $n^{20}$ 1·4885. The thiopyrone and BuMgCl in $Et_2O$ at room temp. and then at the b.p. afford 2 : 5-dimethyl-4-butyltetrahydrothiopyran-4-ol, $C_{11}H_{22}OS$ (II), b.p. 125°/6 mm., $d^{20}$ 0·9880, $n^{20}$ 1·4985. Hydrogenating I in EtOH in the renewed presence of Pd until no more gas is absorbed yields a product which is not entirely II. Treatment of 2 : 5-dimethyltetrahydrothiopyran-4-ol with CH$_2$:CH·C:CH and EtMgBr yields 2 : 5-dimethyl-4-but-3'-en-1'-ynyltetrahydrothiopyran-4-ol, m.p. 32—37°, b.p. 125°/7 mm., a mixture of geometrical isomers from which an individual, [illegible], m.p. [illegible], is isolated by fractional crystallisation [illegible] petroleum. It is dehydrated by p-$C_6H_4Me$·$SO_3H$ [illegible] mm. to 2 : 5-dimethyl-4-but-3'-en-[illegible] b.p. 110—111°/6·5 mm., $d^{20}$ [illegible] tetrahydrothiopyran-4-ol, [illegible] $n^{20}$ 1·5018, is obtained [illegible] 2 : 6-Trimethyltetrahydro-[illegible] 2 : 6 : 6-trimethyl-[illegible] b.p. 155—158°/[illegible] $n^{20}$ 1·5403, dehydrated by $KHSO_4$ in [illegible] 200°/12 mm. to 2 : 6 : 6-trimethyl-4-[illegible] b.p. 146—147°/7 mm., [illegible] thiochroman-4-one and [illegible] 2-methyl-4-but-3'-en-1'-ynyloctahydrothio-[illegible] b.p. [illegible]/4 mm., $d^{20}$ 1·0[illegible], $n^{20}$ 1·5[illegible], dehydrated by [illegible] at 140°/12 mm. to 2-methyl-4-but-3'-en-1'-ynyl[illegible]thiochroman, $C_{14}H_{18}S$, b.p. [illegible]/6 mm., $d^{20}$ 1·0[illegible], $n^{20}$ 1·5[illegible], which darkens and becomes viscous when kept. The thiochromanone and BuMgCl furnish 2-methyl-4-butyloctahydrothiochroman-4-ol, [illegible], m.p. [illegible], b.p. 155—156°/4 mm.

H. Wren.

KUSNETSOVA, A. I.

USSR/Chemistry - Acetylene Derivatives May 52

"Acetylene Derivatives, 139, Heterocyclic Compounds; XV. Synthesis of the Acids of the Thiopyrane Series by Condensation of Tetrahydro-Thiopyrone With Cyanoacetic and Bromoacetic Esters," I. N. Nazarov, A. I. Kusnetsova, Inst of Org Chem, Acad Sci USSR

Zhur Obshch Khim, Vol 22, No 5, pp 835-847

Describes methods showing that these substances can be used as starting materials in the synthesis of physiologically active compds and medicines.

263T32

KUSNETSOVA, A. I.

USSR/Chemistry - Acetylene Derivatives Steroids Jun 52

"Acetylene Derivatives. 140. Heterocyclic Compounds. XVI. Synthesis of Sulfone Analogues of Steroid Compounds With a Thiopyrane Ring B," I. N. Nazarov, I. A. Gurbich, A. I. Kusnetsova, Inst of Org Chem, Acad Sci USSR

"Zhur Obshch Khim" Vol XXII, No 6, pp 982-984

By means of the diene condensation, a synthesis was developed for the 1st time for obtaining sulfone analogues of steroid ketones with the sulfur in the B ring. The A and B rings are joined in the trans- position, the C and D rings in the cisposition. The above product does not form the usual carbonyl derivs, while its hydrogenated products easily yield 2,4-dinitrophenyl hydrazone.

218T22

KUZNETSOVA, A. I.

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 Khin" Vol XXII, No 6, pp 984-989

Sulfur heterocycles prepd by the action of $H_2S$ on vinyl allyl detones have a 6-Membered sturcture. On reduction of tetrahydro- γ -thiopyrone by Kizhner's method the corresponding tetrahydro thiopyrones were obtained in a 60% yield. The yield of 2-methyltetrahydro-1-thiopyrone-4-one was improved. Discussed the mechanism of its formation.

218T23

KUZNETSOVA, A. I.

USSR/Chemistry - Acetylene Derivatives Polycyclic Sulfur - Containing Compounds Jun 52

"Acetylene Derivatives. 142. Heterocyclic Compounds. XVIII. Diene Synthesis on the Basis of Dioxides of Substituted $\gamma$-Thiopyrones," I. N. Nazarov, I. A. Gurbich, A. I. Kuznetsova, Inst of Org Chem, Acad Sci USSR

"Zhur Obshch Khim" Vol XXII, No 6, pp 990-998

When a glacial acetic acid soln of tetrahydro-$\gamma$-thiopyrone dioxides is treated with Br and heated, a high yield of mono- and dibromosulfones is obtained. Upon heating with sodium acetate in acetone, HBr is split off, and the dioxides of $\gamma$-thiopyrone and of dihydro-1-thiopyrone are formed with a 70-80% yield. Describes the results of the synthesis. The capacity of the tetrahydro-$\gamma$-thiopyrone dioxides to take part in the diene synthesis depends on the position of the substituent in the nucleus. Methyl groups in the $\alpha$-position to the carbonyl group makes kiene condensation difficult; the methyl group in the $\beta$-position to carbonyl makes it impossible below 200°.

218T24

NAZAROV, I. N., GURVICH, I. A., KUZNETSOVA, A. I.

Thiochromanones

Acetylene drivatives. Part 143. Heterocyclic compounds. No. 19. Stereoisomerism of hydrogenated thiochromanones. Zhur. ob. khim. 22, no. 7, 1952.

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

NAZAROV, I. N., GURVICH, I.A., <u>KUZNETSOVA, A.I.</u>

Sulfones

Acetylene derivatives. Part 144. Heterocyclic compounds. No. 20. Stereoisomerism of hydrogenated thiochromanones. Part 2. Zhur. ob. khim. 22 no. 8, 1952.

9. <u>Monthly List of Russian Accessions</u>, Library of Congress, <u>November, 1952</u> 1953, Uncl.

NAZAROV, I.N.; KUZNETSOVA, A.I.

Acetylene derivatives. Report 152. Heterocyclic compounds. Part 28. Synthesis of certain derivatives of tetrahydro-γ-thiopyrones. Izv.AN SSSR Otd.khim.nauk no.3:506-512 My-Je '53. (MLRA 6:8)

1. Institut organicheskoy khimii Akademii nauk SSSR.
(Acetylene derivatives) (Thiopyrones)

USSR/Chemistry - Sulfur Organic Compounds; Steroids Nov/Dec 53

"Synthesis of Sulfur Analogs of Steroid Compounds by Diene Condensation of Cyclic Gamma-Ketosulfones With Bicyclic Dienes," I.N. Nazarov, I.A. Gurvich, A. I. Kuznetsova

Iz Ak Nauk SSSR, OKhN, No 6, pp 1091-1099

Synthesized a number of tetracyclic ketosulfones (among them compds having the structural skeltons of thiopyranophenathrene and thiochromanoindane) and investigated their properties.

5(3) SOV/62-59-4-15/42

AUTHORS: Nazarov, I. N., Kuznetsova, A. I., Kuznetsov, N. V., Titov, Yu. A.

TITLE: Diene Condensations of 1,3-Dimethylbutadiene With Asymmetric Dienophilic Compounds (Diyenovyye kondensatsii 1,3-dimetilbutadiyena s nesimmetrichnymi diyenofilami)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 4, pp 663-667 (USSR)

ABSTRACT: In the present work the condensation of 1,3-dimethylbutadiene with methyl acrylate and methylmethacrylate and with acrylonitryls was investigated. By heating 1,3-dimethylbutadiene with methyl acrylate at 220° a mixture of adducts (V) and (VI) in a yield of 60% was obtained. The asymmetric isomer (V) was predominant. The adducts were dehydrogenated on carbon-supported palladium at 350°. The saponification of the dehydrogenation products gave a 26 : 1 mixture of known 2,4- and 3,5-dimethylbenzoic acids. The condensation of 1,3-dimethylbutadiene with methyl methacrylate at 220° gave the adducts (VII) and (VIII) in a yield of 76%, the asymmetric isomer (VII) being again highly predominant. The saponification of the adducts gave a

Card 1/2

SOV/62-59-4-15/42

Diene Condensations of 1,3-Dimethylbutadiene With Asymmetric Dienophilic Compounds

mixture of liquid acids. The dehydrogenation of the mixture on carbon-supported palladium gives a mixture of trimethylbenzenes. The oxidation under pressure of this mixture diluted with nitrogenous acid gave an 18 : 1 mixture of trimellitic and trimesic acids. By heating 1,3-dimethylbutadiene with acrylonitryl at 220° a 13 : 1 mixture of cyclic nitryls (IX) and (X) was obtained in a yield of 74%. Their structure was proved by the dehydrogenation to corresponding aromatic nitryls, which formed 2,4- and 3,5-dimethylbenzoic acids upon saponification. Thus it has been shown for the first time that mixtures of structure-isomeric adducts are formed by the condensation of 1,3-disubstituted butadienes with asymmetric dienophilic compounds. There are 5 references, 1 of which is Soviet.

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: July 9, 1957

Card 2/2

5(2), 5(4) SOV/78-4-1-34/48

AUTHORS: Bergman, A. G., Kuznetsova, A. I.

TITLE: The Solubility Diagram of the Ternary System $H_2O$-KCl-$CaCl_2$ From the Temperature of Complete Solidification to 300° (Diagramma rastvorimosti troynoy sistemy $H_2O$-KCl-$CaCl_2$ ot temperatury polnogo zamerzaniya do 300°)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 1, pp 194-204 (USSR)

ABSTRACT: The reciprocal solubility of potassium and calcium chloride at lower and higher temperatures was investigated by a visual-polythermic method. At first the binary systems $CaCl_2$-$H_2O$ and KCl-$H_2O$ were examined and completed. Twelve sections were examined for the plotting of the solubility diagrams. Ten crystallization zones may be seen in the diagram: Ice, KCl, KCl.n$H_2O$, $CaCl_2$.6$H_2O$, $CaCl_2$.4$H_2O$, $CaCl_2$.2$H_2O$, $CaCl_2$.$H_2O$, $CaCl_2$, α- and β-KCl.$CaCl_2$. The modification α-KCl.$CaCl_2$ exists from +37.8 to +196°. At a higher temperature the compound changes to modification β-KCl.$CaCl_2$. On the basis of the results obtained

Card 1/2

SOV/78-4-1-34/48

The Solubility Diagram of the Ternary System $H_2O-KCl-CaCl_2$ From the Temperature of Complete Solidification to 300°

the phase diagram of the ternary system $H_2O-KCl-CaCl_2$ was plotted from the solidification point -50.5° to the melting points of the anhydrous components. In the system 8 triple non-variant points occur whose characteristics are shown in table 4 together with data concerning the solid phases. There are 7 figures, 5 tables, and 25 references, 16 of which are Soviet.

ASSOCIATION: Institut khimii Akademii nauk TadzhSSR i Rostovskiy gosudarstvennyy universitet (Institute of Chemistry of the Academy of Sciences Tadzhikskaya SSR and Rostov State University)

SUBMITTED: July 8, 1957

Card 2/2

5 (3)

AUTHORS: Nazarov, I. N., Titov, Yu. A., Kuznetsova~~, A. I.~~ SOV/62-59-7-17/38

TITLE: Orientation of the Structure of the Diene Condensations of 2-Phenyl-butadiene and of Trans-1-phenyl-butadiene With Unsymmetrical Dienophiles (Strukturnaya napravlennost' diyenovykh kondensatsiy 2-fenilbutadiyena i trans-1-fenilbutadiyena s nesimmetrichnymi diyenofilami)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 7, pp 1270 - 1279 (USSR)

ABSTRACT: The present paper is a continuation of a systematic investigation of the rules governing the diene synthesis for the orientation of the synthesis in order to obtain certain structures carried out in the authors' laboratory. The synthesis of the unsymmetrically substituted dienes with unsymmetrical dienophiles can be carried out by two methods; i.e. under formation of two structure-isomeric adducts. Nearly always the mixture of these two structure isomers (Refs 1,2) is produced. This formation is assumed to be influenced by the nature of the substituents in the two compounds. The influence is investigated here in the diene condensation from the two dienes

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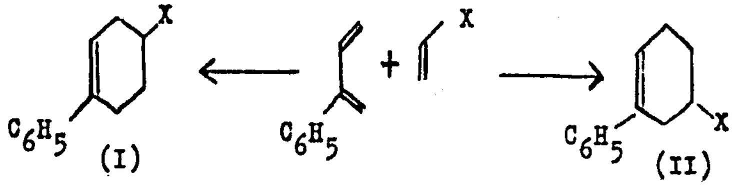
Orientation of the Structure of the Diene Condensations of 2-Phenyl-butadiene and of Trans-1-phenyl-butadiene With Unsymmetrical Dienophiles SOV/62-59-7-17/38

mentioned in the title and different unsymmetrical dienophiles. The scheme of the condensation is assumed as it follows:



The condensation was carried out with the esters of the acrylic-, methacrylic acid, and styrene. The para- and meta-adducts (III) and (IV) are formed by the condensation with the methyl esters of the acrylic acid. The yield of metaisomers is already in the condensation with methacryl esters low and does not exist in the case of styrene. The investigation of the structure and spatial orientation of the trans-1-phenyl-butadiene was carried out with the same dienophiles. Meta-isomers were in all cases found in the adduct. A reduction of the content of trans-ortho adducts could be found in the transition from the acryl- to the methacryl ester compared to the

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Orientation of the Structure of the Diene Condensations of 2-Phenyl-butadiene and of Trans-1-phenylbutadiene With Unsymmetrical Dienophiles

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cis-ortho adducts. The transformation schemes as they are obtained from the reactions, are represented and the transformation and synthesis is described in detail in the experimental part. There are 25 references, 5 of which are Soviet.

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SUBMITTED: October 22, 1957

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5(3)

SOV/62-59-8-12/42

AUTHORS: Nazarov, I. N., Titov, Yu. A., Kuznetsova, A. I.

TITLE: Structural Orientation of the Diene Condensation of Isoprene With Unsymmetrical Dienophils

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 8, pp 1412-1420 (USSR)

ABSTRACT: The present paper contains a systematical investigation of the diene condensation of isoprene. In most cases it has so far been possible only to obtain the para-adduct, one of the two theoretically possible structural isomers. Petrov and Sapozhnikov (Ref 1) also obtained the meta isomer (1948). The authors in previous studies of the separation of the meta isomer from the isoprene adduct with the methyl esters of acrylic and methacrylic acids had reported on this subject (Ref 9). It could also be demonstrated that the diene condensation of the dimer of isoprene varies in its reaction mechanism in relation to the reaction temperature. Thus the synthesis was carried out at various temperatures, just as in reference 9 (20, 120, 200 and 400°). The structural formulas of the various adducts obtained and their formation processes are given. It is shown that the meta isomer yield increases with mounting temperatures. Furthermore an investigation was made

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SOV/62-59-8-12/42

Structural Orientation of the Diene Condensation of Isoprene With Unsymmetrical Dienophils

of the influence of the substituents on the meta adduct yield. Results showed that at an increase of the volume of the substituent in position α the meta adduct yield decreases. In order to investigate the said influence isoprene was condensed with the esters of acrylic, methacrylic, and α-isopropylacrylic acids. From the condensation of isoprene with acrylic acid, its methylester and nitrile as well as acrolein the two structural isomeric adducts can be obtained in a ratio 1 : 1. The results concerning the adducts found by various methods of synthesis are compiled in tables 1-3. The individual methods are described in the experimental part. There are 3 tables and 16 references, 8 of which are Soviet.

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SUBMITTED: October 22, 1957

Card 2/2

5 (3)

AUTHORS: Nazarov, I. N., Titov, Yu. A., Kuznetsova, A. I. SOV/62-59-9-13/40

TITLE: The Structural Dependence of Diene Condensations of 2-Alkyl Butadienes With Asymmetric Dienophiles

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 9, pp 1595 - 1604 (USSR)

ABSTRACT: The diene condensation of 2-propyl- (1), 2-isopropyl- (2), and 2-tert.-butylbutadiene (3) with esters of the α-substituted acrylic acid (methacrylic- and α-isopropyl acrylic acid) was carried out for the investigation of the influence of the volume of the substituent in the diene and dienophile on the direction of the diene synthesis. The synthesis occurred by heating the diene and dienophile mixture at 200° during 2-10 hours. (1) condensed with methylacrylic acid ester yielded the adducts I and II, (yield 81%), from which they obtained a mixture of para- and meta-isomers of the phthalic acid (2.4 : 1) by the action of barium salts. (1) with methacrylic methylester (yield 65%) yielded a mixture of the adducts (III) and (V). By saponification and separation with barium salts again p- and m-derivatives of the adducts were obtained (3.4 : 1). Condensation of (2)

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The Structural Dependence of Diene Condensations of 2-Alkyl Butadienes With Asymmetric Dienophiles SOV/62-59-9-13/40

yielded the adducts (VII) and (VIII) which formed as p- and m-isomers of the phthalic acid (ratio 3 : 1). In the course of the investigations it was established that the increase of the volume of the alkyl substituents in the diene- and dienophile, the quantity of the meta-isomers reduced in the mixture of the adducts. The results are interpreted by the increase of space-obstruction at the increase of the substituent volume. There are 10 references, 3 of which are Soviet.

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SUBMITTED: October 22, 1957

Card 2/2

5(3) SOV/20-124-3-26/67

AUTHORS: Nazarov, I. N., Academician (Deceased), Titov, Yu. A., Kuznetsova, A. I.

TITLE: The Structural Orientation of the Diene-Condensations of 1- and 2-Alkylbutadienes With Asymmetric Dienophiles (Strukturnaya napravlennost' diyenovykh kondensatsiy 1- i 2-alkilbutadiyenov s nesimmetrichnymi diyenofilami)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 3, pp 586-588 (USSR)

ABSTRACT: For the purpose of a systematic study of the influences of various alkyl substituents in the diene and dienophile on the proportion of the resulting isomers, diene-condensations of esters of acrylic acid, methacrylic acid, and α-isopropylacrylic acid with isoprene, 2-propyl-, 2-isopropyl- and 2-tertiary-butyl-butadiene, as well as with piperylene, 1-isopropyl-, 1-butyl- and 1-tertiary-butyl-butadiene were carried out. All condensations were effected by heating the components in steel ampullae for several hours to 200°C, with the addition of 0.1 - 0.2% hydroquinone as a polymerization inhibitor. The ratio of the structural isomers was determined by means of dehydration over 15-20% palladium coal

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SOV/20-124-3-26/67

The Structural Orientation of the Diene-Condensations of 1- and 2-Alkylbutadienes With Asymmetric Dienophiles

at 340-350°C, oxidation of the resulting alkyl benzoic acids or dialkyl benzenes into a mixture of isomeric phthalic acids, and separation of their barium salts by means of crystallization. - It was found that, with an increasing alkyl substituent volume at the 2-alkylbutadienes and dienophiles, the reaction becomes increasingly selective. The relative share of the metaisomer is lowered rapidly as compared with that of the paraisomer. In the 1-alkylbutadienes, however, an opposite selection occurs, and the share of the metaisomers rises. - This difference can be explained by the strong influence of steric factors. With an increasing substituent volume and a simultaneously increasing repulsion, there is a rise in the yield of that isomer which is formed via sterically less impeded transitional complexes. There are 2 tables and 13 references, 3 of which are Soviet.

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5(3)

SOV/20-126-3-35/69

**AUTHORS:** Titov, Yu. A., Kuznetsova, A. I.

**TITLE:** The Electronic Nature of Substituents in Diene and Dienophile and the Structural Trend of the Diene Synthesis (Elektronnaya priroda zamestiteley v diyene i diyenofile i strukturnaya napravlennost' diyenovogo sinteza)

**PERIODICAL:** Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 3, pp 586 - 588 (USSR)

**ABSTRACT:** At diene condensations of asymmetrically substituted dienes with asymmetric dienophiles, 2 structure isomers are possible, one of which is predominant. Such structural selectivity is absolutely connected with the mechanism of diene synthesis. Its study can constitute one of the ways for determining the mechanism of this important reaction. For studying the problem last mentioned in the title, the authors chose the acrylic acid and styrol as dienophiles. These two substances were introduced in diene condensations with 1- and 2-substituted dienes. The results obtained are compiled in table 1. It indicates that the substituents studied here do not show any distinct differences as to their adjusting influence on diene condensations

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in spite of their variable electronic properties. Nevertheless, the ratio of the resulting polymers depends, to a certain degree, on the nature of substituents. The latter can be put in a series as to their adjusting influence on the diene follows:

$$Cl > CH_3O > C_6H_5 > CH_3$$

Table 1 shows the condensations of the 2-substituted butadienes with asymmetric dienophiles. Table 2 shows the same for 1-substituted butadienes. On the basis of the results obtained, the authors conclude that by the transition from an electron- transmitting to an electron-receiving substituent in the diene or in the dienophile the structural trend is not reversed as it should be in an ion mechanism of the diene synthesis (Refs 1,2). Therefore, the ion mechanism should be rejected as it cannot explain the course of reaction. A mechanism of the diene synthesis by kinetically independent free radicals with an open chain (Refs 3,4) also seems to be unacceptable as it is incompatible with an existing spatial selectivity of the reaction (Ref 5). The fact (Refs 6,7) that at a diene decay no free radicals arise, The Electronic Nature of Substituents in Diene and Dienophile and the Structural Trend of the Diene Synthesis SOV/20-126-3-35/69

also speaks against it. It seems that for the diene synthesis the mechanism with a homolytic regrouping of electrons in the range of a cyclic transition complex is most probable, the latter being stereochemically similar to the adduct. This paper continues the investigations started under the direction of I. N. Nazarov. There are 2 tables and 7 references.

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

PRESENTED: March 3, 1959, by B. A. Kazanskiy, Academician

SUBMITTED: February 27, 1959

Card 3/3

NAZAROV, I.N.; TITOV, Yu.A.; KUZNETSOVA, A.I.

Structural orientation of diene condensations of 1-alkylbutadienes with unsymmetrical dienophiles. Izv.AN SSSR Otd.khim.nauk no.5:879-886 My '60. (MIRA 13:6)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk SSSR.
(Butadiene) (Piperylene) (Acrylic acid)

84855

5.3832 2209, 1370, 1153

S/062/60/000/010/008/018
B015/B064

AUTHORS: Titov, Yu. A. and Kuznetsova, A. I.

TITLE: Structural Orientation of Diene Condensation of Butadiene-1-carboxylic Acid With Acrylic Acid and Styrene

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 10, pp. 1810-1814

TEXT: The present paper continues investigations on the laws of diene synthesis commenced under the direction of I. N. Nazarov. A condensation of butadiene-1-carboxylic acid was carried out with acrylic acid and styrene, the structural isomers in the reaction products were separated, and their ratio determined. Acrylic acid and styrene were chosen as dienophiles since the former contains an acceptor substituent and the latter a donor substituent. Thus, the influence of the electronic character of the substituent upon the ratio of the structural isomers may be studied. Both condensations were made at 150°C, and lasted six hours. A mixture of ortho- and meta-adducts in a ratio of 8.8 : 1 was

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84855

Structural Orientation of Diene Condensation of Butadiene-1-carboxylic Acid With Acrylic Acid and Styrene

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obtained in the condensation with acrylic acid. The ratio of the structural isomers for trans-orthoisomer : cis-orthoisomer was found to be 8.6 : 1. The ortho-oriented adducts and the trans-isomers predominated also in the styrene condensation products. The polarity of the diene and dieneophilic molecules was found to be of no importance in the structural orientation of diene synthesis. The latter is somewhat weakened by the introduction of an acceptor substituent into the diene, or of a donor substituent into the dienophile, and becomes stronger if the diene contains donor substituents and the dienophile acceptor substituents. A similar phenomenon can also be observed in diene synthesis (Refs. 6-8). The technique of condensation and hydrogenation of the adducts is described. There are 11 references: 1 Soviet, 7 US, 2 German, and 1 British.

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84855

Structural Orientation of Diene Condensation of Butadiene-1-carboxylic Acid With Acrylic Acid and Styrene

S/062/60/000/010/008/018
B015/B064

SUBMITTED: May 13, 1959

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Card 3/3

84856

S/062/60/000/010/009/018
B015/B064

5.3832 2209, 1153, 1370

AUTHORS: Titov, Yu. A. and Kuznetsova, A. I.

TITLE: Structural Orientation of the Diene Condensations of 2-Methoxy Butadiene and Chloroprene With Asymmetric Dienophiles

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 10, pp. 1815-1819

TEXT: The diene condensations of 2-methoxy butadiene and chloroprene were carried out with acrylic acid and styrene, the para- and meta-isomers separated from the mixture of adducts, and their ratio determined. The condensations were performed by heating (at 150°C for 5-12 hours) the mixture of the diene and the dienophile in benzene in steel ampoules. In the condensation with acrylic acid, the ratio between para- and meta-isomer in the adduct mixture was 8 : 1, in the condensation with styrene, 12 : 1, in the condensation of chloroprene with acrylic acid, 9.3 : 1, and with styrene, 14.4 : 1. Thus, it was

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84856

Structural Orientation of the Diene
Condensations of 2-Methoxy Butadiene and
Chloroprene With Asymmetric Dienophiles

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found that in all condensations of 2-methoxy butadiene and chloroprene, mixtures of the two kinds of structural isomers are formed, with the para-oriented adduct predominating in the mixture. The amount of the meta-isomer does not change essentially. The structural orientation of chloroprene and styrene is somewhat more pronounced than that of 2-methoxy butadiene and acrylic acid. The lack of any essential difference in the ratio of the structural isomers of dienes and dienophiles with various kinds of substituents may be regarded as an argument in favor of the homologous reaction mechanism of diene synthesis. The techniques of the individual condensations are described. The present work forms part of the investigations commenced under the guidance of I. N. Nazarov. There are 19 references: 9 Soviet, 2 German, 4 US, 1 French, 1 Japanese, and 2 British.

X

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)

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84856

Structural Orientation of the Diene
Condensations of 2-Methoxy Butadiene and
Chloroprene With Asymmetric Dienophiles

S/062/60/000/010/009/018
B015/B064

SUBMITTED: May 13, 1959

X

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5.3831,5.3600

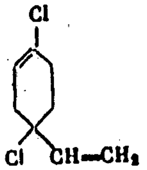
77367
SOV/79-30-1-28/78

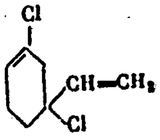
AUTHORS: Nazarov, I. N., Kuznetsova, A. I.

TITLE: Dimerization of Chloroprene

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 134-138 (USSR)

ABSTRACT: Chloroprene was stored in the dark for 2 years at 15-20°, in the presence of 3% pyrogallol. A mixture of dimers (45%) was formed, and subjected to fractional distillation. Of the possible dimers below, only I, III, and V were known to form from chloroprene at 60-85°.


(I)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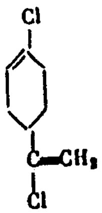
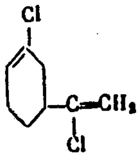

(III)


(IV)

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Dimerization of Chloroprene

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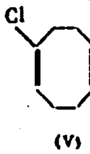
SOV/79-30-1-28/78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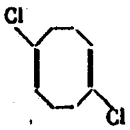
(VI)

In this work the presence of I, III, V, and VI, as well as of a significant amount of IV, was shown. IV is apparently formed in somewhat greater yield than III; this is analogous to the dimerization of isoprene. The work was complicated by the lack of stability of some of the products formed and by the difficulty of converting them into known substances for the purpose of structure determination. There are 9 references, 4 Soviet, 3 U.S., 2 U.K. The U.S. and U.K. references are: W. H. Carothers, et al., J. Am. Chem. Soc., 53, 4211 (1931); J. G. Brown, et al., J. Chem. Soc., 1944, 101; R E. Forster, et al., J. Am. Chem. Soc., 70, 2302

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Dimerization of Chloroprene

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(1948); A. C. Cope et al., J. Am. Chem. Soc., 70, 2305 (1948), ibid, 72, 3056 (1950); A. McCoubrey, J. Chem. Soc., 1951, 2931.

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

SUBMITTED: January 15, 1959

Card 3/3

5.3400

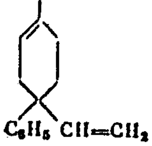
77308
SOV/79-30-1-29/78

AUTHORS: Nazarov, I. N., Kuznetsova, A. I.

TITLE: Dimerization of 2-Phenylbutadiene

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 1, pp 139-144 (USSR)

ABSTRACT: The possibility of dimerization of 2-phenylbutadiene with formation of meta-substituted dimers (III) and (IV), and also of eight-membered dimers (V) and (VI) was investigated.



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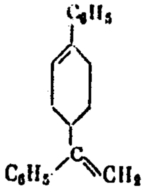

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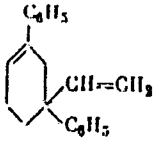

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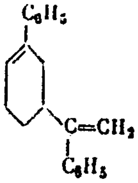

(IV)

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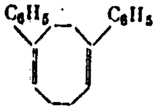

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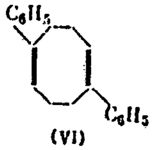

(VI)

Dimerization of 2-Phenylbutadiene

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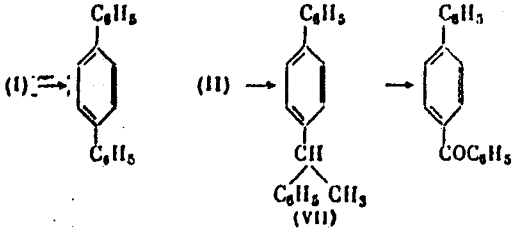
SOV/79-30-1-29/78

2-Phenylbutadiene in the presence of pyrogallol, after a 1-year storage, is converted (75%) into a mixture of crystalline (77%) and liquid (20%) dimers. From the crystalline part, dimer (I) (69%) and dimer (II) (7.6%) were isolated for the first time. Dehydrogenation of (I) over Pd/C forms terphenyl (20%).



Dimer (II) is easily dehydrogenated to 1-(1'-phenyl)-ethyl-4-phenylbenzene (VII) in 80% yield; (VII) is easily oxidized with $HNO_3$ under pressure to p-phenylbenzophenone, in 82% yield (mp 101-102°). From liquid dimer (after recrystallization, distillation, and dehydrogenation) terphenyl and (VII) were isolated. Oxidation of

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Dimerization of 2-Phenylbutadiene

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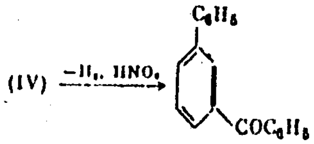
dehydrogenated products with $HNO_3$ gave p-phenylbenzophenone (mp 103°), and a small amount of m-phenylbenzophenone (yield is not given) which indicates the presence of the meta-substituted dimer (IV) in the starting mixture.



m-Phenylbenzophenone was synthesized, as follows: 3-phenyl-$\Delta^2$-cyclohexanone (4 g) (VII) was reacted with benzylmagnesium chloride forming (after hydrolysis) 1-phenyl-3-benzyl-$\Delta^{1,3}$-cyclohexadiene (IX) (4.5 g, bp 219-221 (9 mm)), which on dehydrogenation over Pd/C and oxidation with $HNO_3$ formed m-phenylbenzophenone, in 54.5% (mp 80°).

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Dimerization of 2-Phenylbutadiene

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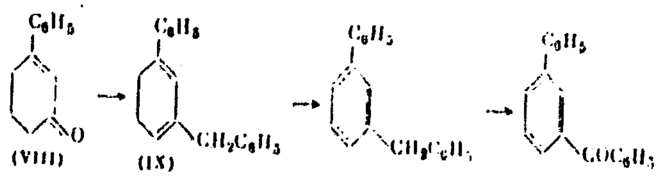
SOV/79-30-1-29/78



Dimerization of 2-phenylbutadiene at 220-230° forms a crystalline mixture of dimers (80%), from which (I) (57%) and (II) (12%) were isolated. From the liquid part, 1,2-dibenzoylethane (X) was isolated, which shows the presence of 1,4-diphenyl-$\Delta^{4,8}$-cyclooctadiene (V), in the liquid part of mixture.

$$(V) \longrightarrow \underset{(X)}{C_6H_5COCH_2CH_2COC_6H_5} + HOOCCH_2CH_2COOH$$

Thus, dimerization of diene with an aromatic substituent (2-phenylbutadiene) forms most of the theoretically possible dimers, (I), (II), (IV), and (V). Compound (II)

Dimerization of 2-Phenylbutadiene

77368
SOV/79-30-1-29/78

was isolated for the first time (mp 57-58°, colorless plates). There are 6 references, 3 Soviet, 1 German, 1 U.S., 1 U.K. The U.S. and U.K. references are: G. F. Woods, J. W. Tucker, J. Am. Chem. Soc., 70, 2174 (1948); H. H. Hatt, A. Pilgrim, E. F. M. Stephenson, J. Chem. Soc., 1941, 481.

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

SUBMITTED: January 15, 1959

Card 5/5

AKHREM, A.A.; KUZNETSOVA, A.I.

Use of thin lamination chromatography for the separation of steroid compounds. Med. prom. 15 no.2:57-62 F '61. (MIRA 14:3)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(CHROMATOGRAPHY) (STEROIDS)

AKHREM, A.A.; KUZNETSOVA, A.I.

Using thin-layer chromatography for the separation of steroid compounds. Dokl.AN SSSR 138 no.3:591-594 My '61. (MIRA 14:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR. Predstavleno akademikom B.A.Kazanskim.
(Chromatographic analysis) (Steroids)

KUCHEROV, V.F.; KUZNETSOVA, A.I.; MAVROV, M.V.; ALEKSEYEV, Ye.F.

Chemistry of polyenic and polyacetylenic compounds. Report No.3: $\gamma$-oxyacetylene- and vinylacetylenecarboxylic acids and some of their transformations. Izv.AN SSSR.Otd.khim.nauk no.3:484-490 Mr '62. (MIRA 15:3)

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

AKHREM, A.A.; KUZNETSOVA, A.I.; TITOV, Yu.A.; LEVINA, I.S.

Separation of acetylenic alcohols and glycols by means of thin layer chromatography on aluminum oxide. Izv.AN SSSR Otd.khim.-nauk no.4:657-661 Ap '62. (MIRA 15:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Alcohols) (Chromatographic analysis)

AKHREM, A.A.; KUZNETSOVA, A.I.

Thin layer chromatography. Usp. khim. 32 no.7:823-859
Jl '63. (MIRA 16:8)

1. Institut organicheskoy khimii AN SSSR imeni Zelinskogo.

ARKHEM, Afanasiy Andreyevich; KUZNETSOVA, Aleksandra Ivanovna;
SIMUKOVA, N.A., red.

[Thin-layer chromatography] Tonkosloinaia khromatografiia. Moskva, Nauka, 1964. 174 p. (MIRA 17:9)

KUZNETSOVA, A.I.

USSR/ Biology - Phytopathology

Card 1/1 Pub. 22 - 39/40

Authors : Natalyna, O. B.; Voronkevich, I. V.; and Kuznetsova, A. I.

Title : New bacterial disease of raspberry

Periodical : Dok. AN SSSR 99/3, 483-484, Nov 21, 1954

Abstract : The physiological and pathogenic characteristics of a new bacterial disease affecting raspberry plants are described and the causes of the disease are analyzed. Three USSR references (1935-1950). Illustration.

Institution: Agricultural Institute, Saratov, and the Moscow Branch of the All-Union Institute for Plant Protection, Moscow

Presented by: Academician V. N. Shaposhnikov, July 7, 1954

SHEVCHENKO, Yu.G.; KUZNETSOVA, A.I.

Combined method of preparation of the brain and modification of stains for the study of cellular and fibrous systems. Arkh. anat., Moskva 29 no.4:83-89 July-Aug 1952. (CLML 23:2)

1. Of the Patho-Architectonic Laboratory (Head -- Doctor Medical Sciences Yu. G. Shevchenko), Central Institute of Psychiatry (Director -- Docent D. Ye. Melikhov), Ministry of Public Health RSFSR.

[illegible]

SUKHENKO, S.I., kand.tekhn.nauk; KUZNETSOVA, A.I., inzh.

Preparation of coke oven charges from Kusnetsk Basin coals by selective crushing. Koks i khim.no.9:3-7 '57. (MIRA 10:12)

1. Kusnetskiy metallurgicheskiy kombinat.
(Coal preparation)

Kuznetsova, A.I.

68-10-5/22

AUTHORS: Lukanin, A.A. and Kuznetsova, A.I.

TITLE: From Experience of the Control of Heating Coke Ovens on the Kuznetsk Metallurgical Combine (Iz opyta regulirovaniya obogreva koksovykh pechey Kuznetskogo Metallurgicheskogo Kombinata)

PERIODICAL: Koks i Khimiya, 1957, Nr 10, pp.18-20 (USSR)

ABSTRACT: Temperature measurements in the plane of the axis of coke ovens at 3 different heights during the last five hours of the coking period were carried out (Table 1). Mean final temperatures in the tar line plane are given in Table 2. On the basis of the above measurements some control (methods of control not specified) of heating ovens was effected. As a final temperature in the tar line plane 1000°C was established. There are 2 tables.

ASSOCIATION: KuznetskMetallurgical Combine (Kuznetskiy Metallurgicheskiy Kombinat)

AVAILABLE: Library of Congress.

Card 1/1

KUPERMAN, P.I.; NIKITIN, Yu.K.; RAKOV, V.V.; RASKIN, V.Z.; KUZNETSOVA, A.I.

Characteristics of large dimenison coke ovens in connection with the cokihg of charges of Kuznetsk Basin coals. Koks i khim. no.12:22-27 '62. (MIRA 16:1)

1. Vostochnyy uglekhimicheskiy institut (for Kuperman, Nikitin).
2. Kuznetskiy metallurgicheskiy kombinat (for Rakov, Raskin, Kuznetsova).

(Coke ovens)

KUZNETSOVA, A.I.

Cultivation practices for reforestation purposes in pine forests of northern Karelia. Trudy Kar.fil. AN SSSR no.16: 82-93 '59. (MIRA 13:4)

(Karelia--Pine)

BELYKH, Aleksandr Georgiyevich; KUZNETSOVA, A.I., prof., red.;
STRILEVA, G.F., red.; PECHERSKAYA, T.I., tekhn.red.

[Reclaiming new land from forest and brushwood] Osvoenie novykh zemel' iz-pod lesa i kustarnikov. Pod red. A.I. Kuznetsovoi. Irkutsk, Irkutskoe knizhnoe izd-vo, 1960. 89 p. (MIRA 14:2)

(Irkutsk Province--Reclamation of land)

SHUBIN, V.I.; KUZNETSOVA, A.I.

Special features of establishing forest plantations by surface units in sod covered cutover areas. Trudy Kar. fil. AN SSSR no.25:86-98 '61. (MIRA 14:9)

(Reforestation)

ZASLAVSKIY, Yu. S., SHNEYEROVA, R. N., SHOR, G. I. and [illegible], A. I.

"Radiochemical Investigation of the Stability of Solutions of Additives in Oils." p. 107.

in book Study and Use of Petroleum Products, Moscow, Gostoptekhizdat, 1957, 213 pp.

This collection of articles gives the results of the sci. res. work of the AU Sci. Res. Inst. for the Processing of Petroleum and Gas for the Production of Synthetic Liquid.

ZASLAVSKIY, Yu.S.; SHNEYEROVA, R.N.; SHOR, G.I.; KUZNETSOVA, A.I.

Radiochemical analysis of the stability of additives in oil.
Trudy VNII NP no.6:107-116 '57. (MIRA 10:10)
(Lubrication and lubricants) (Radioactive tracers)

KUZNETSOVA A.I.

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S/065/61/000/012/004/005
E194/E135

AUTHORS: Zaslavskiy, Yu.S., Shor, G.I., Shneyerova, R.N., Kuznetsova, A.I., and Lebedeva, F.B.

TITLE: Reducing the corrosivity of extreme pressure (E.P.) additives without impairing their effectiveness

PERIODICAL: Khimiya i tekhnologiya topliv i masel, no.12, 1961, 39-43

TEXT: Previous work by the authors has shown that whereas anti-corrosion additives should have strongly bonded sulphur or phosphorus in the molecule, E.P. additives should easily release sulphur, phosphorus or chlorine to form compounds on the metallic surfaces at high contact temperatures. This explains the well-known correlation between good anti-wear properties and high corrosivity. A combination of anti-wear and anti-corrosion additive components should overcome the effect of delayed E.P. action in high-speed friction tests. In surfaces subject to high speed friction there is not always time for the E.P. additive to operate. For laboratory tests of two component additives the

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authors developed radiotracer methods of determining the chemical activity of E.P. additives in oils in the presence or absence of friction. The chemical activity of the E.P. additives was assessed by determining the kinetics of solution of radioactive steel in oil or of copper which was activated with $Ag^{110}$. Determination of the chemical activity relative to radioactive copper and steel were made with various sulphurised and chlorinated organic compounds and mixtures of these. For example, in tests with copper foil at a temperature of 150 °C it was found that chemical activity of the sulphur-containing additive dibenzyl disulphide and that of chlorinated wax were both much less than the chemical activity of a mixture of these additives. A mixture containing base oil plus 3% dibenzyl disulphide plus 7% chlorinated wax gave the best E.P. protection in the four ball test. When 6% of barium alkyl phenolate dissolved in oxpropylated alkyl-phenol was added to the oil containing dibenzyl disulphide and chlorinated wax there was a marked diminution in corrosivity of the oil without impairment of the E.P. properties. However, the reduced corrosivity to copper lasted for only ten hours. The anti-corrosion properties of

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phosphorus-containing compounds were also tested on the assumption that effective protection of metallic surfaces against corrosion by atoms of chlorine and sulphur can be achieved by creating, not a molecular, but a more continuous atomic film which is less penetrable. To create such films the phosphorus-containing compounds must be soluble in the base oil and release phosphorus at considerably lower temperatures than the decomposition temperatures of the E.P. components. It was indeed found that the use of phosphorus-containing additives ensured effective reduction of corrosion of steel at an oil temperature of 200 °C in the presence of a mixture of dibenzyl disulphide and chlorinated wax. Moreover, four ball machine tests showed that the E.P. properties were not impaired. Tricresyl phosphate had no anti-corrosive effect, whilst triphenyl phosphate caused a marked reduction in corrosion. By using phosphorus-containing anti-corrosion components in blends with more chemically active E.P. additives, effective blends may be made using chemical compounds that hitherto have been rejected because of their high corrosivity. E.P. oils were tested on a friction machine in which

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the rubbing surfaces are the ends of two hollow cast iron cylinders of 16 mm external diameter, one of which was radioactive. The tests were made at a speed of 600 r.p.m. with a load of 2.5 $\text{kg/cm}^2$ for a period of one hour. Typical test results show that the base oil gave a mean wear rate of 660 impulses/min of the counter; the base oil plus 3% of additive ЛЗ-6/9 (LZ-6/9) plus 7% chlorinated wax gave a wear rate of 1920 impulses/min. The same plus 0.5% triphenyl phosphite gave a wear rate of 840 impulses/min. Thus the triphenyl phosphite reduced the corrosivity of the E.P. oil to the level of the base oil. There are 3 figures, 1 table and 17 references: 11 Soviet-bloc and 6 non-Soviet-bloc. The four most recent English language references read as follows:

Ref.11: J.S. Elliot, N.E. Hitchcock, E.D. Edwards. Hypoid Gear Lubricants and Additives. J. of the Institute of Petroleum, v.45, no.428, 219-235, 1959.

Ref.12: F.T. Barcroft. A Technique for Investigating Reactions between E.P. Additives and Metal Surfaces at High Temperatures. Wear, v.3, no.6, 413-500, 1960.

Card 4/5

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Reducing the corrosivity of .... 32530
S/065/61/000/012/004/005
E194/E135

Ref.14: R.B. Campbell, L. Grunberg. Study of reactions of metals with sulphur and phosphorus compounds by pulsed temperatures. Paper no.R1CC/32 at the International Conference on the use of isotopes in Physics and Industry (Copenhagen, September 6-17, 1960). Izd. MAGATE, Vena, 1961.

Ref.15: G. Hugel. Chemical nature of extreme pressure lubrication. Lubrication Engineering, v.14, no.12, 523-526, 1958.

ASSOCIATION: VNII NP

Card 5/5

X

NAGIBINA, T.D.; YASENKOVA, L.S.; ALIKBEROVA, G.I.; KORABLEV, Yu.G.; KUZIN, V.S.; KUZNETSOVA, A.I.; ZHAROVA, A.S.; VASHUNINA, N.D.

Phenol-containing SKDF-10 rubber. Kauch. i rez. 24 no.11:2-3 '65. (MIRA 19:1)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR i Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni M.V. Lomonosova.

L 7709-66 EWT(m)/EPF(c)/EWP(j)/T WW/RM

ACC NR: AP5028897 SOURCE CODE: UR/0138/65/000/011/0002/0003

AUTHOR: Nagibina, T. D.; Yasenkova, L. S.; Alikberova, G. I.; Korablev, Yu. G.; Kuzin, V. S.; Kuznetsova, A. I.; Zharova, A. S.; Vashunina, M. D. 49

ORG: Institute of Organic Chemistry im. Zelinskiy, AN SSSR (Institut organicheskoy khimii AN SSSR); Moscow Institute of Fine Chemical Technology im. M. V. Lomonosov 44 (Moskovskiy institut tonkoy khimicheskoy tekhnologii)

TITLE: Phenol-containing rubber SKDF-10

SOURCE: Kauchuk i resina, no. 11, 1965, 2-3

TOPIC TAGS: synthetic rubber, phenol containing rubber, copolymer 15

ABSTRACT: Phenol-containing rubbers have been prepared by emulsion copolymerization at 60C of butadiene and dimethyl(vinylethynyl)(4-hydroxyphenyl)methane(I) in the presence of diazoaminobenzene and hydroquinone. The best chemical, physical and mechanical properties were exhibited by copolymers containing 10% of I(SKDF-10 rubber). IR absorption spectra indicated that copolymerization occurs via the double band of I. SKDF-10 rubbers can be vulcanized by such agents as sulfur, phenol-formaldehyde resins, or hexamethylene tetramine. The formulation of the mixtures, the properties of the rubbers, vulcanization methods, and the vulcanizate properties are described in the source. The properties of SKDF-10 vulcanizates are similar to those of butadiene-styrene SKS-30 vulcanizates, but their fatigue strength in compression is

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twice as high as that of SKS-30 vulcanizates. SKDY-10 latex impregnation compositions exhibit enhanced adhesion. [BO]

SUB CODE: MT/ SUBM DATE: none/ ORIG REF: 003/ ATD PRESS: 4142

Card 2/2

KUZNETSOVA, A. I.: Master Chem Sci (diss) -- "The chemical characteristics of the salt deposits of southwestern Tadzhikistan". Staliabad, 1958. 19 pp (Acad Sci Tadzhik SSR, Inst of Chem, Rostov-na-Donu State U) 150 copies (KL, No 13, 1959, 101)

OSICHKINA, R.G.; KUZNETSOVA, A.I.; BERGMAN, A.G.

Salt deposits of southern Tajikistan. Report No.1: Survey of studies made of the salt deposits of southern Tajikistan. Trudy AN Tadzh. SSR 84:137-145 '59. (MIRA 13:3)
(Tajikistan--Salt)

KUZNETSOVA, A.I.; BERGMAN, A.G.

Salt deposits of southern Tajikistan. Report No.5: Classification of natural salt waters. Trudy AN Tadzh. SSR 84:187-193 '59. (MIRA 13:3)

(Tajikistan--Salt)

KUZNETSOVA, A.I.; BERGMAN, A.G.

Salt deposits of southern Tajikistan. Report No.6: Salt deposits of the Kafirnigan River basin. Trudy AN Tadzh. SSR 84:195-212 '59. (MIRA 13:3)

(Kafirnigan Valley--Salt)

KUZNETSOVA, A.I.; BERGMAN, A.G.

Salt deposits of southern Tajikistan. Report No.7: Salt deposits of the Vakhsh-Yavan group and the salt lakes of the Dzhilikul'-Nizhne-Pyandzh group. Trudy AN Tadzh. SSR 84:213-223 '59. (MIRA 13:3)

(Tajikistan--Salt)

DVORKIN-SAMARSKIY, V.A.; KUZNETSOVA, A.I.

Distribution of certain rare and rare earth metals in granitoids and pegmatites of the northern Baikal region. Geol. i geofiz. no.5:40-53 '60. (MIRA 13:9)

1. Vostochno-Sibriskiy filial Sibirskogo otdeleniya AN SSSR.
(Baikal region--Metals, Rare and minor)

S/007/61/000/002/002/004
B107/B217

AUTHORS: Grudinin, M. I., Kuznetsova, A. I.

TITLE: Distribution of nickel, chromium, and cobalt in the gabbro-peridotite rocks of the basin of the Tyi river (northern Pribaykal'ye)

PERIODICAL: Geokhimiya, no. 2, 1961, 162-168

TEXT: The rocks of the Nyurundukanskiy and Davyrenskiy massif were studied. The most important rocks are: dunite, consisting mainly of olivine poor in iron (0 - 7% fayalite) and of smaller quantities of enstatite or diopside, spinel, magnetite, chlorite, talcum, and serpentine; saxonite, consisting of forsterite (70 - 80%), enstatite (20 - 25%), green spinel and magnetite (2 - 3%); lherzolite, consisting of 60% olivine (up to 15% Fa), 15 - 20% diopside (15% $CaFeSi_2O_6$), 5 - 7% enstatite (5% $FeSiO_3$), and approximately 1% light-green spinel and ore. Verlite, consisting of iron-magnesium-olivine, diopside and inconsiderable quantities of isometrical bytownite grains. Peridotites with vein-like plagioclase separations have a kelyphite structure

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and a complicated mineralogical composition: besides olivine there are diopside, enstatite, plagioclase, spinel, ore, and minerals which developed on plagioclase, zoisite, epidote, albite. Small flakes of biotite (lepidomelane) occur in the ultrabasites of the Davyrenskiy massif, spinel is lacking. The massif is much more differentiated until the occurrence of quartz diorites. Magnetite and chromium magnetite (a = 8.37 ±0.01 A) occur in the ore veins. Moreover, sulfide mineralization with pyrrhotite and small quantities of chalcopyrite, pyrite, pentlandite, and sphalerite is found. The analysts N. G. Taskina and L. V. Komarova carried out complete silicate analyses of the most important rocks at the authors' institute (Table 1). A. I. Kuznetsova analyzed a series of samples quantitatively for Ni, Co, and Cr in the spectral laboratory of the Institute; accuracy is ±8 - 10%. Moreover, Sc, Sr, V, Pb, Zr, and W were found, the content in the Nyurundukanskiy massif reaches hundredth % of Sc and tenth % of V. The mean values for the individual rocks of both massifs were calculated from the determinations of Ni, Co, and Cr (Table 2). The connection between nickel and magnesium content is illustrated in Fig. 1 (Nyurundukanskiy massif) and Fig. 2 (Davyrenskiy massif); the nickel content in the latter rises in proportion to the magnesium content up to 30% MgO and remains then constant. This is connected with the formation of sulfides, into which nickel enters preferably. Furthermore, Ni, Cr, and Co were determined in olivines, orthorhombic and monoclinic pyroxenes, and in the magnetic fractions (Table 3). No massif shows considerable chromium enrichment; the high content in olivine is due to the mechanical addition of ore. The change of the chromium content with the MgO content in the Nyurundukanskiy massif is parallel to nickel; in the Davyrenskiy massif, the chromium content continues rising also over 30% MgO. The cobalt content rises only inconsiderably. The Nyurundukanskiy massif has less cobalt but more chromium and nickel than the Davyrenskiy massif. The ratio Cr>Ni>Co in the dunites indicates that the latter formed earlier than the basic rocks. This fact was pointed out by V. V. Lyakhovich. There are 2 figures, 3 tables, and 4 Soviet-bloc references.

ASSOCIATION: Vostochno-Sibirskiy geologicheskiy institut SO AN SSSR (East Siberian Geological Institute of the Siberian Branch of the AS USSR)

SUBMITTED: April 25, 1960

~~Card 3/9~~

KUZNETSOVA, A.I., assistant

Criticism of the right-wing socialists and their views on the situation of the working class of France. Trudy LIVT no.49: 73-80 '64. (MIRA 18:2)

KUZNETSOVA, A. K.

Dissertation: "Questions of the Dynamics in a Chain-Drive Gear." Cand Tech Sci, Moscow Machine Tool and Tool Inst imeni I. V. Stalin, 23 Jun 54. (Vechernyaya Moskva, Moscow, 14 Jun 54)

SO: SUM 318, 23 Dec 1954

EFROS, S.M.; BOYCHINOVA, Ye.S.; KUZNETSOVA, A.K.

Determination of zinc and nickel ions in an electrolytic bath of nickel black. Trudy LTI no.48:169-174 '58. (MIRA 15:4)
(Zinc--Analysis) (Nickel--Analysis)

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28204
S/194/61/000/005/026/078
D201/D303

AUTHOR: Kuznetsova, A.K.

TITLE: Analysis of stresses in structural elements using the ЭМБУ-6 (EMBU-6) electric integrator

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 5, 1961, 34, abstract 5 B245 (Tr. 1-y mezhvuz. nauchno-tekhn. konferentsii po elektr. modelirovaniyu zadach stroit. mekhan., soprotivleniya materialov i teorii uprugosti, B.m. Novocherk. politekhn. in-t, 1960, 70-79)

TEXT: The problem of applying the electric integrator EMBU-6 to solving problems of the theory of elasticity as described by a biharmonic equation is considered. A short description of the integrator is given and the procedure in solving the problem is explained. The following problems may be solved by the integrator: 1) Distribution of stresses at corners of massive frames; 2) Determination

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Analysis of stresses... S/194/61/000/005/026/078
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of stresses around the openings of water discharge tunnels under the influence of hydrostatic pressure; 3) Analysis of stresses of the head of a massive counterpart dam; 4) Analysis of thin rectangular plates for bending by transverse loading etc. The solution of such problems by using the electric integrator takes ≤ 1-2 man-weeks and the accuracy obtainable is 3-5%. Certain deficiencies of the electric integrator are pointed out. 4 figures. 7 references. /Abstracter's note: Complete translation/

Card 2/2

VARVAK, P.M., prof., doktor tekhn.nauk, starshiy nauchnyy sotrudnik; GUBERMAN, I.O., starshiy inzh.; MIROSHNICHENKO, M.M., inzh.; PREDTECHENSKIY, N.D., inzh.; Prinimali uchastiye: AMIRO, I.Ya., starshiy nauchnyy sotrudnik; DLUGACH, M.I., starshiy nauchnyy sotrudnik; BOBYR', B.A., inzh.; KUZNETSOVA, A.K., inzh.; PETRASHEN', R.N., inzh.; SOKOL'SKIY, M.M., inzh.. KAPLAN, Ya.L., red. izd-va; LABINOVA, N.M., red.izd-va

[Tables for designing rectangular slabs] Tablitsy dlia rascheta priamougol'nykh plit. Pod red. P.M.Varvaka. Kiev, Izd-vo Akad. nauk USSR, 1959. 418 p. (MIRA 12:11)

1. Institut stroitel'noy mekhaniki Akademii nauk USSR (for Varvak, Guberman, Amiro, Dlugach). 2. Vsesoyuznyy proyektno-izyskatel'skiy i nauchno-issledovatel'skiy institut "Gidroproyekt" im. S.Ya.Zhuk (for Miroshnichenko, Predtechenskiy, Bobyr', Kuznetsova, Petrashen', Sokol'skiy).

(Concrete construction--Tables, calculations, etc.)
(Concrete slabs)