Reactions of Acid Phosphites, Thiophosphites, S/079/61/031/001/016/025
Phosphonites, and Dialkylphosphine Oxides With B001/B066
Disulfides

3 Soviet, 1 US, and 1 Polish.

SUBMITTED: February 2, 1960

✓

Card 3/3

88483

S/079/61/031/001/017/025
B001/B066

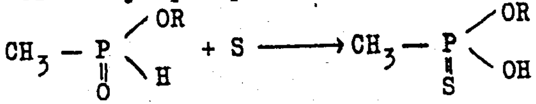
5.3630

AUTHORS: Petrov, K. A., Bliznyuk, N. K., Studnev, Yu. N., and Kolomiyets, A. F.

TITLE: Monoalkoxy-methyl Thiophosphonates and Monoalkoxy-methyl Phosphonites

PERIODICAL: Zhurnal obshchey khimii, 1961, Vol. 31, No. 1, pp. 179 - 184

TEXT: In order to simplify the synthesis of the above compounds described in Refs. 1 - 4, the authors studied the addition reaction of sulfur to the monoesters of methyl phosphinic acid:



$$CH_3-\overset{\diagup OR}{\underset{O}{\underset{\|}{P}}}\diagdown H + S \longrightarrow CH_3-\overset{\diagup OR}{\underset{S}{\underset{\|}{P}}}\diagdown OH$$

The rate of this reaction depends, above all, on the nature of the solvent to be applied. This reaction, for instance, proceeds rapidly and smoothly in dioxane, but does not take place at all in ether. Like dialkyl phosphites (Ref. 6), also alkyl phosphonites add sulfur in ethereal solution

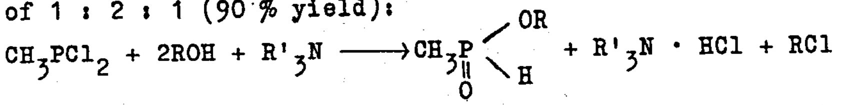
Card 1/3

88483

Monoalkoxy-methyl Thiophosphonates and Monoalkoxy-methyl Phosphonites

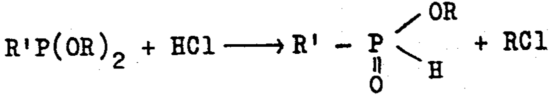
S/079/61/031/001/017/025
B001/B066

only in the presence of bases (triethylamine). The reaction rate of sulfur, which is higher with monoalkyl phosphonites than with dialkyl phosphites, corresponds to the change of the electron density on the phosphorus atom. The structures of the resultant monoalkyl thiophosphinic acids were confirmed by their conversion to salts and esters. The novel monoesters of methyl phosphinic acid were obtained by reaction of methyl-dichlorophosphine with alcohols in the presence of tertiary amines in a molar ratio of 1 : 2 : 1 (90 % yield):



$$CH_3PCl_2 + 2ROH + R'_3N \longrightarrow CH_3\underset{\underset{O}{\|}}{P}\left\langle\begin{matrix}OR\\ H\end{matrix}\right. + R'_3N \cdot HCl + RCl$$

Not only the tertiary amine serves as a HCl acceptor, but also the resultant neutral phosphonite (Refs. 8 - 10) according to the reaction



$$R'P(OR)_2 + HCl \longrightarrow R' - \underset{\underset{O}{\|}}{P}\left\langle\begin{matrix}OR\\ H\end{matrix}\right. + RCl$$

(Refs. 8 - 10). The monoalkoxy-methyl phosphonites well soluble in organic solvents are stable compounds which do not change for years in pure condition. The yields of monoalkyl phos-

Card 2/3

88483

Monoalkoxy-methyl Thiophosphonates and Monoalkoxy-methyl Phosphonites

S/079/61/031/001/017/025
B001/B066

phonites were between 75 and 90 %. There are 1 table and 16 references: 9 Soviet, 6 US, and 1 Polish.

SUBMITTED: February 2, 1960

Card 3/3

PETROV, K.A.; BLIZNYUK, N.K.; SAVOSTENOK, V.A.

Reactions of sulfenamides with compounds of trivalent phosphorus.
Zhur. ob. khim. 31 no.4:1361-1366 Ap '61. (MIRA 14:4)
(Sulfenamides)
(Phosphorus organic compounds)

PETROV, K.A., BLIZNYUK, N.K., MANSUROV, I.YU.

"Reaction of acids phosphites, thiophesphites, phosphonitesm and dialkylphonosphine oxides with disulfides."

Khimiya i Primeneniye Fosfororganicheskikh Soyedineniy (Chemistry and application of organophosphorus compounds) A. YE. ARBUZOV, Ed. Publ. by Kazan Affil. Acad. Sci. USSR, Moscow 1962, 632 pp.

Collection of complete papers presented at the 1959 Kazan Conference on Chemistry of Organophosphorus Compounds.

PETROV, K.A., BLIZNYUK, N.K., SAVOSTENOK, V.A.

"Reactions of sulfenamides with compounds of trivalent phosphorus."

Khimiya i Primeneniye Fosfororganicheskikh Soyedineniy (Chemistry and application of organophosphorus compounds) A. YE. ARBUZOV, Ed.
Publ. by Kazan Affil. Acad. Sci. USSR, Moscow 1962, 632 pp.

Collection of complete papers presented at the 1959 Kazan Conference on Chemistry of Organophosphorus Compounds.

L 65099-65 EWT(m)/EPF(c)/EWP(j) RM

ACCESSION NR: AP5021969

UR/0286/65/000/014/0016/0016
547.41 [illegible]

AUTHOR: Bliznyuk, N. K.; Kolomiyets, A. F.; Khokhlov, P. S.

TITLE: A method for producing alkyl(aryl)thiophosphonyl dichlorides. Class 12, No. 172742

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 14, 1965, 16

TOPIC TAGS: phosphonic acid, alkylphosphine, chlorinated aliphatic compound, chloride, phosphorus, organic sulfur compound

ABSTRACT: This Author's Certificate introduces a method for producing alkyl(aryl)-thiophosphonyl dichlorides based on alkyl(aryl)phosphonyl dichlorides. The process is simplified and the product yield is increased by treating [illegible] phonyl dichlorides in white phosphorus and sulfur at [illegible]

ASSOCIATION: none

SUBMITTED: 28Mar63 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 000 OTHER: 000

Card 1/1 MLR

L 1358-66 EPF(c)/EWT(m)/EWP(j) RM

ACCESSION NR: AP5024364 UR/0286/65/000/015/0032/0032
661.718.1:547.26'118 20
B

44,55 44,55 44,55

AUTHOR: Bliznyuk, N. K.; Kvasha, Z. N.; Kolomiyets, A. F.

44,55

TITLE: A method for producing esters of alkyl(aryl)phosphonous acids. Class 12, No. 173235 15

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 15, 1965, 32

TOPIC TAGS: organic phosphorus compound, hydrogen chloride, esterification, organic oxide, alkylphosphine

ABSTRACT: This Author's Certificate introduces a method for producing esters of alkyl(aryl)phosphonous acids by interacting alkyl(aryl)dichlorophosphines with alcohols in the presence of a hydrogen chloride acceptor. The method is simplified by using α-oxides of olefins as the hydrogen chloride acceptor, e. g. ethylene or propylene oxide.

ASSOCIATION: none

SUBMITTED: 10May63 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 000 OTHER: 000

KC

Card 1/1

L 4960-66 EWT(m)/EPF(c)/EWP(j)/EWP(t)/EWP(b) IJP(c) JD/RM

ACC NR: AP5025677 SOURCE CODE: UR/0286/65/000/018/0025/0025

AUTHORS: Bliznyuk, N. K.; Kvasha, Z. N.; Solntseva, L. M.; Libman, B. Ya.; Beym, A. I.; Sevitov, I. B.

44,55

43
B

ORG: none

TITLE: A method for obtaining dialkylphosphites. Class 12, No. 174624 [announced by Organization of the State Committee for Chemical Industry at Gosplan SSSR (Organizatsiya gosudarstvennogo komiteta po khimicheskoy promyshlennosti pri gosplane SSSR)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 18, 1965, 25

TOPIC TAGS: phosphorus compound, alcohol, dialkylphosphite

ABSTRACT: This Author Certificate presents a method for obtaining dialkylphosphites by reacting phosphorus trichloride with alcohols or alcoholic solution, with subsequent drying of products by a current of dry air. To increase the yield of final product and to simplify the process, trialkylphosphites are added to the reaction mixture in quantities equivalent to the overall content of acidic products.

SUB CODE: OC/ SUBM DATE: 17Oct64

UDC: 547.419.1.07

Card 1/1 *ml*

09011570

L 4958-66 EWT(m)/EPF(c)/EWP(j)/EWP(t)/EWP(b) IJP(c) JD/RM

ACC NR: AP5025679 SOURCE CODE: UR/0286/65/000/018/0026/0026

AUTHORS: Bliznyuk, N. K.; 44,55 Vershinin, P. V.; 44,55 Kabenkova, R. I.; 44,55 Libman, B. Ya.; 44,55 Khokhlov, P. S. 44,55

ORG: none

33
23

TITLE: A method for obtaining trialkyltetrathiophosphates. 7,44,55 Class 12, No. 174626 15 /announced by Organization of the State Committee for Chemical Industry at the Gosplan SSSR (Organizatsiya gosudarstvennogo komiteta po khimicheskoy promyshlennosti pri gosplane SSSR)7 44,55

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 18, 1965, 26

TOPIC TAGS: trialkyltetrathiophosphate, thiotrichlorophosphorus, mercaptan, sulfur organic compound, catalyst

27

ABSTRACT: This Author Certificate presents a method for obtaining trialkyltetrathiophosphates. The compound is obtained by reacting thiotrichlorophosphorus with alkylmercaptans. To increase the purity of the final product, the reaction is carried out in presence of catalysts--quinoline, pyridine or alkyl derivatives of the latter.

Card 1/2 UDC: 547.413.1.07

0901 1573

L 4958-66

ACC NR: AP5025679

0

SUB CODE: OC/ SUBM DATE: 20Nov64

OC

Card 2/2

BLIZNYUK, N.K.; LEVSKAYA, G.S.; MATYUKHINA, Ye.N.

New synthesis of secondary haloarsines. Zhur. ob. khim. 35 no.7:1247-1250 Jl '65. (MIRA 18:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut fitopatologii.

L 20978-66 EWT(1)/T RO/JK

ACCESSION NR: AP5019085 UR/0286/65/000/012/0110/0110

27

AUTHORS: Granin, Ye. F.; Fadeyev, Yu. N.; Zhil'tsova, G. I.; Bliznyuk, N. K.; Kolomiyets, A. F.; Golubeva, R. N.

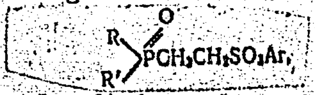
B

TITLE: A method for controlling fungous diseases of plants. Class 45, No. 172153

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 110

TOPIC TAGS: agriculture, pesticide, fungicide, disease control, plant culture

ABSTRACT: This Author Certificate presents a method for controlling fungous diseases of plants by treating the latter with fungicides. To broaden the assortment of fungicides, derivatives of β-phosphorylethanesulfoacid are used as fungicides. These compounds follow the general formula



$$\begin{matrix}R\\R'\end{matrix}\!>\overset{O}{\overset{\|}{P}}CH_2CH_2SO_2Ar,$$

where R and R' are alkoxyl, aroxyl, alkyl, aryl, or hydroxyl, and Ar is a non-replaced or replaced aryl.

ASSOCIATION: none

Card 1/2

L 20978-66

0

ACCESSION NR: AP5019085

SUBMITTED: 01Jul64 ENCL: 00 SUB CODE: LS

NO REF SOV: 000 OTHER: 000

Card 2/2 mjs

ACC NR: AP6033452 SOURCE CODE: UR/0413/66/000/018/0038/0038

INVENTOR: Bliznyuk, N. K.; Khokhlov, P. S.

ORG: none

TITLE: Preparation of alkyl dichlorodithiophosphates. Class 12, No. 185902 [announced by All-Union Scientific Research Institute of Phytopathology (Vsesoyuznyy nauchno-issledovatel'skiy institut fitopatologii)]

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 38

TOPIC TAGS: alkyl dichlorodithiophosphate, phosphorus thiotrichloride, alkyl mercaptodichlorophosphate, alkyl thiodichlorophosphate, phosphate, organic phosphorus compound

ABSTRACT: To broaden the raw material base for the preparation of alkyl dichlorodithiophosphates from phosphorus thiotrichloride, in the proposed method the latter is heated with alkyl mercapto- or alkyl thiodichlorophosphates at 150—200°C under elevated pressures. [W.A. 50]

SUB CODE: 07/ SUBM DATE: 30Jun65

Card 1/1 UDC: 547.419.1.07

ACC NR: AP6033455 SOURCE CODE: UR/0413/66/000/018/0039/0039

INVENTOR: Bliznyuk, N. K.; Kvasha, Z. N.; Nifant'yev, E. Ye.; Varshavskiy, S. L.

ORG: none

TITLE: Preparation of O-alkyl esters of dialkylphosphinic acids. Class 12, No. 185905 [announced by All-Union Scientific Research Institute of Phytopathology (Vsesoyuznyy nauchno-issledovatel'skiy institut fitopatologii)]

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 39

TOPIC TAGS: alkyl dialkylphosphinate, phenylarsenic acid, phosphinic acid, ester

ABSTRACT: To obtain biologically active compounds, dialkylphosphinic acids are treated with alcohols in the presence of phenylarsenic acid as catalyst. The reaction is carried out with excess alcohol and azeotropic removal of water at 180—220°C. [W.A. 50]

SUB CODE: 07/ SUBM DATE: 15Nov65

Card 1/1 UDC: 547.26'118.07

ACC NR: AP6033460 SOURCE CODE: UR/0413/66/000/018/0040/0040

INVENTOR: Bliznyuk, N. K.; Khokhlov, P. S.

ORG: none

TITLE: Preparation of alkyl dichlorodithiophosphates. Class 12, No. 185912 [announced by All-Union Scientific Research Institute of Phytopathology (Vsesoyuznyy nauchno-issledovatel'skiy institut fitopatologii)]

SOURCE: Izobret prom obraz tov zn, no. 18, 1966, 40

TOPIC TAGS: alkyl dichlorodithiophosphate, phosphorus thiotrichloride, alkyl dichlorophosphate, phosphate, phosphorus chloride

ABSTRACT: To broaden the raw material base for the preparation of alkyl dichlorodithiophosphates from phosphorus thiotrichloride and phosphoric acid esters by heating the reaction mixture up to 150—200°C, alkyl dichlorophosphates are used instead of the esters of phosphorus acids. The process is carried out at elevated pressures. [W.A. 50]

SUB CODE: 07/ SUBM DATE: 05Jul65

Card 1/1 UDC: 547.26'118.07

L 31266-66 EWT(m)/EWP(j) RM

ACC NR AP6022806 SOURCE CODE: UR/0079/66/036/002/0363/0363

36

B

AUTHOR: Nifant'yev, E. Ye.; Gavrilova, A. I.; Bliznyuk, N. K.

ORG: none

TITLE: New method of synthesizing ethyleneimides of phosphorus acids 1

SOURCE: Zhurnal obshchey khimii, v. 36, no. 2, 1966, 363

TOPIC TAGS: chemical synthesis, imide, organic phosphorus compound, chemical reaction, esterification, organic imine compound

ABSTRACT: Three new methods were developed for synthesizing phosphoethyleneimides. Dialkyl phosphites were found to react with carbon tetrachloride, ethyleneimine, and triethylamine at 0-20° to form ethyleneimides of dialkylphosphorous acids. Both acid phosphonites, tetraalkyldiamides of phosphorous acid, and alkyl hypophosphites take part in the reaction; in the latter case diethyleneimides of alkylphosphoric acids are formed. Ethyleneimide esters of phosphorous acid are produced by alcoholysis of mixed ethyleneimidodialkylamides when amine hydrochlorides are used as catalysts. Ethyleneimines of trivalent phosphorous acids can be produced by reaction of the corresponding dimethylamides with ethyleneimine under considerably milder conditions than under transamination reactions. These reactions are model syntheses and are now being used to produce otherwise difficulty accessible ethyleneimides of phosphorus acids. [JPRS]

SUB CODE: 07 / SUBM DATE: 13May65

UDC: 547.26'118 + 547.233

0915

0785

Card 1/1 9.2

L 31810-66 EWT(1)/EWT(m)/EWP(j) RO/RM

ACC NR: AP6021678 SOURCE CODE: UR/0079/66/036/003/0475/0480

AUTHOR: Bliznyuk, N. K.; Kolomiyets, A. F.; Kvasha, Z. N.; Levskaya, G. S.; Antipina, V. V.

47
B

ORG: All-Union Scientific Research Institute of Phytopathology (Vsesoyuznyy nauchno-issledovatel'skiy institut fitopatologii)

TITLE: Dialkyl phosphites and monoalkylphosphinites

SOURCE: Zhurnal obshchey khimii, v. 36, no. 3, 1966, 475-480

TOPIC TAGS: organic phosphorus compound, chemical reaction kinetics, toxicity, plant injury, chemical synthesis, ester, azeotropic mixture

ABSTRACT: It was found that dialkyl phosphites and monoalkylphosphinites are produced in high yields (almost quantitative) independent of the temperature at which the reagents are mixed, and degree of removal of hydrogen chloride from the reaction zone, by boiling the reaction mass, containing the reaction products of alcohols with phosphorus trichloride or dichlorophosphines, an esterification catalyst (such as sulfuric acid or p-toluenesulfonic acid), and a solvent, with azeotropic distillation of water. A preliminary estimate was made of the herbicidal activity of some of the ten compounds synthesized. In the tests the aboveground portion of the plants (the kidney bean as a typical dicot and the oat as a typical monocot) was sprayed with emulsions of

UDC: 546.183:542.951.3

Card 1/2

L 31810-66

ACC NR: AP6021678

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the compounds in a 0.05% solution of the wetting agent OP-7 in water. The compounds of this group exhibited high selectivity with respect to dicots, their toxicity depending substantially on the aryl radical (the tendency coincides with that in aryloxyacetic acids), with 4-chlorophenoxyethyl esters being the most active. Phosphinites were more toxic than phosphites. Orig. art. has: 3 tables. [JPRS]

SUB CODE: 07, 06 / SUBM DATE: 24Aug65 / ORIG REF: 007 / OTH REF: 003

Card 2/2

L 31811-66 EWT(m)/EWP(j) RM

ACC NR: AP6021679 SOURCE CODE: UR/0079/66/036/003/0480/0483

AUTHOR: Bliznyuk, N. K.; Kolomiyets, A. F.; Kvasha, Z. N.; Levskaya, G. S.; Zhemchuzhin, S. G. 45 B

ORG: All-Union Scientific Research Institute of Phytopathology (Vsesoyuznyy nauchno-issledovatel'skiy institut fitopatologii)

TITLE: Reaction of phenolates with ethylene chlorohydrin and dialkylchloro phosphates in aqueous solutions

SOURCE: Zhurnal obshchey khimii, v. 36, no. 3, 1966, 480-483

TOPIC TAGS: phenol, chlorohydrin, phosphate, aqueous solution, chemical synthesis, reaction rate, chemical kinetics

ABSTRACT: The synthesis of aryloxyethanols and dialkylaryl phosphates by the reaction of phenols with ethylene chlorohydrin and dialkylchlorophosphates, respectively, in the presence of aqueous alkalies was studied. A change in the order of mixing of the reagents was found to substantially increase the yields of the products. This was achieved by simultaneous synchronous addition of the alkyl (or acyl) halide and solution of alkali to the phenol at a temperature sufficient for a relatively rapid reaction. The rate of addition of the reagents in each concrete case was regulated so that the reacting substances would not accumulate in the reaction mixture during the

Card 1/2 UDC: 547.562:542.951.3/4:546.185

L 31811-66

ACC NR: AP6021679

0

process; the pH was maintained constant at a level close to neutral. The optimum temperature for the production of aryloxyethanols was the boiling point of the mixture, while that for dialkylaryl phosphates was found to be 0-25°. This change in the order of addition of the reagents is equivalent to conducting the reaction in a large excess of the phenol. Orig. art. has: 2 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 24Aug65 / ORIG REF: 003 / OTH REF: 006

Card 2/2 LS

ACC NR: AP6029020 SOURCE CODE: UR/0413/66/000/014/0023/0023

INVENTOR: Bliznyuk, N. K.; Kolomiyets, A. F.; Strel'tsov, R. V.; Kvasha, Z. N.; Varshavskiy, S. L.; Libman, B. Ya.

ORG: none

TITLE: Preparation of O-alkyl-S(β-acyloxy)ethyl thiophosphinates. Class 12, No. 183745. [announced by All-Union Scientific Research Institute of Phytopathology (Vsesoyuznyy nauchno-issledovatel'skiy institut fitopatologii)

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 23

TOPIC TAGS: ~~alkylacyloxyethyl thiophosphinate synthesis,~~ mercaptoethyl ester, carboxylic acid, phosphinic acid dichloride, ORGANIC PHOSPHORUS COMPOUND, PHOSPHONIC ACID, ESTER

ABSTRACT: In the proposed method, O-alkyl S(β-acyloxy)ethyl thiophosphonates of the general formula: (where R and R' are alkyl, substituted alkyl, substituted aryl, or aryl; R" is lower alkyl) are obtained by the reaction of β-mercaptoethyl carboxylates with a phosphonic ester chloride or with a mixture of phosphonic acid dichloride and an alcohol in organic solvents in the presence of HCl acceptors, e.g., tertiary amines. Orig. art. has: 1 formula. [WA-50; CBE No. 11]

SUB CODE: 07/ SUBM DATE: 28Jul65/

Card 1/1 UDC: 547.26'118.07

ACC NR: AP6029024 SOURCE CODE: UR/0413/66/000/014/0024/0024

INVENTOR: Bliznyuk, N. K.; Kvasha, Z. N.; Khokhlov, P. S.; Libman, B. Ya.; Beym, A. I.; Vershinin, P. V.

ORG: none

TITLE: Preparation of S,S-dialkyl dithiochlorophosphates. Class 12, No. 183752

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 24

TOPIC TAGS: insecticide preparation, dibutyl dithiochlorophosphate, butyl mercaptan, mercaptan, chlorinated organic compound, phosphate, pyridine

ABSTRACT:

To increase the yield in the preparation of S,S-dialkyl dithiochlorophosphates, e.g., S,S-dibutyl dithiochlorophosphate, by the treatment of alkyl mercaptans (e.g., butyl mercaptan) and pyridine with phosphoryl chloride, the reaction is conducted in the presence of ammonium salts of substituted polythiophosphonic acids, e.g., ammonium phenyl dithiophosphonate.

[WA-50; CBE No. 11]

SUB CODE: 07/ SUBM DATE: 24May65

UDC: 547.419.1.07

Card 1/1

ACC NR: AP6030566 SOURCE CODE: UR/0413/66/000/016/0034/0035

INVENTOR: Bliznyuk, N. K.; Khokhlov, P. S.; Dotsev, G. V.; Libman, B. Ya.; Beym, A. I.; Troitskiy, V. N.

ORG: none

TITLE: Preparation of acid chlorides of dithiophosphoric acid. Class 12, No. 184863

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 34-35

TOPIC TAGS: dithiophosphoric acid chloride preparation, alkyl chlorodithiophosphate, aryl chlorodithiophosphate, alcohol, PHOSPHORIC ACID, CHLORIDE

ABSTRACT: In the proposed method, acid chlorides of dithiophosphoric acid

$$\begin{matrix}RO\\R'S\end{matrix}>\underset{\underset{S}{\|}}{P}Cl$$

(where R and R' are an alkyl and an aryl) are obtained by treating alkyl(aryl) chlorodithiophosphates with alcohols or phenols. The reaction is carried out in organic solvents in the presence of an acceptor of HCl, e.g., tertiary amines. Orig. art. has: 1 formula. [WA-50; CBE No. 11]

SUB CODE: 07/ SUBM DATE: 25May65/

Card 1/1 UDC: 547.419.1'122'133-312.07

ACC NR: AP6030568 SOURCE CODE: UR/0413/66/000/016/0035/0035

INVENTOR: Bliznyuk, N. K.; Kolomiyets, A. F.; Strel'tsov, R. V.; Varshavskiy, S. L.; Libman, B. Ya.; Protasova, L. D.

ORG: none

TITLE: Preparation of O,O-dialkyl S-(β-acyloxy)ethyl thiophosphates. Class 12, No. 184865. [announced by the All-Union Scientific Research Institute of Phytopathology (Vsesoyuznyy nauchno-issledovatel'skiy institut fitopatologii)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 35

TOPIC TAGS: pesticide, dialkylacyloxyethyl thiophosphate, PHOSPHATE

ABSTRACT:
To obtain O,O-dialkyl S-(β-acyloxy)ethyl thiophosphates of the general formula:

$$(RO)_2\underset{\underset{S}{\|}}{P}CH_2CH_2O\underset{\underset{O}{\|}}{C}R'$$

(where R is a lower alkyl, R' is an alkyl, substituted alkyl, aryl, or substituted aryl), dialkyl chlorophosphates are treated with β-mercaptoethyl carboxylates in the presence of HCl acceptors, e.g., tertiary amines. [WA-50; CBE No. 11]

SUB CODE: 07/ SUBM DATE: 28Jul65

Card 1/1 UDC: 547.419.1.07

ACC NR: AP6035682 (A,N) SOURCE CODE: UR/0413/66/000/019/0030/0030

INVENTOR: Bliznyuk, N. K.; Kvasha, Z. N.; Varshavskiy, S. L.; Libman, B. Ya.

ORG: none

TITLE: Preparation of esters of trithiophosphonic acids. Class 12, No. 186464 [Announced by All-Union Scientific Research Institute of Phytopathology (Vsesoyuznyy nauchno-issledovatel'skiy institut fitopatologii)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 30

TOPIC TAGS: phosphinic acid ~~trithio~~phosphonic acid, ester, mercaptan, tertiary amine, acid catalysis

ABSTRACT: To increase the yield in the preparation of esters of trithiophosphonic acids by the reaction of alkyl(aryl)thiophosphinic acid dichlorides with mercaptans, the reaction is conducted in the presence of amine salts of polythiophosphoric or polythiophosphonic acids as catalyst. The catalysts are formed during the reaction when tertiary amines and phosphorus sulfides are added to the initial reaction mixture. [WA-50; CBE No. 14] [PS]

SUB CODE: 07/ SUBM DATE: 15Sep65

UDC: 547.26'118.07

Card 1/1

ACC NR: AP6035683 (A,N) SOURCE CODE: UR/0413/66/000/019/0031/0031

INVENTOR: Bliznyuk, N. K.; Kolomiyets, A. F.; Ivershina, L. P.

ORG: none

TITLE: Preparation of phosphonic ester chlorides. Class 12, No.186466

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 31

TOPIC TAGS: phosphonic acid, ester, chloride, ~~[illegible]~~ phosphinate, phosphorus ~~[illegible]~~chloride, chlorinated organic compound, organic phosphorus compound

ABSTRACT: To broaden the raw material base for the preparation of phosphonic ester chlorides from monoalkyl phosphinates and a chlorinating agent, a mixture of phosphorus trichloride and chlorine is used as the chlorination agent. [PS]

[WA-50; CBE No. 14]

SUB CODE: 07/ SUBM DATE: 04Sep64

Card1/1 UDC: 547.26'118.07

ACC NR: AP6035687 (A,N) SOURCE CODE: UR/0413/66/000/019/0032/0032

INVENTOR: Bliznyuk, N. K.; Kvasha, Z. N.; Kolomiyets, A. F.; Varshavskiy, S. L.; Libman, B. Ya.

ORG: none

TITLE: Preparation of O-alkyl O-aryloxyethyl methylphosphonates. Class 12, No. 186473 [Announced by All-Union Scientific Research Institute of Phytopathology (Vsesoyuznyy nauchno-issledovatel'skiy institut fitopatologii)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 19, 1966, 32

TOPIC TAGS: organic ~~organo~~phosphorus compound, ~~alkyl aryl methyl~~phosphonate, tertiary amine

ABSTRACT: In the proposed method, O-alkyl O-aryloxyethyl methylphosphonates are obtained by the reaction of O-alkyl methylchlorophosphonates with aryloxyethanols in the presence of HCl acceptors, e.g., tertiary amines.

[WA-50; CBE No. 14]
[PS]

SUB CODE: 07/ SUBM DATE: 26Jul65

Card 1/1 UDC: 547.26'118.07

ACC NR: AP6035829 (A, N) SOURCE CODE: UR/0413/66/000/020/0036/0036

INVENTOR: Bliznyuk, N. K.; Kvasha, Z. N.

ORG: none

TITLE: Preparation of alkyl (aryl) dithiophosphonic acid anhydrides. Class 12, No. 187016

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 20, 1966, 36

TOPIC TAGS: organic ~~organo~~phosphorus compound, ~~dithio~~phosphonic acid, acetic anhydride

ABSTRACT: To simplify the process for preparing anhydrides of alkyl(aryl)dithiophosphonic acids by the reaction of alkyl(aryl)thiophosphonic acid dichlorides with H_2S on heating to 125—130°C, the reaction is carried out in the presence of catalytic amounts of pyridine, quinoline, or their derivatives. The reaction is conducted in an organic solvent, e.g., chlorobenzene. [PS]

[WA-50; CBE No. 14]

SUB CODE: 07/ SUBM DATE: 21Dec64

Card 1/1 UDC: 547.241-312.07

ACC NR: AP6035832 (A,N) SOURCE CODE: UR/0413/66/000/020/0037/0037

INVENTOR: Bliznyuk, N. K.; Klimov, O. V.; Libman, B. Ya.; Troitskiy, V. N.; Khokhlov, P. S.; Dotsev, G. V.; Kalutskiy, L. A.; Beym, A. I.; Verhsinin, P. V.; Mandel'baum, Ya. A.; Varshavskiy, S. L.; Mel'nikov, N. N.

ORG: none

TITLE: Preparation of derivatives of tri- and tetraphosphoric acids. Class 12, No. 187019

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye snaki, no. 20, 1966, 37

TOPIC TAGS: ~~physiologically active compound~~, alkyl trithiophosphate, alkyl tetrathiophosphate, phosphate, phosphoric acid, mercaptan, tertiary amine, toxin

ABSTRACT: In the proposed method for the preparation of derivatives of tri- and tetrathiophosphoric acids of the general formula:

$$(RS)_2\underset{\underset{S}{\|}}{P}XR',$$

Card 1/2 UDC: 547.419.1.07

ACC NR: AP6035832

(where R is a lower alkyl, R' is a substituted alkyl or aryl, and X is O or S), physiologically active compounds with low toxicity to mammals are obtained by treating dialkyl trithiochlorophosphates with alcohols, mercaptans, or thiophenols in organic solvents in the presence of HCl acceptors, preferably tertiary amines. [PS]

[WA-50; CBE No. 14]

SUB CODE: 07/ SUBM DATE: 26May65

Card 2/2

ACC NR: AP7013151 SOURCE CODE: UR/0413/66/000/021/0040/0040

INVENTOR: Bliznyuk, N. K.; Khokhlov, P. S.; Libman, B. Ya.; Vershinin, P. V.; Beym, A. I.; Varshavskiy, S. L.

ORG: none

TITLE: Method for preparing alkyl(aryl)dithiodichlorophosphates, Class 12, no. 187785

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 40

TOPIC TAGS: heterocyclic base compound, mercaptan, organic phosphate

SUB CODE: 07

ABSTRACT: A method is claimed for the preparation of alkyl(aryl)dithiodichlorophosphates, which differs in that for the purpose of extending the utilization of resources and increasing the yield of useful products, phosphorous thiotrichloride is subjected to reaction with mercaptans in the presence of catalytic quantities of heterocyclic bases, for example pyridine. [JPRS: 40,422]

Card 1/1

ACC NR: AP7013152

SOURCE CODE: UR/0413/66/000/021/0040/0041

INVENTOR: Bliznyuk, N. K.; Khokhlov, P. S.; Dotsev, G. V.

ORG: none

TITLE: Method for preparing alkylthiondichlorophosphates. Class 12, No. 187786

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 21, 1966, 40-41

TOPIC TAGS: acrylonitrile, phosphate, alcohol, organic phosphorus compound

SUB CODE: 07

ABSTRACT: A method is claimed for the preparation of alkylthiondichlorophosphates by reaction of phosphorus thiochloride with alcohols, differing in that for the purpose of obtaining higher alkylthionidichlorophosphates, the process is conducted in the presence of a hydrogen chloride acceptor, for example acrylonitrile. [JPRS: 40,422]

Card 1/1 UDC: 547.27'118.07

0933 0862

IVANOVA, Z.V., kand. sel'skokhoz. nauk; BLIZNYUK, N.K., kand. khim. nauk;
KOLOMIYETS, A.F.; POLYAKOVA, R.V.

New means for controlling pests in empty granaries. Zashch. rast. ot vred. i bol. 7 no.9:39 S '62. (MIRA 16:8)

(Granaries—Disinfection)

BLIZNYUK, N.N.; DZYUBENKO, V.I.; NADUBOVICH, Yu. A.

Radar observations of Draconids in Tiksi. Astron.tsir. no.206:8-9 D '59. (MIRA 13:6)

1. Kafedra astronomii Kiyevskogo gosuniversiteta.
(Meteors—October)

6,4731

39104
S/169/62/000/006/088/093
D228/D304

AUTHOR: Bliznyuk, N. N.

TITLE: Radar observations of auroras in Tiksi Bay in 1959

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 6, 1962, 26, abstract 6G147 (Sb. rabot po Mezdunar. geofiz. godu, Kiyevsk, un-t, no. 1, 1961, 76-81)

TEXT: Radar observations were made in Tiksi Bay on 4-meter-band stations. The pulse duration was 8 μsec, the repetition rate was 50 c/s, the pulse power was 110 kw, the receiver sensitivity was 10^{-13} w, and the range indicator screen scan was 1050 km. The observations were conducted at a noise track height of 4 mm. The radar worked on two identical Uda-Yagi-type antennas, each being a metallic pointer on which nine vibrators were placed. The antenna pointers were arranged one above the other in a vertical plane: the upper at a height of 11 m, the lower at a height of 7 m. Both antenna systems were designed in the form of one rigidly coupled

X

Card 1/2

39104
S/169/62/000/006/088/093
Radar observations of ... D228/D304

device, fastened on the reductor's axis, by means of which their circular rotation was realized. It follows from the diurnal variation of the appearance of all forms of auroral reflections in 1959 that there is a maximum for the appearance of reflections around midnight local time. The diurnal variations of the appearance of diffuse and discrete auriral reflections in 1959 are given. It is established that reflections are observed only from auroras of a radiant structure. /‾Abstracter's note: Complete translation._7

Card 2/2

S/194/62/000/007/111/160
D271/D308

3.1810

AUTHOR: Bliznyuk, N.N.

TITLE: Radar observations of aurora borealis in Tiksi Bay during 1959

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 7, 1962, abstract 7zh300 (Sb. rabot po Mezhdunar, geofiz. godu. Kiyevsk. un-t, 1961, no. 1, 76 - 81)

TEXT: Main parameters of the radar station in Tiksi Bay and methods of radar observation of aurora borealis performed there in 1959 are described. Characteristics of radio reflections are shown. It is established that reflections are given only by aurora borealis of radial structure and that signals reflected during the polar day in no way differ from those in other seasons. [Abstracter's note: Complete translation.]

VC

Card 1/1

BLIZNYUK, N. N.

Radar observations of auroras in Tiksi Bay in 1959. Sbor. rab. po mezhdunar. Geofiz. godu no.1:76-81 '61. (MIRA 15:10)

(Tiksi—Radar meteorology) (Auroras)

SEDENKOV, Yu.S., gornyy inzh.; DAVIDOVICH, I.I., gornyy inzh.; BLIZNYUK, P.F., gornyy inzh.

Record set by Dobropol'e miners. Ugol' Ukr. 5 no.4:35 Ap '61. (MIRA 14:4)

(Donets Basin--Coal mines and mining--Labor productivity)

BLIZNYUK, P. Ya.

Bee Culture

An argument for "cold" wintering of bees. Pchelovodstvo 29, No. 1, 1952.

<u>Monthly List of Russian Accessions,</u> Library of Congress, May 1952, UnCLASSIFIED.

BLIZNYUK, S. L.

Bliznyuk, S. L.

"The Connection between Theory and Practice in the Training of Pupils." Kiev State U imeni T. G. Shevchenko. Kiev, 1954. (Dissertation for the Degree of Candidate in Pedagogical Science)

So: Knizhnaya letopis', No. 27, 2 July 1955

BLIZNYUK, S.L., kandidat pedagogicheskikh nauk.

Technical education and the relation of theory to practice.
Politekh.obuch. no.7:10-13 Jl '57. (MIRA 10:7)
(Technical education)

BLIZNYUK, V.A., inzh.-elektromekhanik

New weight-measuring transducers. Gor. zhur. no.9:52-54 S '62. (MIRA 15:9)

1. Gosudarstvennyy institut po proyektirovaniyu oborudovaniya po dobyche i obogashcheniyu rud, Krivoy Rog.
(Strains and stresses—Measurement)
(Mining engineering—Electronic equipment)

BLIZNYUK, V., prepodavatel'; NECHAYEV, G., kand. tekhn. nauk

Bibliography. Prof. tekh. obr. 21 no.11:31 N '64
(MIRA 18:2)

1. Donetskiy pedagogicheskiy institut (for Bliznyuk).

BLIZNYUK, V. A., inzh.

Automatic counting of loaded cars in mine transportation.
Met. i gornorud. prom. no.1:51-53 Ja-F '63.
(MIRA 16:4)

1. Gosudarstvennyy institut po proyektirovaniyu oborudovaniya po dobyche i obogashcheniyu rud, Krivoy Rog.

(Mine railroads—Cars)
(Automatic control)

CHITAYEVA, E.A., inzh.; BLIZNYUK, V.A., inzh.

Portable vulcanizer. Gor. zhur no.4:51 Ap '63. (MIRA 16:4)

1. Gosudarstvennyy institut po proyektirovaniyu oborudovaniya po dobyche i obogashcheniyu rud, Krivoy Rog.
(Vulcanization--Equipment and supplies)

VYDREVICH, B.I.; KARANDASHOV, Yu.I.; GAVRILIN, L.F.; ~~BLIZNYUK,~~
~~V.A.;~~ KOL'TSOV, M.M.; YAVNILOVICH, Ya.A.; FROLOVA,
L.A.; MOSYAKOV, Yu.F.

[Metal products for industrial use; a handbook] Metalloizdeliia promyshlennogo naznacheniia; spravochnik. Pod red. E.A.IAvnilovicha. Moskva, Metallurgiia, 1966. 727 p. (MIRA 19:1)

ARSIRIY, Yu.A.; BLANK, M.I.; BLIZNYUK, V.F.; GLUSHKO, V.V.;
KLITOCHENKO, I.F.; LITVINOV, V.R.; PALIY, A.M.; PAN'KIV, A.M.;
PISTRAK, R.M.; CHERPAK, S.Ye.; CHIRVINSKAYA, M.V.; YARCHENKO, L.M.

Plan for the areal study of the Dnieper-Donets Lowland. Trudy
VNIIGAZ no.14:3-17 '62. (MIRA 15:5)
(Dnieper-Donets Lowland—Petroleum geology)
(Dnieper-Donets Lowland—Gas, Natural—Geology)

BLIZNYUK, V.F., otvetstvennyy za vypusk; YUDZON, D.M., tekhnicheskiy redaktor

[Collection of designs of spare parts for wide gauge railroad cars; undercarriages and impact couplers] Al'bom chertezhei zapasnykh detalei vagonov zheleznykh dorog shirokoi kolei; khodovye chasti i udarno-stsepnye pribory. Moskva, Gos. transp. zhel-dor. izd-vo, 1956. 380 p. (MLRA 9:10)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye vagonnogo khozyaystva.
(Railroads--Cars)

BLIZNYUK, V.I., otvetstvenyy za vypusk; BOBROVA, Ye.N., tekhnicheskiy redaktor

[Collection of designs for spare parts of broadgauge railroad cars; brakes] Al'bom chertezhei zapasnykh detalei vagonov zheleznykh dorog shirokoi kolei; tormoznoe oborudovanie. Moskva, Gos.transp.zhel-dor. izd-vo, 1957. 234 p. (MIRA 10:11)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye vagonnogo khozyaystva.
(Railroads--Brakes)

BLIZNYUK, V.F., otvetstvennyy za vypusk; BOBROVA, Ye.N., tekhn. red.

[Album of designs of spare parts for broad gauge railroad cars; body parts and interior equipment for freight cars] Al'bom chertezhei zapasnykh detalei vagonov zheleznykh dorog shirokoi kolei; detali kuzovov i vnutrennego oborudovaniia gruzovykh vagonov. Moskva, Gos. transp. zhel.-dor. izd-vo, 1958. 263 p. (MIRA 11:9)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye vagonnogo khozyaystva.

(Railroads--Freight cars)

KOMAROV, S.G.; SAMOKHVALOV, S.F.; BELAVENTSEV, N.V.; BOMBARDIROV, P.P.;
AMELINA, A.A.; BLIZNYUK, V.F.; LADYGIN, V.I.; PEROV, A.N.; VASIL'YEV,
I.P.; BRODOVICH~~, N.B.; RAB~~INOV, A.M.; ALEKSEYEV, V.D.; YEGOROV,
V.A., inzh., red.; ARSHINOV, I.M., inzh., red.; VERINA, G.P., tekhn. red.

[Handbook on the repair of freight cars] Spravochnik po remontu
gruzovykh vagonov. Moskva, Gos. transp. zhel-dor. izd-vo, 1958. 503 p.
(MIRA 11:12)

(Railroads--Freight cars--Maintenance and repair)

BLIZNYUK, V.F., otv. za vypusk; BOBROVA, Ye.N., tekhn.red.

[redacted] [Automatic couplers; designs of automatic coupling equipment for wide-gauge railroad cars and models for testing purposes] Avtostsepka; chertezhi avtostsepnogo oborudovaniia vagonov zheleznykh dorog shirokoi kolei i shablonov dlia ego proverki. Moskva, Gos. transp. zhel-dor. izd-vo, 1958. 284 p. (MIRA 12:2)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye vagonnogo khozyaystva.
(Car couplings)

BLIZNYUK, V.F., otv. za vypusk; BOBROVA, Ye.N., tekhn.red.:

[Album of truck designs for all-metal passenger cars] Al'bom chertezhei telezhek tsel'nometallicheskikh passazhirskikh vagonov. Moskva, Gos.transp.zhel-dor.izd-vo, 1960. 124 p. (MIRA 13:5)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye vagonnogo khozyaystva.
(Railroads--Passenger cars)

BLIZNYUK, V.F.; GAVRISH, V.K.; GRITSAY, Ye.T.; KEL'BAS, B.I.; KLITOCHENKO, I.F.; MARTYNOV, A.A.; PALIY, A.M.; POPOV, V.S.; SHAYKIN, I.M.; YARCHENKO, L.M.

Stratigraphic boundaries and oil and gas potentials of the Upper Cretaceous sediments in the Dnieper-Donets Lowland. Geol. nefti i gaza 8 no.4:28-35 Ap '64. (MIRA 17:6)

1. Glavnoye upravleniye geologii i okhrany nedr pri Sovete Ministrov UkrSSR, Kiyevskaya ekspeditsiya tresta Ukregeofizrazvedka, Kiyevskaya ekspeditsiya Ukrainskogo nauchno-issledovatel'skogo geologorazvedochnogo instituta i Chernigovskaya ekspeditsiya Ukrainskogo nauchno-issledovatel'skogo geologorazvedochnogo instituta.

BLIZNYUK, V. M.

BLIZNYUK, V. M.: "The surgical treatment of adenoma of the prostate gland in patients with and without sinestrol treatment". Sverdlovsk, 1955. Sverdlovsk State Medical Inst. (Dissertation for the Degree of Candidate of MEDICAL Sciences)

SO: Knizhnaya Letopis' No. 51, 10 December 1955

BLIZNYUK, V.M., kandidat meditsinskikh nauk

Two-stage transvesical adenomectomy in adenomatous hypertrophy of the prostate. Urologiia 21 no.3:18-21 Jl-S '56. (MLRA 9:12)

1. Iz urologicheskogo otdeleniya (zav. V.M.Bliznyuk) Sverdlovskoy oblasti klinicheskoy bol'nitsy No.1 (Glavnyy vrach M.S. Levchenko)
(PROSTATE HYPERTROPHY, surg.
two-stage transvesical adenomectomy)

BLIZNYUK, V.M.; kand.med.nauk; ASTAF'YEV, D.A.

[redacted]

Immediate and late results of vesicosigmoid anastomosis. Urologiia
23 no.2:8-12 Mr-Ap '58. (MIRA 11:4)

1. Iz urologicheskogo otdeleniya (zav. T.N.Tret'yakova; konsul'tant - kandidat meditsinskikh nauk V.M.Bliznyuk) Sverdlovskoy oblastnoy klinicheskoy bol'nitsy (glavnyy vrach M.S.Levchenko)
(BLADDER, surg.
vesico-sigmoid anastomosis, immediate and remote
results (Rus))
(COLON, surg.
same)

BLIZNYUK, V.M. (Sverdlovsk, 6, ul. Tobol'skaya, d. 31, kv.2)

[redacted] Surgery i adenoma of the prostate gland. with and without previous synestrol therapy. Nov.khir.arkh. no.2:81 Mr-Ap '58 (MIRA 11:6)

1. Urologicheskoye otdeleniye (zav. - V.M. Bliznyuk) Sverdlovskoy oblastnoy bol'nitsy No.1.
(PROSTATE GLAND,-SURGERY)
(ESTROGENS)

BLIZNYUK, V.M.

Intra- and extraorganic lymphatic system of the bladder and routes of lymph flow from its various segments. Urologiia 26 no.1:41-46 '61. (MIRA 14:3)
(BLADDER) (LYMPHATICS)

BLIZNYUK, V.M., dotsent

Resection of the bladder in epithelial tumors. Urologiia 28 no.3:41-45 '63 (MIRA 17:2)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. V.F.Kolosovskaya) Sverdlovskogo meditsinskogo instituta.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

Bliznyukov, G.Ye

ca

72

Effect of supercharge on the comparative evaluation of the knock of fuels. M. M. Maslennikov and G. E. Bliznyukov. *Tekhnika Vozdushnogo Flota* 1939, ~~No. 11,~~ 30-9.—The effect of supercharge on the comparative evaluation of the knock of motor fuels was studied with a Waukesha engine using Grozny aviation gasoline, Baku gasoline, Orsk gasoline, and Dubroval gasoline contg. ethyl fluid or c. p. benzene. The antiknock effect of the ethyl fluid was apparently not affected by supercharging. The greatest stability against knocking was shown by unsatd. compds., the naphthenes and aromatic compds. were about equal but both were next to the unsatd. compds., while the paraffins knocked the worst. The octane number detd. by the C. F. R. method gives an indication of the value of the fuel for work under supercharge only when there is a small difference (up to 10%) in the content of paraffins and unsatd. compds. When the difference is large, fuels with the same antiknock properties under supercharging will have different octane numbers by the C. F. R. method. Such discrepancies may reach up to four octane units.

B. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

SOBOLEV, S.K., inzh.; KUDRIN, V.A., kand.tekhn.nauk; OYKS, G.N., doktor tekhn.nauk; TRUBIN, K.G., doktor tekhn.nauk, V rabote prinimali uchastiye; BLIZNYUKOV, S.A.; ROZHKOV, I.M.; MALYSHEV, V.S.

Desulfuration of pig iron outside the blast furnace by lime with the addition of aluminum powder. Sbor.Inst.stali no.39:5-15 '60. (MIRA 13:7)

1. Kafedra metallurgii stali Moskovskogo ordena Trudovogo Krasnogo Znameni instituta stali im. I.V.Stalina.
(Cast iron—Metallurgy) (Desulfuration)

37238

S/148/62/000/003/003/011
E071/E435

18.1100

AUTHORS: Vishkarev, A.F., Kryakovskiy, Yu.V., Bliznyukov, S.A., Yavoyskiy, V.I.

TITLE: Influence of rare earth elements on the surface tension of liquid iron

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no.3, 1962, 60-67

TEXT: The surface activity of rare earth elements in iron is of importance from the point of view of their modifying effect which is caused by preferential adsorption of surface active components on faces of growing crystals, inhibiting their growth. In multi-component systems, changes in the surface tension could be due not only to the adsorption of a given component but also due to various physico-chemical processes taking place in the melt (e.g. deoxidation, desulphurization, changes in the activity of other components), for this reason the influence of rare earth elements on the surface tension of specially purified liquid iron was measured (not more than: 0.020% C, 0.015% Mn, 0.005% Si, 0.0028% P, 0.002% S and 0.003% O_2). The method

Card 1/3

S/148/62/000/003/003/011
E071/E435

Influence of rare earth ...

consisted of measuring the maximum pressure of gas bubbles in vacuo or in a controlled atmosphere. Well purified argon was used for blowing bubbles and as a protective atmosphere. The apparatus and experimental procedure are described in some detail. It was found that cerium and lanthanum are surface active. In all cases, first additions of cerium (up to 0.45%) lower the surface tension of iron by 100 to 120 erg/cm^2, whilst further addition of cerium increases the surface tension of iron due to its reaction with oxygen and sulphur. Lanthanum acts similarly but a decrease in the surface tension was noted only after the first addition (0.1%). This is explained by a higher deoxidizing and desulphurizing ability of lanthanum in comparison with cerium. The influence of the admixtures present in iron on changes in the surface tension on the addition of rare earth elements (Ce, La, Nd, Pr) was demonstrated by using ordinary armco iron and carrying out experiments without a protective atmosphere. In this case additions of rare earth elements caused an increase in the surface tension of iron; only in a few cases was a small decrease observed after the first addition. This indicates that the

Card 2/3

BLIZNYUKOV, S.A.; VISHKAREV, A.F.; VAVOYSKIY, V.I.

Equipment for determining the surface tension of liquid metals. Izv. vys. ucheb. zav.; chern. met. 7 no.7:227-232 '64 (MIRA 17:8)

1. Moskovskiy institut stali i splavov.

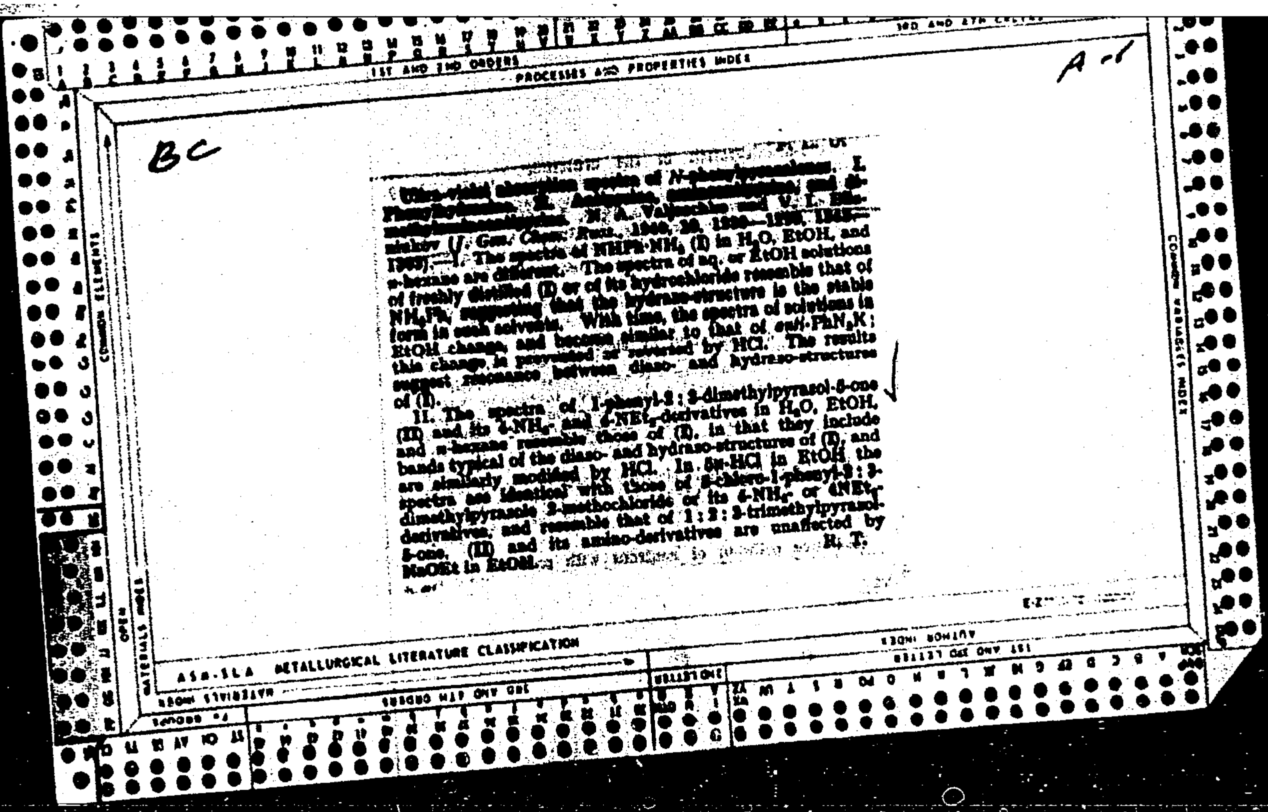
1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

H-3

Synthesis of antipyrine. N. A. VALIASCHKO and V. I. BLIZNIUKOV (Ukraine Chem. J., 1930, 5, 47—57).—Antipyrine can be prepared in 70% yield by the methylation of 1-phenyl-3-methyl-5-pyrazolone with a mixture of methyl alcohol and hydrochloric acid, the best yields being obtained by using 1 part of acid to 14 parts of alcohol, at 130—160°. Heating for more than 2 hrs. does not increase the yield. The reaction is not catalysed by iron or copper. R. TRUSZKOWSKI.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

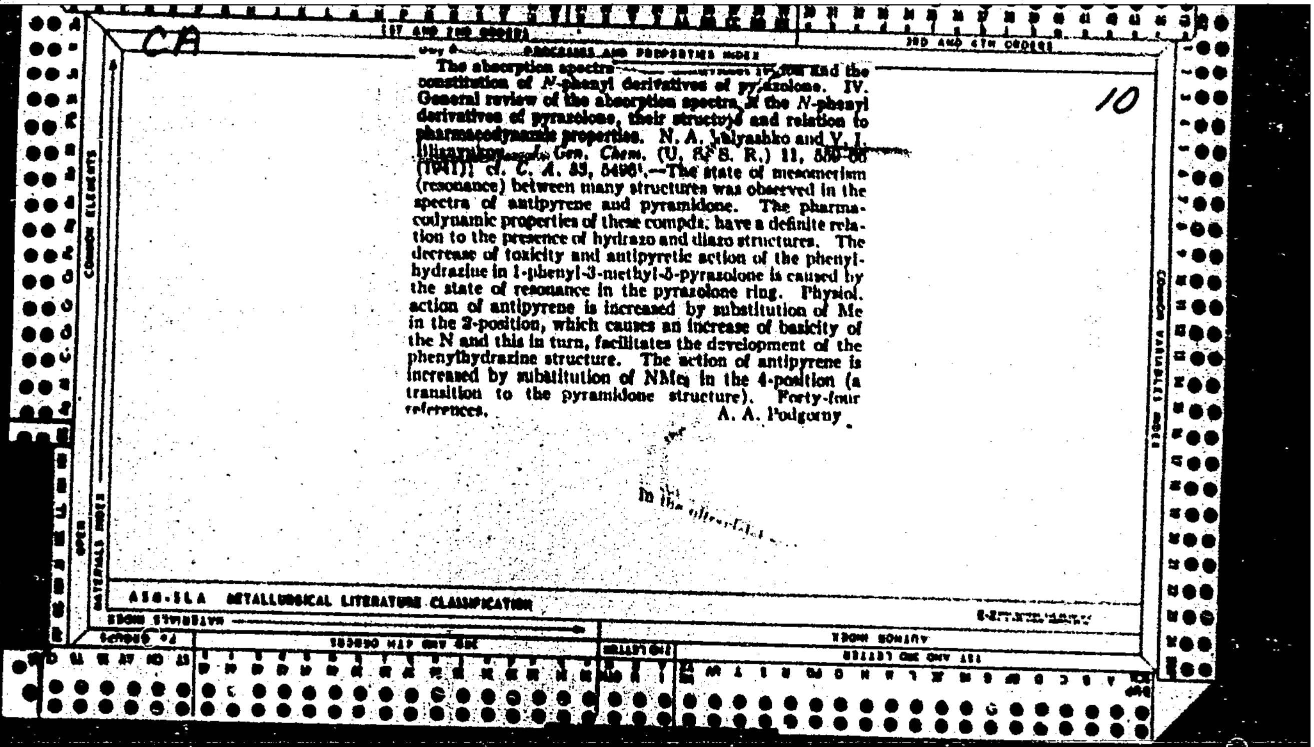


BC

A-1

Ultra-violet absorption spectra of N-phenylhydrazines. I. Phenylhydrazine. II. Antipyrine, aminoantipyrine, and dimethylaminoantipyrine. N. A. Valyashko and V. I. Bliznyakov (J. Gen. Chem. Russ., 1940, 10, 1336—1356, 1285—1303).—I. The spectra of NHPh·NH$_2$ (I) in H$_2$O, EtOH, and n-hexane are different. The spectra of aq. or EtOH solutions of freshly distilled (I) or of its hydrochloride resemble that of NH$_2$Ph, suggesting that the hydrazo-structure is the stable form in such solvents. With time, the spectra of solutions in EtOH change, and become similar to that of anti-PhN$_2$K; this change is prevented or reverted by HCl. The results suggest resonance between diazo- and hydrazo-structures of (I). ✓

II. The spectra of 1-phenyl-2 : 3-dimethylpyrazol-5-one (II) and its 4-NH$_2$- and 4-NEt$_2$-derivatives in H$_2$O, EtOH, and n-hexane resemble those of (I), in that they include bands typical of the diazo- and hydrazo-structures of (I), and are similarly modified by HCl. In 5N-HCl in EtOH, the spectra are identical with those of 5-chloro-1-phenyl-2 : 3-dimethylpyrazole 2-methochloride or its 4-NH$_2$- or 4-NEt$_2$-derivatives, and resemble that of 1 : 2 : 3-trimethylpyrazol-5-one. (II) and its amino-derivatives are unaffected by NaOEt in EtOH. R. T.



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1ST AND 2ND ORDERS

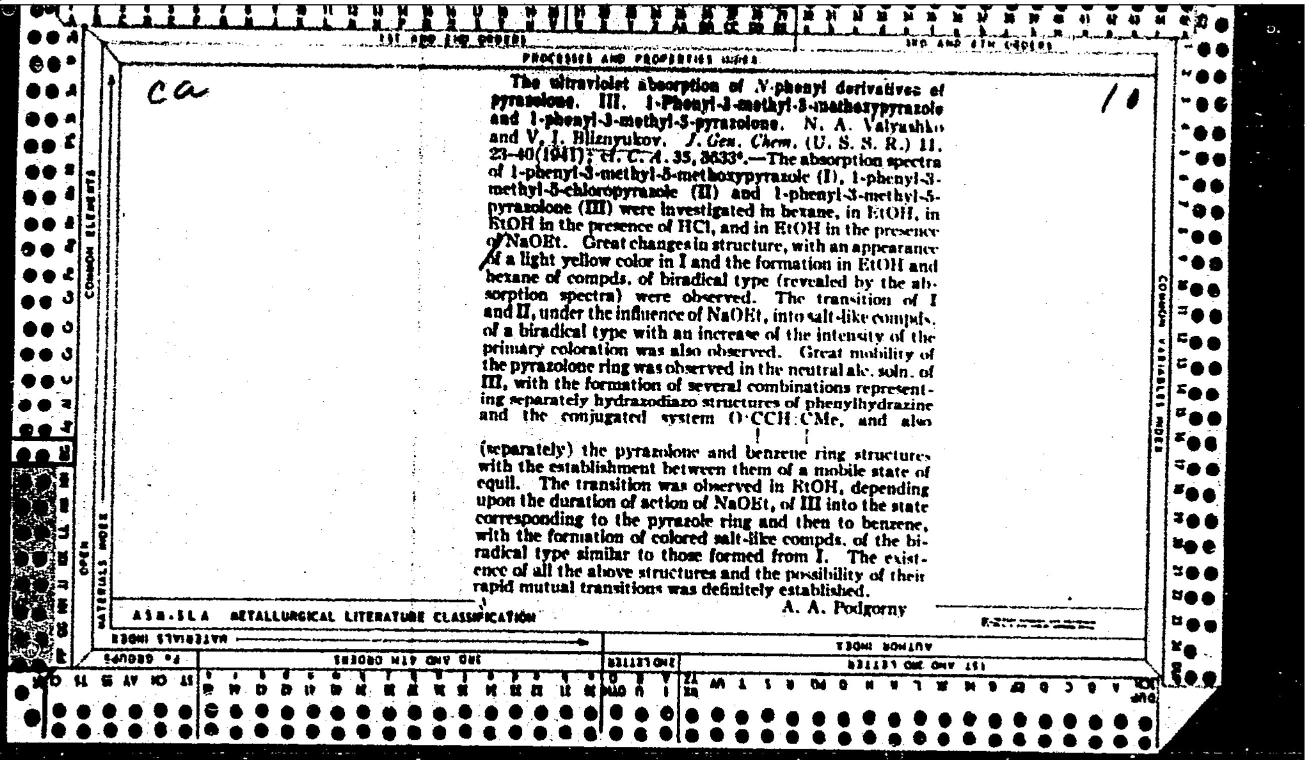
PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

The absorption spectra [illegible] and the constitution of *N*-phenyl derivatives of pyrazolone. IV. General review of the absorption spectra of the *N*-phenyl derivatives of pyrazolone, their structure and relation to pharmacodynamic properties. N. A. Valyashko and V. I. [illegible] *J. Gen. Chem.* (U. S. S. R.) 11, [illegible] (1941); cf. *C. A.* 35, 5496¹.—The state of mesomerism (resonance) between many structures was observed in the spectra of antipyrene and pyramidone. The pharmacodynamic properties of these compds. have a definite relation to the presence of hydrazo and diazo structures. The decrease of toxicity and antipyretic action of the phenylhydrazine in 1-phenyl-3-methyl-5-pyrazolone is caused by the state of resonance in the pyrazolone ring. Physiol. action of antipyrene is increased by substitution of Me in the 2-position, which causes an increase of basicity of the N and this in turn, facilitates the development of the phenylhydrazine structure. The action of antipyrene is increased by substitution of NMe_2 in the 4-position (a transition to the pyramidone structure). Forty-four references.

A. A. Podgorny

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



The ultraviolet absorption of *N*-phenyl derivatives of pyrazolone. III. 1-Phenyl-3-methyl-5-methoxypyrazole and 1-phenyl-3-methyl-5-pyrazolone. N. A. Valyashko and V. I. Bliznyukov. *J. Gen. Chem.* (U. S. S. R.) 11, 23–40(1941); ~~cf. C. A.~~ 35, 8633^6.—The absorption spectra of 1-phenyl-3-methyl-5-methoxypyrazole (I), 1-phenyl-3-methyl-5-chloropyrazole (II) and 1-phenyl-3-methyl-5-pyrazolone (III) were investigated in hexane, in EtOH, in EtOH in the presence of HCl, and in EtOH in the presence of NaOEt. Great changes in structure, with an appearance of a light yellow color in I and the formation in EtOH and hexane of compds. of biradical type (revealed by the absorption spectra) were observed. The transition of I and II, under the influence of NaOEt, into salt-like compds. of a biradical type with an increase of the intensity of the primary coloration was also observed. Great mobility of the pyrazolone ring was observed in the neutral alc. soln. of III, with the formation of several combinations representing separately hydrazodiazo structures of phenylhydrazine and the conjugated system O·CCH:CMe, and also (separately) the pyrazolone and benzene ring structures with the establishment between them of a mobile state of equil. The transition was observed in EtOH, depending upon the duration of action of NaOEt, of III into the state corresponding to the pyrazole ring and then to benzene, with the formation of colored salt-like compds. of the biradical type similar to those formed from I. The existence of all the above structures and the possibility of their rapid mutual transitions was definitely established.

A. A. Podgorny

Ca

PROCESSES AND PROPERTIES INDEX

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Nitration of toluene with nitrogen dioxide without sulfuric acid. N. A. Valyashko, V. I. Bliznyukov, and A. E. Lutskii. *Trudy Khar'kov. Khim.-Tekhnol. Inst. im. S. M. Kirova* No. 4, 48-50(1944).—In sealed tubes, N_2O_4 reacts with PhMe energetically, with the nitration bearing mainly on the Me, to a lesser extent on the ring. PhMe (9.2 g.) with 29 g. N_2O_4 (molar ratio 1:3) at 30°, 1.5 atm., 24 hrs., gave about 6-8% nitrotoluenes, 8-12% $(CO_2H)_2$, 10-15% products of nitration at the Me group, 4-5% extd. with Na_2CO_3, 14-24% unreacted PhMe; at 60°, the same results were obtained in 1 hr. In some cases (after 150 hrs. at 30°, after 1.5 hrs. at 70°) explosion occurred. Catalysts usually favoring nitration of the ring (iodine, Fe, Cu, and Hg nitrates) failed to influence the reaction with N_2O_4. Explosion can be prevented by filling the reaction tube with stainless steel shavings, also by diln. with $PhNO_2$ or CCl_4; an amt. of diluent double that of the PhMe does not inhibit either nitration at the Me group or oxidation. Decreasing the amt. of N_2O_4 from 3 moles to 1.7 moles (per mole PhMe) also resulted in slower reaction. Nitration of the ring is promoted by addn. of Ac_2O; with 0.27 mole Ac_2O (per mole PhMe), at 65°, 1 hr., 2.5-3.0% 2,4,6-trinitrotoluene was obtained from an equimol. mixt. of PhMe + N_2O_4 with 0.6 mole CCl_4, the yield of the nitrotoluene fraction being 30% as against 17% with only 0.06 mole Ac_2O; further increase of the amt. of Ac_2O is unavailing and may cause explosion, as does increase of the temp. to 75° unless the amts. of reactants are changed or higher diln. with CCl_4 is used: PhMe:N_2O_4 = 1:1.2 mols., with 0.9 mole CCl_4, 0.4 mole Ac_2O, at 70°, 3.5 hrs., gave 11% 2,4,6-trinitrotoluene, 30% total nitrotoluene fraction. The mononitrotoluenes are not any further nitrated with N_2O_4; there is no reaction over the intermediate stage of dinitrotoluenes. When Ac_2O was replaced by AcOH, no trinitrotoluene was formed.

N. Thon

BLIZNIUKOV, V. I.

"Absorption spectra and electronic structure of quinoline derivatives which serve as starting material for antimalarials. I. Tautomerism of isomeric 2- and 4-aminopyridines." (p. 1204)

SO: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1952, Vol. 22, No. 7

BLIZNYUKOV, V. I.

USSR/Chemistry - Pharmaceuticals 21 Aug 53

"Mutual Influence of Substituents in the Antimalarial Compound 'Quinoline 45'," V. I. Bliznyukov

DAN SSSR, Vol 91, No 6, pp 1337-1340

The ring nitrogen in "quinoline 45," i. e., 6-methoxy-4 - (4'-diethylamino-1'-methylbutyl-amino)-quinoline, is an electron acceptor with regard to the NH$_2$ group in neutral solns (meta orientation), and an electron donor (ortho, para orientation) with regard to the OCH$_3$ group. When positively charged, the ring nitrogen becomes an electron acceptor exclusively with respect to both the 4-NH$_2$ and the 6-OCH$_3$ groups.

This was detd. by absorption spectroscopy. Presented by Acad V. M. Rodionov 22 Jun 53.

BLIZNYUKOV, V.I.

USSR/Physical Chemistry - Molecule, Chemical Bond. B-4

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 6923.

Author : V.I. Bliznyukov, V.M. Reznikov.
Inst :
Title : Absorption Spectra and Structure of Substituted Quinolines Serving as Initial Products of Antimalarial Medicaments. III. Tautomerism of 2- and 4-oxypyridines.

Orig Pub: Zh. obshch. khimii, 1955, 25, No 9, 1781-1794.

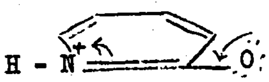
Abstract: The ultraviolet absorption spectra of 2-oxypyridien (I), 4-oxypyridine (II), 1-methyl-2-pyridone and 2-ethoxypyridine in neutral solvents, sulfuric acid and sodium ethanolate were studied. It follows from the similarity of the ultraviolet spectra of I and II with the spectra of their N-methyl derivatives that the proton in I and II is located at the ring nitrogen. It

USSR/Physical Chemistry - Molecule, Chemical Bond. B-4

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 6923.

I.

II.



O-oxyacetophenone and 2- and 4-aminopyridines that the ring nitrogen in the molecules of I and II is an electron attracting atom, and oxygen is an electron giving atom. In accordance with the above, following structure formulae of I and II are proposed. Depending on the reaction (medium) conditions, the molecular electron system can be deformed with producing a reaction center either on oxygen, or on nitrogen, the result of

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USSR/Physical Chemistry - Molecule, Chemical Bond. B-4

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 6923.

which will be a dual reaction capability of I and II. No tautomerism was disclosed in I and II by the spectra. It is shown that I and II produce salts by the oxygen bond with acids, as well as with alkalis (in the case of an acid, the proton is added to oxygen, but not to nitrogen, and in the case of an alkali, a proton is detached from the ring nitrogen). See part II in RZhKhim, 1955, 31016.

Card : 3/3

Name: BLIZNYUKOV, Vasiliy Ivanovich

Dissertation: Relation between electronic structure and anti-molecular activity of derivatives of quinoline and benzol

Degree: Doc Pharm Sci

Affiliation: Khar'kov Pharm Inst

Defense Date, Place: 7 May 56, Council of Moscow Pharm Inst

Certification Date: 15 Jun 57

Source: BMVO 16/57

AUTHORS: Bliznyukov, V. I., and Sokol, L. S. 79-12-17/43

TITLE: Absorption Spectra and Structure of Quinoline Substituents Serving as Basic Material for the Production of Remedies Against Malaria.
(Spektry pogloshcheniya i stroyeniye zameshchennykh khinolina, sluzhashchikh iskhodnymi produktami dlya protivomalyariynykh sredstv)
IV. Absorption Spectra and Structure of Neoplasmochin
(Spektry pogloshcheniya i stroyeniye neoplazmokhina).

PERIODICAL: Zhurnal Obshchey Khimii 1957, Vol. 27, Nr 12, pp. 3254-3260 (USSR)

ABSTRACT: The absorption spectra of 8- (5-diethylamino-2-pentyl)aminoquinoline (of neoplasmochin) proved as complicated. For their explanation the absorption spectra of 8 - aminoquinoline were investigated. The effect of the solvents on the absorption spectra of 8 - (5-diethylamino-2pentyl) aminoquinoline (of neoplasmochin) and the 8 - aminoquinoline were investigated. The spectrum of neoplasmochin in tetrachloromethane solution has a resemblance to the spectra of 8-aminoquinoline and their othobenzenederivates which have one substituent attracting electrons and one repulsing them in the ring, on which occasion

Card 1/2

Absorption Spectra and Structure of Quinoline Substituents 79-12-17/43
Serving as Basic Material for the Production of Remedies Against Malaria.

a strip occurs on the described spectrum which occurs also in that of pyridin. Under the influence of hexane and the dipole solvents the pyridine-strip of the neoplasmochin disappears and a strip occurs on its orthobenzene spectrum like it is the case with the orthobenzenederivatives with substituents repulsing two electrons.
There are 3 figures, 4 tables, and 14 references, 10 of which are Slavic.

ASSOCIATION: **Khar'kov Pharmaceutical Institute**
(Khar'kovskiy farmatsevticheskiy institut).

SUBMITTED: October 1, 1956

AVAILABLE: Library of Congress

1. Quinolines - Spectra 2. Quinolines - Structural analysis 3. Malaria - Therapy

Card 2/2

AUTHORS: Bliznyuk[redacted] Solonskaya, N. T. 79-28-5-24/69

TITLE: Absorption Spectra and Structure of Substituted Quinolines Serving as Initial Products for Antimalaria Preparations (Spektry pogloshcheniya i stroyeniye zameshchennykh khinolina, sluzhashchikh iskhodnymi produktami dlya protivomalyariynykh sredstv)V. Structure and Tautomerism of the 2- and 4- Aminoquinolines (V. Stroyeniye i tautomeriya 2- i - 4- aminokhinolinov)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 5, pp. 1241 - 1247 (USSR)

ABSTRACT: The methods of spectroscopy are of doubtless importance for the solution of the problem of the structure and tautomerism of 2 - and 4 - aminoquinoline, although the conclusions from the various works are not always clear. Thus Steck and Ewing (Shtek i Iwing), as well as Hearn, Morton and Simpson (Gern, Morton i Simpson) (Reference 1,2), based on the investigations of the ultraviolet spectra of the 2 - and 4 - aminoquinolines, believe these compounds to be tautomeric, while the spectral results by Angual and Werner (Endzhel i Verner) (Reference 3) maintain the contrary. In the present work the spectrographic

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79-28-5-24/69

Absorption Spectra and Structure of Substituted Quinolines Serving as Initial Products for Antimalaria Preparations. V.Structure and Tautomerism of the 2- and 4- Aminoquinolines

investigation of the 2- and 4- aminoquinolines was investigated more in detail, namely in solutions of hexane, ethanol, trichlormethane in water, as well as chloric-sulfuric-hydrochloric acid solutions and the alkaline solutions of sodium alcoholate. The influence of the solvents, acidous and alkaline, on the absorption spectra of the 2 - and 4- aminoquinolines, of 4- acetylaminoquinoline and of 1 - methyl- 4-iminoquinoline was investigated. It was found that in solvents, without any noticeable influence on the ring nitrogen (hexane, dioxane), the "benzene-pyridine spectrum" is decisive for the 2- and 4 - aminoquinolines, and the "benzene-quinonimine spectrum" for the 1- methyl - 4 - iminoquinoline. The "benzene-pyridine spectrum" of the 2- and 4- aminoquinolines does not change essentially under the influence of ionizing solvents and hydrochloric acid of different concentration, however, on this occasion "o - or p-aminopyridine absorption spectra" occurs. This points to a binding of a positively bound ring nitrogen with the ring and with the 2- or 4 - amino group.

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79-28-5-24/69

Absorption Spectra and Structure of Substituted Quinolines Serving as Initial Products for Antimalaria Preparations. V. Structure and Tautomerism of the 2- and 4- Aminoquinolines

According to the absorption spectra in the ultraviolet part a tautomerism for the 2- and 4- aminoquinolines is denied. There are 6 figures and 33 references, 9 of which are Soviet.

ASSOCIATION: Khar'kovskiy farmatsevticheskiy institut (Khar'kov Pharmaceutical Institute)

SUBMITTED: November 9, 1957

Card 3/3

AUTHORS: Bliznyukov, V. I., Sukhomlinov, A. K. 79-28-5-25/69

TITLE: Absorption Spectra and Structure of Acridine
(Spektry pogloshcheniya i stroyeniye akridina)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 5,
pp. 1247-1249 (USSR)

ABSTRACT: The authors repeated the spectrographic pictures of earlier scientists (references 1 - 4), however, in other solvents: in ethanol, dioxane, tetrachloromethane, dichloroethane, in the ethanol solution of hydrogen chloride of different concentration, in concentrated 98% sulfuric acid and in 60% perchloric acid. Thanks to the influence of the condensed benzene ring, the absorption spectrum of acridine is strongly displaced in direction to the longer waves, compared to the quinoline spectrum. Besides, an increase of the intensity of the long-wave bands by 3-5 fold takes place in the spectrum of acridine. Due to this fact the "pyridine band" of acridine is partly covered by the "longwave benzene band" and appears only unclearly in the spectrum of the dioxane-

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- and hexane solution of acridine (figure 1). The "pyridine band" of acridine appears clearly in the spectrum of hydrogen-chloride-acidous 9-aminoacridine (figure 1, curve 7). In the formation of acridine salts a deeply colored displacement of the longwave band limit of acridine occurs, which is not the case with short-wave ones. The spectrographical investigations characterize the weakening of the aromatic character of the pyridine ring of acridine in the formation of salt and coincide with those of the oxidation. (references 7, 8). Acridine thus yields a complicated ultraviolet spectrum in organic solvents, in which spectrum the present bands characterize the pyridine (quinoline)- and benzol ring. The mutual influence of these rings shows up in the increase of intensity as well as in the displacement of the corresponding absorption bands in the direction to the longer waves. The absorption spectrum of the acridinium ion in acidous solutions is understood to be a complex spectrum and consists of benzene bands of "anthracene" and the benzene bands of the "ortho-type" which mutually cover each other. There are 2 figures and

Absorption Spectra and Structure of Acridine 79-28-5-25/69

8 references, 2 of which are Soviet.

ASSOCIATION: Khar'kovskiy farmatsevticheskiy institut
(Khar'kov Pharmaceutical Institute)

SUBMITTED: November 29, 1956

Card 3/3

AUTHORS: Bliznyukov, V. I., Sukhomlinov, A. K. SOV/79-28-6-39/63

TITLE: The Absorption Spectra and the Structure of the Bisulfite Compound of Acridine (Spektry pogloshcheniya i stroyeniye bisul'fitnogo soyedineniya akridina)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 6, pp. 1610-1613 (USSR)

ABSTRACT: Data in papers concerning the structure of the bisulfite compounds of acridine are full of contradictions. Graebe (Ref 1) (Grebe) was the first to describe two products of the conversion of acridine with sulfurous acid and with sodium bisulfite. The one of them, $C_{13}H_9NSO_3HNa$, consisted of colorless crystals which easily dissolved in water, the other, was red and a compound difficult to dissolve: $C_{13}H_{10}NSO_3H \cdot C_{13}H_9N$. Later on Wirth and Lemstedt (Wirt, Lemshtedt) (Ref 2) attributed the structure of the sodium salt of acridane-9--sulfo acid (formula I) to the colorless product. Drozdov and Cherntsov (Ref 3) took the colorless product of acridine to be a sulfurous acid salt of sodium and acridinium (II) (see scheme). Grigorovskiy (Ref 4) regards both formulae of

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SOV/ 79-28-6-39/63

The Absorption Spectra and the Structure of the Bisulfite Compound of Acridine

the structure as not sufficiently proved. In order to find which of the two structural formulae of the colorless bisulfite compound of acridine, (I) or(II), is the correct one, the absorption spectra of this product can be compared to those of acridine derivatives having a pyridine ring of quinoid structure, e.g. to those of dihydroacridine, 10-methyl-9-imino-acridine. By this method and by the additional comparison with the acridinium ion it could be possible to decide in favor of one or the other formula. Concluding the authors found that in the absorption spectra of the bisulfite compound of acridine in sodium sulfite solution, as well as in ethanol and aqueous solutions, a quinone absorption band occurs immediately after the production of the solution. After 6-days storing of the aqueous solutions this quinone band disappears and a return to the spectrum of the acridine ion takes place. It was explained that the structure of the colorless bisulfite compound of acridine of the empiric formula, $C_{13}H_{10}O_3NSNa \cdot 2H_2O$, represents a sodium salt of acridane-9-sulfo acid, which on the action of water converts to the sulfurous acid salt (at the nitrogen ring) (I). There are 2 figures and 8 references, 2 of which are

SOV/ 79-28-6-39/63

The Absorption Spectra and the Structure of the Bisulfite Compound of Acridine

Soviet.

ASSOCIATION: Khar'kovskiy farmatsevticheskiy institut (Khar'kov Pharmaceutical Institute)

SUBMITTED: February 20, 1957

1. Acridines--Spectrographic analysis 2. Metalorganic compounds --Spectra

Card 3/3

AUTHORS: Bliznyukov, V. I., Sukhomlinov, A. K., SOV/79 -28-6-40/63

TITLE: The Absorption Spectra and the Structure of 2-Methoxy-9-Amino-acridine (Spektry pogloshcheniya i stroyeniye-2-metoksi-9-amino-akridina)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol. 28, Nr 6, pp. 1613 - 1616 (USSR)

ABSTRACT: The spectrographic investigation of the 2-methoxy-9-aminoacridine was of interest as the acridine with a methoxygroup in the position 2 displays a considerable activity against malaria (Ref 1). The absorption spectra of 2-methoxy-9-aminoacridine were investigated by the authors in ethanol, dioxane, ether, sodium alcoholate, an ethanol solution of hydrogen chloride of various concentrations as well as in concentrated sulfuric acid. The analysis of the absorption spectra of 2-methoxy-9-aminoacridine in neutral solvents (Fig 1, curves 1,2,5,6; comparison with curve 3 and 4) showed that in the case of a common presence of 2-methoxy- and 9-amino groups in the acridine ring the "benzene-pyridine" spectrum of acridine is maintained with two absorption bands being located on it. The absorption spectra of 2-methoxy-9-aminoacridine

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The Absorption Spectra and the Structure of 2-Methoxy- SOV/79-28-6-40/63
-9-Aminoacridine

in various solutions are shown (Fig 1), and in concentrated sulfuric acid (Fig 2). Concluding the authors investigated the influence of the solvents as well as of acid solutions on the absorption spectra of the mentioned acridine, and showed that the ring nitrogen is capable of attracting the electrons under the influence of substituting groups as well as to emit them. The composed spectrum of 2-methoxy-9-aminoacridine was recognized as "benzene-pyridine" spectrum of acridine on which three absorption bands are located corresponding to the separation conversion of the substituting groups with ring nitrogen through the π-electron system of the acridine ring. The authors found that in concentrated sulfuric acid a double acid salt forms at the ring nitrogen and at the amino group of 2-methoxy-9-aminoacridine. There are 2 figures and 5 references, 5 of which are Soviet.

ASSOCIATION: Khar'kovskiy farmatsevticheskiy institut (Khar'kov Pharmaceutical Institute)

SUBMITTED: February 20, 1957

Card 2/3

The Absorption Spectra and the Structure of 2-Methoxy- SOV/79-28-6-40/63
-9-Aminoacridine

1. Acridines--Spectrographic analysis

Card 3/3

AUTHORS: Bliznyukov, V. I., Sokol, L. S.　　SOV/79-29-2-46/71

TITLE: Absorption Spectra and Structure of the Substitution Products of Quinoline Which Serve as Initial Products for Anti-Malaria Remedies (Spektry pogloshcheniya i stroyeniye zameshchennykh khinolina, sluzhashchikh iskhodnymi produktami dlya protivomalyariynykh sredstv). VI. On the Interaction Between the Substituents in the Ions of 8-Aminoquinoline, 6-Methoxy-8-Aminoquinoline and Some of Their Derivatives (VI. O vsaimodeystvii zamestiteley v ionakh 8-aminokhinolina, 6-metoksi-8-aminokhinolina i ikh nekotorykh proizvodnykh)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 575-581 (USSR)

ABSTRACT: As a result of earlier investigations (Refs 1,2) the authors observed the similarity between the quinoline ion, with regard to the electron structure, and o-aminostyrene or o-aminoacetophenone. This was found on the basis of the comparative absorption spectra in the ultraviolet range. It could be expected that the ions of 8-aminoquinoline, 6-methoxy-8-aminoquinoline and their derivatives would behave in the same way as the corresponding benzene derivatives. On the basis of absorption-spectrum analysis the following results were found (6 figures): the combined spectrum of the charged ion of 8-aminoquinoline as that of a benzene derivative with an electron-

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SOV/79-29-2-46/71

Absorption Spectra and Structure of the Substitution Products of Quinoline Which Serve as Initial Products for Anti-Malaria Remedies . VI. On the Interaction Between the Substituents in the Ions of 8-Aminoquinoline, 6-Methoxy-8-Aminoquinoline and Some of Their Derivatives

attracting and two electron-repelling substituents in the positions 1,2,3 was explained. In this connection it was found that the ring nitrogen takes part in electron transitions as a substituted amino group by entering reaction once with the electron-attracting vinyl group and then with the electron-repelling 8-NHR group through the π-electron system of the benzene ring. The combined spectrum of the charged ion of 6-methoxy-8-aminoquinoline as that of a benzene derivative with an electron-attracting and three electron-repelling substituents in the positions 1,2,3,5 was also explained. In this connection it was found that the ring nitrogen is capable of taking part in electron transitions once as a substituted amino group and then as a positively charged nitrogen. In the first case the conjugation of the amino group takes place with the electron-attracting vinyl group, while in the second case the conjugation of nitrogen takes place with the 8-NHR group through the π-electron system of the benzene ring. The salt formation of the 8-NHR group of 8-aminoquinoline causes the return to the spectrum of the quinoline ion and

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SOV/79-29-2-46/71

Absorption Spectra and Structure of the Substitution Products of Quinoline Which Serve as Initial Products for Anti-Malaria Remedies. VI. On the Interaction Between the Substituents in the Ions of 8-Aminoquinoline, 6-Methoxy-8-Aminoquinoline and Some of Their Derivatives

that of 6-methoxy-8-aminoquinoline to the spectrum of the 6-methoxyquinoline ion.-There are 6 figures and 15 references, 12 of which are Soviet.

ASSOCIATION: Khar'kovskiy farmatsevticheskiy institut
(Khar'kov Pharmaceutical Institute)

SUBMITTED: November 2, 1957

Card 3/3

5(3) SOV/79-29-4-59/77

AUTHORS: Sukhomlinov, A. K., Bliznyukov, V. I.

TITLE: Absorption Spectra and the Structure of Acyl Derivatives of 9-Aminoacridine (Spektry pogloshcheniya i stroyeniye atsil'nykh proizvodnykh 9-aminoakridina)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1316-1320 (USSR)

ABSTRACT: The investigation into some properties of the acyl derivatives of 9-aminoacridine suggested that their form was that of imines (I) (Refs 1,2). According to other data (Refs 3,4), the mono- and diacyl derivatives of 9-aminoacridine are considered derivatives of the 9-amino group (II). The determination of the dipole moment did not solve the problem, since the sum totals of the vectors are almost identical in the case of the imine- and amino forms of the diacetyl derivatives of 9-aminoacridine (Ref 5). In order to approach the solution of the problem concerning the structure of the acyl derivatives of 9-aminoacridine, the ultraviolet absorption spectra of 9-monoacetyl-, 9-acetylbutyryl-, diacetyl-, and 9-propionylacetylaminoacridine were investigated. 9-diacetylaminoacridine was obtained by heating 9-aminoacridine with an excess of acetic anhydride (Ref 1), the

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rest corresponded, with respect to their melting points, to the data to be found in relevant publications (Refs 1,6). The ultraviolet absorption spectra were investigated in hexane, dioxan, ethanol, chloroform, and dichloroethane, in ethanol solutions of HCl, and in 60% chloric acid. A comparison of the absorption curves of 9 aminoacridine, its acyl derivatives, and acridine in dioxan as well as in other solvents (Fig 1, Curves 1-3; Fig 2, Curves 1-4) shows that the replacement of the hydrogen of the amino group by the acid residue causes the long-wave band to shift toward the shorter waves. In the salt formation, e.g. in the case of the ethanol solutions of HCl, the absorption spectrum of 9-monoacetylaminoacridine shifts toward the long waves (Fig 3, Curves 1,4, Comparison with 5), and resembles the spectrum of the acrisinium ion. The absence of the "quinone-imine absorption band" in the spectra of the mono- and diacetyl derivatives of 9-aminoacridine in neutral solutions, and, on the other hand, the presence of the "pyridine absorption band" in acid solutions show that the mono- and diacetyl derivatives should be considered derivatives of the amino form. There are 4 figures and 9 references, 7 of which are Soviet.