"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

S/062/62/000/007/004/013
B117/B160

Organoboron compounds...

structure, are virtually unaffected by air, not completely oxidized by hydrogen peroxide and are very slowly hydrolyzed by heating. They yield the corresponding borates by alcoholysis. This reaction is slow at room temperature, accelerating as the temperature rises. Alkyl mercaptoborane trimers and mercaptanes only react at 100 - 120°C, yielding large amounts of alkyl thioborates. 53% methyl thioborate and 89% ethyl thioborate were obtained by boiling a mixture of high-boiling mercaptane and trimer.

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

SUBMITTED: January 30, 1962

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

S/062/62/000/008/004/016
B117/B180

2220

AUTHORS: Mikhaylov, B. M., and Blokhina, A. N.

TITLE: Organoboron compounds. 103. Effect of diborane on alkyl vinyl ethers

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 8, 1962, 1373-1378

TEXT: The reactions of diborane with ethyl-vinyl ether and with n-butyl-vinyl ether in diethyl ether were investigated between -70° and +20°C, with reagents in various proportions. In the first series of experiments with a 1:6 ratio, at -70°C, tri-(2-ethoxy-ethyl) borine or tri-(2-n-butoxy-ethyl) borine were obtained. Both are thermolabile, due to the electronegative alkoxy groups. When heated (-10 - +20°C), the reaction mixture transformed into di-(2-alkoxy-ethyl) boric acid ester, with ethylene liberation. The thermostable di-(2-alkoxy-ethyl) boric acid ethyl ester was isolated pure by vacuum distillation (77% yield). By vacuum distillation, di-(2-n-butoxy-ethyl) boric acid n-butyl ester was partly transformed (60%) into 2-n-butoxy-ethyl boric acid di-n-butyl ester

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

with elimination of ethylene, and partly into tri-n-butyl borate. The different thermostability of the esters was attributed to the different electronegativities of the ethyl and n-butyl groups. Diborane reacted with both vinyl ethers at room temperature with ethylene liberation. Distillation of the resulting products produced yields similar to the reaction at -70°C. The second series of experiments was carried out at -70°C - +20°C, the ratio of the components being 1.2:6. Besides di-(2-ethoxy-ethyl) boric acid ethyl ester, diborane and ethyl-vinyl ether also yielded ethyl-(2-ethoxy-ethyl) boric acid ethyl ester and small amounts of ethyl boric acid diethyl ester. Ethyl-(2-ethoxy-ethyl) boric acid ethyl ester can be formed either via di-(2-ethoxy-ethyl) borane or ethyl-di(2-ethoxy-ethyl) borine. Diborane and n-butyl-vinyl ether gave 2-n-butoxy-ethyl boric acid di-n-butyl ester as the main product (43%), with tri-n-butyl borate and small quantities of ethyl boric acid di-n-butyl ester. Pyrolysis transformed ethyl-(2-ethoxy-ethyl) boric acid ethyl ester into ethyl boric acid diethyl ester (160-170°C, 8 hrs), and di-(2-ethoxy-ethyl) boric acid ethyl ester into triethyl borate (170-180°C, 6 hrs). Pyrolysis of 2-n-butoxy-ethyl boric acid di-n-butyl ester (150°C, 9 hrs) produces tri-n-butyl borate, while its saponification yields 2-n-butoxy-ethyl boric

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

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B117/B180

Organoboron compounds. 103. ...

acid.

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: February 7, 1962

Card 3/3

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

39793

S/062/62/000/008/005/016
B117/B180

2220

AUTHORS: Mikhaylov, B. M., and Bubnov, Yu. N.

TITLE: Organoboron compounds. 105. Synthesis of thioboric acid esters from boron trichloride

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 8, 1962, 1378-1382

TEXT: The reaction of BCl_3 and mercaptams was found to be a good method for obtaining thioborates. Heating BCl_3 with the highest mercaptams (80-150°C) yields alkyl thioborates (n-propyl thioborate (30%) and n-butyl thioborate (67%)). Generally suitable method is by the reaction of BCl_3 with mercaptams in the presence of tertiary amines, yielding 70-90%. Triethylamine or pyridine is added slowly to BCl_3 and mercaptam (1:3) in an inert solvent (hexane, benzene, diethyl ether), and the reaction mixture boiled for two hours. Amine salts are filtered off, the solvent distilled off and the thioborates separated by fractional

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

S/062/62/000/008/009/015
B117/B180

Organoboron compounds. 105. ...

distillation. Diethyl ether and triethylamine (or trimethylamine) give the best results. Alkyl thioborates form complexes with amines. Methyl thioborate with pyridine yields (94.7%) the crystalline complex $(CH_3S)_3B \cdot NC_5H_5$, m.p. 91.5-92°C. The other alkyl thioborate complexes are liquid at room temperature. Besides known compounds, the following were synthesized: i-propyl thioborate, b.p. 79-83°C (1.5 mm Hg); 52.5% yield; colorless, unpleasant smelling liquid, soluble in ether, hexane and benzene; reacts with alcohols, hydrolyzes in air; i-propyl thioborate, b.p. 124-126°C (8 mm Hg); n_D^{20} 1.5263; 71.8% yield; tri-n-butyl thioborate b.p. 156-158°C (3 mm Hg), n_D^{20} 1.5228, 66.8% yield; tertiary butyl thioborate, b.p. 160-162°C (27 mm Hg), m.p. 118.5-120°C; 69.2% yield; colorless, unpleasant smelling crystals, soluble in benzene, ether, hexane and chloroform; hydrolyzes in air.

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: February 18, 1962

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; POZDNEV, V.F.

Hydroboration of triallylborine. Izv.AN SSSR.Otd.khim.nauk no.8:1475-1476 Ag '62. (MIRA 15:8)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Borine) (Hydroboration)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; SHELYDAYAKOV, V.D.; SHCHEGOLEVA, T.A.

Organoboron compounds. Report No.106: Reactions of alkyl mercaptoborane trimers with secondary and tiertiary amines. Izv.AN SSSR.Otd.khim. nauk no.9:1559-1564 S '62. (MIRA 15:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Boron organic compounds) (Amines)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; POZDNEV, V.F.

Methyl ester of di-(3-dimethoxyboryl)propylboronic acid. Izv.AN SSSR. Otd.khim.nauk no.9:1698 S '62. (MIRA 15:10)

1. Institut orgnicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Boronic acid)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; SHELUDYAKOV, V.D.; SHCHEGOLEVA, T.A.

New types of boron salts. Izv.AN SSSR.Otd.khim.nauk no.9:1698-1699 S '62. (MIRA 15:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Boron—Compounds)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; VASIL'YEV, L.S.

Organoboron compounds. Report No.110: Catalytic conversion of trialkylboronic acid esters under the effect of tetraalkyldiboranes. Izv. AN SSSR.Otd.khim.nauk no.10:1756-1762 O '62. (MIRA 15:10)

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

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; POZDNEV, V.F.

Esters of propane-1,3-diboronic and propane-1,3-dithioboronic acids. Izv. AN SSSR.Otd.khim.nauk. no.10:1861-1863 O '62. (MIRA 15:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Boronic acid) (Thiobornic acid)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.

Chemistry of diborane. Usp. khim. 31 no.4:417-451 '62.
(MIRA 16:8)

1. Institut organicheskoy khimii AN SSSR imeni Zelinskogo.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

33927
S/079/62/032/001/003/016
D226/D302

5.2410

AUTHORS: Mikhaylov [illegible], and Fedotov, N. S.

TITLE: Organic compounds of boron. LXXXVIII Reactions of diarylborochlorides with aromatic amines and heterocyclic compounds

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 1, 1962, 93 - 95

TEXT: The present work is a continuation of an earlier investigation by the authors (Ref. 1: Izv. AN SSSR, OKhN, 1960, 1590) in which they had shown that aniline readily reacts with both diphenyl and di-α-naphthyl borochlorides. In this paper reactions of other aromatic amines with arylborochlorides are described. The authors found that both α-naphthylamine and diphenylamine readily react with arylborochlorides according to the following reactions:

$$Ar_2BCl + 2H_2NC_{10}H_7 - \alpha \rightarrow Ar_2BNHC_{10}H_7\text{-}\alpha + H_2NC_{10}H_7 \cdot HCl$$

and $$Ar_2BCl + 2HN(C_6H_5)_2 \rightarrow Ar_2BN(C_6H_5)_2 + HN(C_6H_5)_2 \cdot HCl$$

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APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

33927
S/079/62/032/001/003/016
D226/D302

Organic compounds of boron ...

where $Ar = C_6H_5, \alpha - C_{10}H_7$.

Diaryl-α-naphtylamino borons resulting from the first reaction above are colorless compounds unstable in the presence of air. The products of the second reaction viz., di-α-naphthyl diphenylamino boron and diphenyl-diphenylamino-boron are both readily hydrolyzed on standing in air, in contrast to the di-α-naphthyl-diethylamino boron previously synthesized by the authors. It was shown further that some amines e.g. β -β' dinaphthylamine and triphenylamines do not react at all with diarylborochlorides, presumably because of steric hindrance. The ease with which diarylborochlorides form complexes with amines shows them to be stronger Lewis acids than the corresponding trialkylborons. Thus diphenylborochloride forms an unstable complex with α, α'-lutidine whilst trimethyl boron does not. Similarly diphenyl- and dinaphtyl-borons give rise to unstable complexes with quinoline. The authors give details of the methods of preparing the various complexes, state the yields obtained and the composition of the products. There are 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English language publi

Card 2/3

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

33927
S/079/62/032/001/003/016
D226/D302

rganic compounds of boron ...

cation reads as follows: H. Brown, H. Schlesinger and S Cordon, J. Am. Chem. Soc. 64, 325, 1942.

SUBMITTED: February 18, 1961

X

Card 3/3

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

33831

11.2223
11.2232
11.1250

S/079/62/032/001/008/016
D202/D302

AUTHORS: Gal'chenko, O.L., VArushchenko, R.M., Bubnov, Yu.N., and Mikhaylov, B.M.

TITLE: The heat of formation of the n-butyl ester of di-n-butyl boric acid

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 1, 1962, 284-287

TEXT: The authors determined the standard heat of combustion of di-n-butyl boric acid and of the n-butyl ester and its heat of formation, based on the value of the heat of formation of B_2O_3, published recently in Western literature. $(n\text{-}Bu)_2B\text{-}On\text{-}Bu$ was obtained by a method previously described by the authors. Calorimetric tests were carried out with ~0.4 g of the substance, under 25 atm. of O_2. Full experimental details are given, as well as the methods used for determining the combustion products. Some side reactions take place. The authors introduced corrections to their results, based on the following assumptions: a) The tiny black spots of incomplete

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APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

33931

S/079/62/032/001/008/016

The heat of formation of the ... D202/D302

combustion consist of B_4C and C; b) B_2O_3 is hydrated during the main combustion process to boric acid; c) H_2O formed during combustion is used partly in the hydration process and partly to form a saturated solution of boric acid. d) The small amount of water (0.9 g) introduced into the calorimeter before combustion in some experiments does not take part in the solution process. The experimental results are given in a table and it is seen that with the above corrections the results are the same with added water as in its absence. The heat of formation of traces of HNO_3, heats of hydration and solution and those of incomplete combustion were allowed for. It has been found that the heat of combustion of the ester was equal to -2040.7 ± 1 Kcal/mol under conditions of the combustion experiment, and to -2045.7 ± 1 Kcal/mol under standard conditions. The heat of formation of the ester was calculated as -156 ± 3 Kcal/mole. There are 1 table and 12 references: 5 Soviet-bloc and 7 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: E.J. Prosen, W.H. Johnston and F.Y. Pergiel, J. Res. Natl. Bur. Stand., 62, 43, 1959; D. Smith.

Card 2/3

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

33931

S/079/62/032/001/008/016
D202/D302

The heat of formation of the ...

A.S. Dworkin, and E.R. van Artsdalen, J. Am. Chem. Soc., 77, 2654, 1955; E.R. van Artsdalen and K.P. Anderson, J. Am. Chem. Soc., 73, 579, 1951; F.D. Rossini et al. Selected values of thermodynamic properties, Natl. Bur. Stand. Circ., 500, 1952.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova i Institut organicheskoy khimii imeni N.D. Zelinskogo Akademii nauk SSSR (Moscow State University imeni V.M. Lomonosov and Institute of Organic Chemistry imeni N.D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: January 9, 1961

Card 3/3

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; POVAROV, L.S.

Polyene compounds. Part 15: Reaction of 2-phenyl-1,3-dioxolane with vinyl ethyl ether. Zhur.ob.khim. 32 no.2:446-452 F '62. (MIRA 15:2)

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

(Dioxolane)
(Ethers)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; TUTORSKAYA, F.B. [deceased]

Organoboron compounds. Part 93: Reaction of boron triallyl with ethyl mercaptan. Ethyl esters of diallylthioboronic and allylthioboronic acids and their transformations. Zhur.ob.khim. 32 no.3:833-838 Mr '62. (MIRA 15:3)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(Boron organic compounds)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

37898

S/079/62/032/005/002/009
D204/D307

AUTHORS: Mikhaylov, B.M., and Dorokhov, V.A.

TITLE: Organoboron compounds, XCIV. Bis(dialkylamino)boranes and bis(monalkylamino) boranes

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 5, 1962, 1511-1514

TEXT: In continuation of earlier work (ZhOKh, 31, 3750, 1961) the authors synthesized bis (di-iso-amylamino)borane (I), bis-(dipiperidino)borane (II) and bis (diallylamino) borane (III), by the reaction $R'_2N > BH + 2R_2NH \rightarrow R_2NH > BH + R'_2NH + R''SH$, where I - R = iso-$C_5H_{11}$, R' = CH_3, R'' = n-C_4H_9; II - R_2 = C_5H_{10}, R' = Et, R'' = Et; III - R = C_3H_5, R' = CH_3, R'' = n - C_3H_7. The reagents were heated in a Claisen flask, R'_2NH and R''SH being distilled off. The yields were 73 % for I, and 87 - 85 % for II and III. Bis(N-methyl-N-phenylamino)borane (IV) was obtained from n-PrSH and methylaniline

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

borane (V), in 84 % yield, where V itself was prepared almost quantitatively from methylaniline and diborane. The authors also prepared bis(iso-butylamino) borane (VI), bis(n-butylamino) borane (VII), and bis(allylamino) borane (VIII), in 87, 70 and 56 % yields respectively, by the reaction

$$\begin{matrix}(CH_3)_2N \\ n\text{-}C_3H_7S\end{matrix}\!\!>BH + 2RNH_2 \rightarrow \begin{matrix}RNH \\ RNH\end{matrix}\!\!>BH + (CH_3)_2NH +$$

+ n-PrSH, where R = iso-Bu, n-Bu or C_3H_5. The reagents were added dropwise, with cooling, and the mixture was then boiled for 1 - 1.5 hours. All the above boranes (not V) could be distilled in vacuo without change. Chemical properties were similar to those of alkylmercapto (dialkylamino) boranes, especially as regards the low reactivity of the H-atom bonded to the B. The B-N bonds of these compounds were less stable.

SUBMITTED: May 19, 1961

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

38675

S/079/62/032/006/002/006
D202/D304

AUTHORS: Mikhaylov, B. M. and Bubnov, Ya. N.

TITLE: Organic compounds of boron. XCVIII. Mechanism of formation of B-trialkylborazoles from boron trialkyls and ammonia

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 6, 1962, 1969-1974

TEXT: The authors showed that the mechanism of formation of B-trialkylborazoles is different from that described by Wiberg and Hertwig who, using trimethylboron as starting material, concluded that trialkylborazoles are formed only by elimination of the corresponding paraffins. The authors used the following compounds: tri-n-butylborane + NH_3 and n-butyl ester of di-n-butylthioboric acid + CH_3NH_2 and obtained di-n-butyl(amino)borane and di-n-butyl-(methylamino)borane respectively. Analysis of the reaction products has shown that dialkyl(amino)boranes were formed with elimination

Card 1/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

of corresponding olefins, hydrogen and of very small amounts of paraffin. The authors converted di-n-butyl(amino)borane and di-iso-amyl(amino)borane into B-tri-n-butylborazole and B-tri-iso-amylborazole respectively, by heating. The authors conclude that dialkyl (amino) borates are converted into B-tri-alkylborazoles in two ways: 1) By their symmetrization and formation of trialkylboranes and alkyl (diamino) boranes which, by trimerization with elimination of NH_3, give tri-alkylborazoles, or 2) by elimination of the olefin and subsequent trimerization of alkyl (amino) borane into B-trialkylborazole.

SUBMITTED: June 5, 1961

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

GAL'CHENKO, G.L.; VARUSHCHENKO, R.M.; BUBNOV, Yu.N.; MIKHAYLOV, B.M.

Determination of the heat of formation of di-n.-butyl ester of n.-butylboric acid. Zhur.ob.khim. 32 no.8:2405-2408 Ag '62. (MIRA 15:9)

(Butaneboronic acid) (Heat of formation)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; FEDOTOV, N.S., SHCHEGOLEVA, T.A.; SHELUDYAKOV, V.D.

Cation complexes of boron. Dokl.AN SSSR 145 no.2:340-343 Jl '62. (MIRA 15:7)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR
Predstavleno akademikom B.A.Kazanskim.
(Boron compounds) (Metal ions)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

3219

S/020/62/147/003/024/027
B101/B186

AUTHORS: Mikhaylov, B. M., Vasil'yev, L. S., Safonova, E. N.

TITLE: Conversion of cyclic boron compounds under the action of methyl bora'e

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 3, 1962, 630 - 633

TEXT: The following reactions are described: (1) Di-1,4-(1-boracyclopentyl)-butane (I) and methyl borate (molar ratio 1:1) were boiled for 1.5 hrs in the presence of tetra-n-propyl diborane, then kept at 130 - 135°C for another 1.5 hrs, and fractionated; thereby 80.5% 1-methoxy-boracyclopentane (II), b.p. 40.5 - 41.0°C 83 mm Hg, d_4^{20} 0.8421, n_D^{20} 1.4172, was obtained as well as the by-product 1.6-dimethoxy-1,6-diboracyclodecane (III), b.p. 69.5 - 70.0°C/2.5 mm Hg, d_4^{20} 0.9055, n_D^{20} 1.4538. (2) Boiling of II with methyl borate in the presence of tetra-n-propyl diborane yielded 71.5% tetramethyl ester (IV) of butane-1,4-diboric acid, b.p. 54 - 56°C/2.5 mm Hg,

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n_D^{20} 1.4175, and methyl ester (V) of di(4-dimethoxy boryl butyl)-boric acid, b.p. 116 - 120°C/3 mm Hg, n_D^{20} 1.4360. The compounds IV and V were also obtained by reaction between I and methyl borate at a ratio 1 : 5. (3) Interesterification of IV and n-hexanol yielded 98.5% tetra-n-hexyl ester (VI) of butane-1,4-diboric acid, b.p. 198 - 200°C/1.5 mm Hg, d_4^{20} 0.8667, n_D^{20} 1.4402. (4) 72.4% 1-n-hexoxy-boracyclopentane (VII) b.p. 44 - 45°C/2mm Hg, d_4^{20} 0.8386, n_D^{20} 1.4382, and tri-n-hexyl borate, b.p. 129 - 133°C/2.5 mm Hg, n_D^{20} 1.4270 were obtained by keeping VI for 1.5 hrs at 270 - 300°C. The compounds II and VII polymerized when left standing; but the polymer so formed, decomposes again when heated. (5) The reaction of diborane with diallyl dissolved in ether (ratio 1 : 4) yielded di-1,6-(1-boracycloheptyl)-hexane and 6-(1-boracycloheptyl)-hexene-1, b.p. 57 - 59°C/3 mm Hg, d_4^{20} 0.8214, n_D^{20} 1.4640 in almost equimolecular ratios. (6) 81% 1-methoxy boracyclopentane (X), b.p. 42 - 43°C/15 mm Hg, d_4^{20} 0.864, n_D^{20} 1.4391, was

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obtained by heating VIII and methane (ratio 1 : 1) in the presence of tetra-n-propyl diborane. The same reaction (ratio 1 : 5) yielded equimolar amounts of X and tetramethyl ester (XI) of hexane-1,6-diboric acid, b.p. 82 - 84°C/1.5 mm Hg, d_4^{20} 0.9325, n_D^{20} 1.4252. XI was also obtained by reaction of X and methyl borate. The English-language reference is: K. Saegebarth, J. Am. Chem. Soc., 82, 2082 (1960).

PRESENTED: July 17, 1962, by B. A. Kazanskiy, Academician

SUBMITTED: July 12, 1962

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

S/062/63/000/003/006/018
B101/B186

AUTHORS: Shchegoleva, T. A., Shashkova, Ye. M., and Mikhaylov, B. M.

TITLE: Organoboron compounds. Communication 113. Reduction of alkyl thioborates to dialkyl mercapto-boranes

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 3, 1963, 494 - 497

TEXT: It was found that ethyl thioborate, n-propyl thioborate, n-butyl thioborate, isopropyl thioborate, and tert-butyl thioborate react with $LiAlH_4$ in nitrogen atmosphere at room temperature to give the corresponding dialkyl mercapto-boranes: $4(RS)_3B + LiAlH_4 \rightarrow 4(RS)_2BH + LiSR + Al(SR)_3$. The yield is 73 - 85 %. Reaction of methyl thioborate with $LiAlH_4$, however, did not give dimethyl mercapto-borane but a stable complex. This was confirmed by the following reaction: $(CH_3S)_3B + LiH \rightarrow [(CH_3S)_3BH]Li$. The resultant lithium-trimethyl-mercapto-boronhydride is a colorless solid substance which is heat-resistant up to 300°C and decomposes to LiCl,

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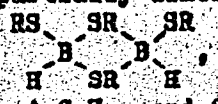
methyl mercaptane and dimethyl mercapto-borane when equimolar quantities of HCl are added. Dimethyl mercapto-borane cannot be prepared in pure condition, as it is partially dimerized even by distillation in vacuo.

This dimerization:  , $\bar{\nu}$ = 2470, 2416 cm^{-1}, is 42 % for R = CH_3, 17 % for R = i-C_3H_7, and 0 % for R = tert-C_4H_9.

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: June 6, 1962

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

S/062/63/000/003/007/018
B101/B186

AUTHORS: Mikhaylov, B. M., Dorokhov, V. A., and Shchegoleva, T. A.

TITLE: Organoboron compounds. Communication 114. Reaction of dialkyl-mercapto-boranes with secondary amines

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 3, 1963, 498 - 499

TEXT: The reaction of di-n-butyl mercapto-borane with diethyl amine in a molar ratio of 1:1 in nitrogen atmosphere at room temperature gave n-butyl mercapto-(diethyl-amino)-borane in 53 % yield. Under equal conditions n-butyl mercapto-(piperidino)-borane was obtained in 71 % yield by reaction of di-n-butyl mercapto-borane with piperidine. Di-n-butyl mercapto-borane and diisoamyl amine gave n-propyl mercapto-(diisoamyl-amino)-borane in 85 % yield. On reaction of two moles of secondary amine with one mole of dialkyl mercapto-borane, bis-(dialkyl-amino)-borane as formed. Di-n-propyl-mercapto-borane and diiso-amyl amine thus gave bis-(diisoamyl-amino)-borane in 80 % yield, and di-n-propyl mercapto-borane and diallyl amine gave bis-(diallyl-amino)-borane in 90 % yield.

Card 1/2

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

Organoboron compounds S/062/63/000/003/007/018
B101/B186

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: June 6, 1962

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAILOV, B.M.

ADD Nr. 991-1 17 June

BORAZINE POLYMERS (USSR)

Mikhailov, B. M., and A. F. Galkin. IN: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 4, Apr 1963, 641-645.

S/062/63/000/004/007/022

Borazine polymers have been synthesized by polycondensation of 2, 4, 6-tris-(butylmercapto)-1, 3, 5 -trimethylborazine (I) or 2, 4, 6-tris(butylmercapto)-1, 3, 5-triethylborazine (II) in the case of three-dimensional polymers and by polycondensation of 2-butyl-4, 6-bis(butylmercapto)-1, 3, 5-trimethylborazine (III) or 2-butyl-4, 6-bis(butylmercapto)-1, 3-5-triethylborazine (IV) in the case of linear polymers, all four with hexamethylenediamine and with 2, 2-bis(p-hydroxyphenyl)propane, decamethyl-1, 9-dihydroxypentasiloxane, or diphenylsilanediol. Polycondensation of I and II with hexamethylenediamine in a 1:1.5 ratio in o-xylene at 125°C gave a quantitative yield of polymers (V) and (VI), respectively. Polymers V and VI are heat-resistant yellow powders insoluble in the common organic solvents; they hydrolyze in air and decompose at 370°C and 380°C, respectively, in an N_2 atmosphere. Polycondensation of I with diphenylsilanediol

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

AID Nr. 991-1 17 June

BORAZINE POLYMERS [Cont'd] S/062/63/000/004/007/022

in a 1:1.5 ratio in ether gave polymer (VII), a heat-resistant colorless powder insoluble in benzene or ether but soluble in tetrahydrofuran or dioxane at room temperature; it hydrolyzes in air and melts at 340-360°C in an N_2 atmosphere. Polycondensation of III or IV in benzene with hexamethylenediamine in a 1:1 ratio gave a quantitative yield of polymers (VIII) and (IX), respectively, brittle substances that are insoluble in organic solvents, hydrolyze in air, H_2O, or alcohols, and decompose above 400°C. Polycondensation of III or IV with 2,2-bis(p-hydroxyphenyl)propane in ether gave polymers (X) and (XI), respectively, amorphous, colorless powders which are soluble in boiling dimethylformamide and hydrolyze in air, H_2O, or alcohols. Polymer X melts at ~ 220°C, and XI softens at 195°C. Polycondensation of III with diphenylsilanediol in ether yielded polymer (XII), an oil with a molecular weight of ~ 1200. On heating at 200°C in a vacuum, XII became a brittle solid having a softening point of ~ 250°C and hydrolyzing in air. Polycondensation of III with decamethyl-1,9-dihydroxypentasiloxane in ether yielded dimer (XIII), which had a molecular weight of ~ 1100. On heating in vacuum, XIII formed an elastic polymer which does not hydrolyze in air and melts at 147-149°C. The work was carried out at the Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences USSR. [NI]

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APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 17098-63 EPR/EWP(j)/EPF(c)/EWP(q)/EWT(m)/BDS AFFTC/ASD Pr-4/Pc-4/
Ps-4 RM/WW/JD/MAX S/062/63/000/004/008/022 77 76

AUTHOR: Mikhaylov, B. M., Shchegoleva, T. A., Sheludyakov, V. D., and Blokhina, A. N.

TITLE: Organo-boron compounds. Report 116. Reactions of alkylmercaptoborane polymers with unsaturated compounds

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 4, 1963, 646-651

TEXT: Inasmuch as various derivatives of diborane exhibit the capability to be added to unsaturated compounds the authors sought to study the behavior of alkylmercaptoborane polymers in relation to olefins and diene hydrocarbons. The addition of the n-butylmercaptoborane polymer to diallyl was performed, which results in the formation of 1-n-butylmercaptoboroncycloheptane:

$$(n\text{-}C_4H_9SBH_2)_x + x\begin{matrix} CH_2{=}CH{-}CH_2 \\ CH_2{=}CH{-}CH_2 \end{matrix} \rightarrow x\ n\text{-}C\ H\ SB\begin{matrix} CH_2CH_2CH_2 \\ CH_2CH_2CH_2 \end{matrix}$$

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 17098-63

S/062/63/000/004/008/022

Organo-boron compounds.....

A polymer of methylmercaptoborane joins with olefins to form methy ethers of dialkylthioboric acid. In the action of isoprene on a polymer of methylmercaptoborane the product is 3-methyl-1-methylmercaptoborocyclopentane. A nitrogen atomosphere was used in all operations involving organo-boron compounds.

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

SUBMITTED: June 7, 1962

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

ACCESSION NR: AP3000122 S/0062/63/000/005/0816/0822

AUTHOR: Mikhaylov, B. M.; Shchegoleva, T. A.; Sheludyakov, V. D.

TITLE: Organic boron compounds. Report 117. Reactions of the amine complexes of alkylmercaptoboranes with halogen derivatives of hydrocarbons and HCl

SOURCE: AN SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 5, 1963, 816-822

TOPIC TAGS: reaction mechanisms, amine complexes of alkylmercaptoboranes, HCl, halogenated hydrocarbons

ABSTRACT: Di-(dimethylamine)borane salts were formed by the action of halogenated hydrocarbons and HCl on dimethylaminealkylmercaptoboranes. When complexes of alkylmercaptoboranes with tertiary amines reacted with alkyl halides, the alkylmercapto group was exchanged for a halide group, converting them into borane halide complexes. HCl cleaved the trialkylamine complexes of alkylmercaptoboranes, giving alkylmercaptoborane trimers and amine hydrochlorides. Dimethylamine-methylmercaptoborane reacted with dimethylamine hydrochloride to yield the chloride of di-(dimethylamine)borane. Orig. art. has: 11 equations.

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

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APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

ACCESSION NR: AP3000122

SUBMITTED: 21Jun62 DATE ACQ: 12Jun63 ENCL: 00

SUB CODE: CH NO REF SOV: 003 OTHER: 006

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

POVAROV, L.S.; MIKHAYLOV, B.M.

Reaction of a new type diene condensation. Izv.AN SSSR Otd.khim.nauk no.5:955-956 My '63. (MIRA 16:8)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(No subject headings)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; POVAROV, L.S.

Condensation of ketals of α and β -ionones with vinyl ethyl ether. Izv. AN SSSR. Otd.khim.nauk no.6:1144 Je '63. (MIRA 16:7)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR.
(Ionone) (Ethers)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 19489-65 EPF(c)/EPR/EWA(h)/EWP(j)/EWT(m) Pc-4/Pr-4/Ps-4/Peb RPL
RM/WW/JW

ACCESSION NR: AP5002070 S/0062/63/000/007/1233/1239

AUTHOR: Mikhaylov, B. M.; Aronovich, P. M.

TITLE: Organoboron compounds. Communication 118. Ethanediboric acids and some of their derivatives

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 7, 1963, 1233-1239

TOPIC TAGS: organoboron compound, alkylboric acid, ethanediboric acid, diborane addition, olefin, vinylboric acid, hydroboridation, phenylenediamine

ABSTRACT: A study of the influence of the dibutylboron group on the addition of diborane to the double bond in dibutylvinylborate showed that the boron adds in both α and β position under these conditions. Thus, the esters of ethan-1,2-diboric and ethan-1,1-diboric acid were obtained in a proportion of 1:1.3-1.75 by the hydroboridation of di-n-butylvinylborate in tetrahydrofuran followed by treatment with the appropriate alcohols. The structures were confirmed by oxidation of the acids with H_2O_2 and by the infrared spectra. From these esters, the authors obtained the corresponding acids and the condensation products with o-phenylenediamine. The reaction conditions and yields are described, and a table is presented with the melting points and other physical properties of ethan-1,1- and ethan-1,2-diboric acids and their esters with n-butanol and ethylene glycol. Orig. art. has:

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 19489-65

ACCESSION NR: AP5002070

1 table and 6 chemical equations.

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

SUBMITTED: 12Jul62 ENCL: 00 SUB CODE: OC

NO REF SOV: 004 OTHER: 006

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

POVAROV, L.S.; MIKHAYLOV, B.M.

Di(ethoxyethyl)acetal of benzaldehyde and its reaction with vinyl ethyl ether. Izv. AN SSSR. Ser.khim. no.7:1342-1343 Jl '63. (MIRA 16:9)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Benzaldehyde) (Ether)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

POVAROV, L.S.; MIKHAYLOV, B.M.

Reaction of γ-ethoxyacetals with aromatic amines. Izv. AN SSSR. Ser. khim. no.7:1352 Jl '63. (MIRA 16:9)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Acetals) (Amines)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 19491-65 EPF(c)/EPR/EWA(h)/EWP(j)/EWT(m)/T Pc-4/Pr-4/Ps-4/Peb RPL
RM/WW/JW

ACCESSION NR: AP5002071 S/0062/63/000/008/1368/1373

AUTHOR: Mikhaylov, B. M.; Nikolayeva, M. Ye.

TITLE: Organoboron compounds. Communication 119. The effect of boron tribromide on olefins

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 8, 1963, 1368-1373

TOPIC TAGS: organoboron compound, boron tribromide, olefin, borobromination, butylmercaptan, olefin dimerization

ABSTRACT: There is little information in the literature on the addition of boron trihalides to olefins. For this reason, the authors studied the reaction of BBr_3 with n-octen-1, n-hexen-1, n-hexen-3 and 2,2,4-trimethylpenten-4 under nitrogen at 95-98C, and found that the type and rate of the reaction depends on the structure of the olefin. Thus, BBr_3 adds readily to octen-1 or hexen-1, yielding the corresponding di-(2-bromoalkyl)-boron bromides and tri-(2-bromoalkyl)-boron derivatives, as well as 2-bromoalkane and polymers containing little B or Br. The addition to hexen-3 is slower, yielding di-(3-bromohexyl-4)-boron bromide and tri-(3-bromohexyl-4)-boron. In the case of the trimethylpentene, no BBr_3 is added and the starting compound is dimerized. When treated with alcohols or HBr, di-(2-bromoctyl-1)-boron bromide and tri-(2-bromoctyl-1)-boron eliminate octene, which then

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L 19491-65
ACCESSION NR: AP5002071

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dimerizes. Di-(2-bromoctyl-1)-boron bromide also reacts with n-butylmercaptan at 0C, the Br atoms being successively replaced by butylmercaptan groups. A similar reaction takes place with tri-(2-bromoctyl-1)-boron and n-butylmercaptan at 85-90C, yielding n-butyl di-(2-n-butylmercaptoctyl-1)-thioborate, but if the mixture is heated at 115-120C, the octene dimer is obtained. Orig. art. has: 8 chemical equations.

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

SUBMITTED: 16Jul62 ENCL: 00 SUB CODE: OC

NO REF SOV: 003 OTHER: 008

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; KOZMINSKAYA, T.K.

Boronium salts from 1-chloroboracycloheptane. Izv. AN SSSR. Ser.khim. no.9:1703 S '63. (MIRA 16:9)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Boron salts) (Boron organic compounds)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

POVAROV, L.S.; GRIGOS, V.I.; MIKHAYLOV, B.M.

Reactions of benzylideneaniline with some unsaturated compounds.
Izv. AN SSSR. Ser. khim. no.11:2039-2041 N '63. (MIRA 17:1)

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

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 9819-63 EPF(c)/EWP(j)/EWT(m)/BDS--Pr-4/Pc-4--MAY/RM/WW

ACCESSION NR: AP3000583 S/0051/63/014/005/0655/0663

65

AUTHOR: Nikitina, A. N.; Ter-Sarkisyan, G. S.; Mikhaylov, B. M.; Minchenkova, L. Ye.

TITLE: Fluorescence of some substituted polyenes

SOURCE: Optika i spektroskopiya, v. 14, no. 5, 1963, 655-663

TOPIC TAGS: hexatrienes, fluorescence, absorption, oscillator strengths

ABSTRACT: In an earlier investigation of the fluorescence and absorption spectra of some substituted butadienes and hexatrienes (Opt. i spektr. 6, 354, 1959) there was observed for 1,6-diphenyl-hexatriene-1,3,5 decrease of the fluorescence yield and increase of the luminescence persistence in going from benzene to heptane solutions. The present study of other members of the hexatriene series was undertaken in order to help clarify this puzzling effect. There were measured the absorption and fluorescence spectra and fluorescence persistences of 13 substituted polyenes in solutions in heptane, benzene and toluene, and in some cases carbon tetrachloride and normal octene-1. The quantum luminescence efficiencies were evaluated and the oscillator strengths of the

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 9849-63
ACCESSION NR: AP3000583

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long wavelength electronic transitions were calculated. The experimental data are tabulated. It was found that similar changes in fluorescence yield and persistence are characteristic of all members of the hexatriene series. The alteration is attributed to interaction of the polyene molecules with the molecules of the solvent. Possibly they associate to form complexes in which the oscillator strength is increased (as compared with the unexcited state) and the excited lifetime reduced. Orig. art. has: 1 equation, 6 figures, and 1 table.

ASSOCIATION: none

SUBMITTED: 08Aug62 DATE ACQ: 12Jun63 ENCL: 00

SUB CODE: CH, PH NR REF SOV: 008 OTHER: 003

nh/ja

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; POZDNEV, V.F.

Reactions of 1,1,5,5-tetraethylmercapto-1,5-diborapentane with ammonia and amines. Dokl. AN SSSR 151 no.2:340-342 Jl '63. (MIRA 16:7)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR. Predstavleno akademikom B.A.Kazanskim.
(Pentane) (Ammonia) (Boron organic compounds)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 14355-63 EPR/EWP(j)/EPF(c)/EWP(q)/EWT(m)/BDS AFFTC/ASD/AFMDC/RPL
Ps-4/Pc-4/Pr-4 BW/RM/WW/JD/JWD/H
ACCESSION NR: AP3003852 S/0020/63/151/003/0577/0579

AUTHORS: Mikhaylov, B. M.; Pozdnev, V. F.; Kiselev, V. G.

TITLE: Organoboron compounds. Hydroboranizing the dimethyl ether of allylboric acid

SOURCE: AN SSSR. Doklady*, v. 151, no. 3, 1963, 577-579

TOPIC TAGS: organoboron compound, hydroboranizing allylboric acid, dimethyl ether of allylboric acid, tribornonane, diborocyclooctane

ABSTRACT: The dimethyl ether of allylboric acid (I) was hydroborated to determine the effect of the $(HO)_2B$ group on the course of addition of B to the allyl radical and to check possibility of obtaining compounds containing several B atoms in the molecule. The reaction gave 97% propanediol-1,3, indicating hydroboronation of I is more selective than of Alpha-olefins and the B was added at the double bond end of the hydrocarbon. I reacted with diborane to form tre-(3-dimethoxyboryl-propyl)-boron (II); the latter was methoxylated in presence of ethyl mercaptan to form 1,1,5,9,9-pentamethoxy-1,5,9,-tribornonane, or heated to form 1,5-dimethoxy-1,5-diborocyclooctane (III) with admixture of 1,1,5,5-tetramethoxy-1,5-diborpentane. III was butylaxed to the known 1,5-di-n-butoxy-1,5-diborocyclooctane.

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APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

SHCHEGOLEVA, T.A.; SHELUDYAKOV, V.D.; MIKHAYLOV, B.M.

Nature of the coordination compounds formed by boron and diborane halides in ether solutions. Dokl. AN SSSR 152 no.4: 888-891 O '63. (MIRA 16:11)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR. Predstavleno akademikom B.A. Kazanskim.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; TER-SARKISYAN, G.S.; BYSTROVA, A.A.

Polyenic compounds. Report No.16: Thioketals of unsaturated ketones and their transformations. Izv.AN SSSR. Ser.khim. no.1:46-50 Ja '64. (MIRA 17:4)

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

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

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POVAROV, L.S.; GRIGOS, V.I.; KARAKHANOV, R.A.; MIKHAYLOV, B.M.

Reactions of dihydropyran and 2-methyldihydrofuran with some Schiff bases. Izv.AN SSSR. Ser.khim. no.1:179-181 Ja '64. (MIRA 17:4)

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

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

ACCESSION NR: AP4010052 S/0062/64/000/001/0199/0201

AUTHOR: Mikhaylov, B. M.; Dorokhov, V. A.; Mostovoy, N. V.

TITLE: The effect of allylamine on tetraalkyldiboranes

SOURCE: AN SSSR. Izvestiya. Ser. khim., no. 1, 1964, 199-201

TOPIC TAGS: allylamine, tetraalkyldiboranes, (3-aminopropyl)-di-n-alkylborons, asymmetric borotrialkyls, addition compounds, nucleophilic reagents, NH sub 2 deformation, NH sub 2 valence vibration

ABSTRACT: Adding 1 M tetra n-butyldiborane to a 2 M ether solution of allylamine with subsequent boiling yielded (3-aminopropyl)-di-n-butylboron and twice as much allylamino-di-n-butylboron. Reversing the order of mixing the reagents yielded 65% of the first compound and insignificant amounts of the second compound. Similar results were obtained for the other tetralkyldiboranes. This reaction was also carried out with butylmercapto-di-n-butylboron. IR spectra of the (3-aminopropyl)-dialkylborons (N-H absorption bands at 3292 and 3350

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ACCESSION NR: AP4010052

cm^{-1}, NH_2 deformation band at 1590 cm^{-1}) and their unusual stability to air and to temperatures up to 200 C. are indicative of intracomplex structure. The laboratory procedures are described, as are end products and yields for the propyl and butyl compounds. Their probable structure is discussed. Reaction formulas for the first and the reversed sequence of mixing are presented. "The authors wish to thank I. P. Yakovlev for determining the IR spectra." Orig. art. has: 5 formulas.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii Nauk SSSR (N.D. Zelinski Institute of Organic Chemistry AN SSSR)

SUBMITTED: 19Jul63 DATE ACQ: 14Feb64 ENCL: 00

SUB CODE: CH NO REF SOV: 002 OTHER: 000

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

ACCESSION NR: AP4010053 s/0062/64/000/001/0201/0202

AUTHOR: Mikhaylov, B. M.; Dorokhov, V. A.; Mostovoy, N. V.

TITLE: 2-n-butyl-1,2-azaborolidene

SOURCE: AN SSSR. Izvestiya. Ser. khim., no. 1, 1964, 201-202

TOPIC TAGS: 2-n-butyl-1,2-azaborolidene synthesis, 2-n-butyl-1,2-azaborolidene dimer, 2-n-butyl-1,2-azaborolidene, 2-n-butyl-1,2-azaborolidene trimer, tri-n-butylboron, hydroborating

ABSTRACT: A mixture of 2-n-butyl-1,2-azaborolidene (in an equilibrium mixture of monomer and dimer or trimer) and tri-n-butylboron is produced by hydroborating allylamino-di-n-butylboron:

$$\tfrac{1}{2}[(n\text{-}C_4H_9)_2BH]_2 + (n\text{-}C_4H_9)_2BNHCH_2CH=CH_2 \rightarrow (n\text{-}C_4H_9)_3B + n\text{-}C_4H_9B\begin{cases} NH-CH_2 \\ CH_2-CH_2 \end{cases} \quad (II)$$

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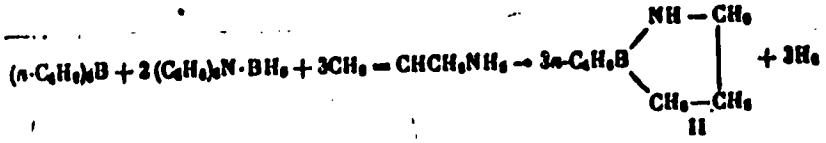
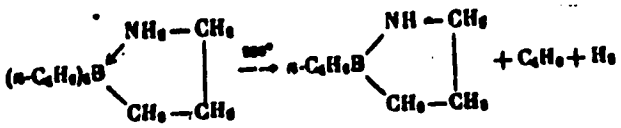
2-n- butyl-1,2-azaborolidene may be synthesized in 37% yield by adding allylamine to a mixture of tri-n-butylboron and triethylamine heated to 100C:



The subject compound may also be prepared by heating 3-aminopropyl-di-n-butylboron:



"Authors thank I. P. Yakovlev for obtaining the IR spectra." Orig. art. has: 4 equations.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii

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ACCESSION NR: AP4010053

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SUB CODE: CH NO REF SOV: 001 OTHER: 000

Card 3/3

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 19490-65 EPF(c)/EPR/EWA(h)/EWP(j)/EWT(m)/T Pc-4/Pr-4/Ps-4/Peb RPL
RM/WW/JW

ACCESSION NR: AP5002072 S/0062/64/000/002/0365/0367

AUTHOR: Shchegoleva, T. A.; Shashkova, Ye. M.; Kiselev, V. G.; Mikhaylov, B. M.

TITLE: Hydroboridation of dienes with chloroborane

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 2, 1964, 365-367

TOPIC TAGS: organoboron compound, chloroborane, boron addition, diene boridation, diallyl, pentadiene, butadiene, borocyclopentane

ABSTRACT: In order to determine the effect of the nature of the diene on addition across the double bond, the authors studied the addition of chloroborane to diallyl, pentadien-1,4 and butadien-1,3 in ether solution at room temperature. Chromatography and degradation of the reaction products showed that diallyl adds primarily in the 1,6 position (74%), with smaller amounts of 1,5 and 2,5 addition products. Fractional distillation of this mixture resulted in good yields of pure 1-chloroborocyclopentane. Addition to pentadien-1,4 took place in both the 1,5 and 1,4 positions (53% and 47%, respectively), while addition to butadien-1,3 was mostly in the 1,4 position (75%), with 21% of the 1,3 addition product. The reaction conditions and yields are given. Orig. art. has: 2 chemical equations.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk

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APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

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L 19490-65

ACCESSION NR: AP5002072

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APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

ACCESSION NR: AP4033385 S/0062/64/000/004/0632/0637

AUTHOR: Sheludyakov, V. D.; Shchegoleva, T. A.; Mikhaylov, B. M.

TITLE: Organic boron compounds.
Communication 129. Reaction of alkylmercaptoborane trimers with primary amines.

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 4, 1964, 632-637

TOPIC TAGS: organic boron compound, alkylmercaptoborane trimer, alkylmercaptoborane trimer amine reaction, reaction mechanism, synthesis methylamine methylmercaptoborane complex, borone chloride

ABSTRACT: The reaction of alkylmercaptoborane trimers with primary amines was studied. Action of methylamine on methylmercaptoborane gives the methyl mercaptide of bis(methylamine)borone regardless of the reagent ration (trimer:amine of 1:6 or 1:3). The mechanism suggested is the formation of an intermediate neutral complex, methylamine-methylmercaptoborane, which reacts more rapidly with methylamine than the trimer. The less stable ethylmercaptide of bis(ethylamine)borone is formed similarly. These compounds exchange the mercaptide ion for the chloride ion under action of ether solutions of HCl: $[H_2B(NH_2R')_2]SR + HCl \rightarrow [H_2B(NH_2R')_2]Cl +$

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ACCESSION NR: AP4033385

RSH. Similar exchange is effected with benzyl chloride. Normal-butylamine will not form the corresponding ethylmercaptide bis(n-butylamine)borone, only the complex $C_2H_5SBH_2.NH_2C_4H_9$. This will react with benzyl chloride to form the salt $[H_2B(NH_2C_4H_9)_2]Cl$. Borone salts with other amines in the capacity of addends were similarly formed by treating alkylmercaptoboranes with mixtures of the amine and benzyl chloride. The chlorides of bis(propyl, isopropyl, isobutyl, t-butyl, n-amyl, n-hexyl, or benzyl)borones are crystalline, stable, ether-insoluble materials. Orig. art. has: 2 tables and 12 equations.

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

SUBMITTED: 31Oct63 ENCL: 00

SUB CODE: OC NO REF SOV: 002 OTHER: 001

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

ACCESSION NR: AP4042884 S/0062/64/000/007/1358/1359

AUTHOR: Mikhaylov, B. M.; Mostovoy, N. V.; Dorokhov, V. A.

TITLE: Thiaborolanes — new heterocyclic boron compounds

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 7, 1964, 1358-1359

TOPIC TAGS: thioborolane, borolane derivative, thiaborolane derivative

ABSTRACT: Three new heterocyclic boron compounds, 1-phenyl-2-thiaborolane (I), 1-butyl-2-thiaborolane (II), and 2-aminoethyl (3-mercaptopropyl)butylborinate (III), have been prepared. I (mp, 38—41C) was obtained in 50% yield by reacting allylmercaptan with 1,2-diphenyldiborane(6) in benzene solution. II (bp, 48—50C at 2 mm Hg), was synthesized in 34% yield from tributylborane, diborane(6) and allylmercaptan. III (mp, 65—73C) was prepared in 87% yield by the reaction of ethanolamine with II. III has an inner complex structure. Orig. art. has: 3 formulas.

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ACCESSION NR: AP4042884

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

SUBMITTED: 23Apr64 ATD PRESS: 3075 ENCL: 00

SUB CODE: IC, OC NO REF SOV: 000 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 21777-65 EPF(c)/EWG(j)/EWA(h)/EWP(j)/EWT(m)/EWA(1) Pc-4/Pr-4/Peb RAEM(t)
RM

ACCESSION NR: AP4044708 S/0062/64/000/008/1524/1526

AUTHOR: Mikhaylov, B. M.; Kiselev, V. G.; Bogdanov, V. S.

TITLE: Conversion of water gas by means of fast electrons

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 8, 1964, 1524-1526

TOPIC TAGS: water gas, water gas conversion, fast electrons, radiolysis, reaction mechanism, bicarbonyl, glyoxal, carbon suboxide, glycol aldehyde, methanol, peroxide formation

ABSTRACT: The radiolysis by fast electrons (115 kev, integral dose rate of 0.4-3.3 x 10^{23} ev) of mixtures of CO and H_2 was studied under equilibrium conditions at room temperature. The product yield, depending on initial composition subjected to radiolysis, is summarized in fig. 1. The main oxygen-containing products were glyoxal, CO_2 and C suboxides $(C_3O_2)_x$; no glycol aldehyde, methanol, peroxides or gaseous hydrocarbons were detected. A small amount of H_2 increased the decomposition of CO; additional H_2 had little effect. 50-58% of

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ACCESSION NR: AP4044708

the initial C, 25-40% of the H_2 and 70-95% of the O appeared in the radiolysis products, indicating additional compounds (high molecular oxygen-containing compounds and hydrocarbons) were formed also. On increasing pressure from 0.2 to 1 atmosphere the yield of all radiolysis products increased, except for CO_2 which decreased. The following mechanism was proposed: an excited CO molecule reacts with another CO molecule, even in the presence of H_2, to form the bicarbonyl -CO-CO- , which then reacts with H_2 to form glyoxal. Or the bicarbonyl reacts with additional CO to form CO_2 and the suboxides. Orig. art. has: 3 figures

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

SUBMITTED: 08Jan64 ENCL: 01

SUB CODE: GC NO REF SOV: 002 OTHER: 006

Card 2/3

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L 21777-65

ACCESSION NR: AP4044708 ENCLOSURE: 01

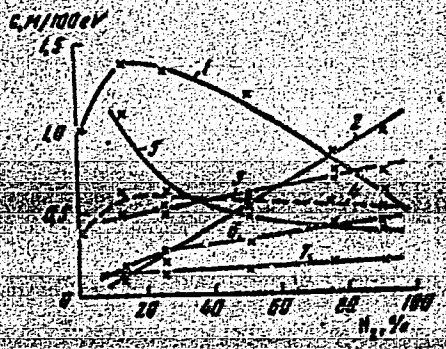

Fig. 1

Relationship of the radiation-chemical yields to the composition of the initial mixture. 1--CO_2; 2--CH_2O x 10; 3--$(CHO)_2$; 4--CO/10; 5--RCOOH; 6--H_2/10; 7--HCOOH

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MIKHAYLOV, B.M.; POVAROV, L.S.; GRIGOS, V.I.; KARAKHANOV, R.A.

Reactions of dihydrosylvan with Schiff bases. Izv.AN SSSR.Ser.khim. no.9:1693-1695 S '64. (MIRA 17:10)

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

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

POVAROV, L.S.; MIKHAYLOV, B.M.

Reaction of imines with vinyl ethyl ether in acetic acid. Izv. AN SSSR. Ser. khim. no.10:1910 O '64. (MIRA 17:12)

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

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 52601-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RPL WW/RM

ACCESSION NR: AP5015854 UR/0062/64/000/012/2165/2170

28
27
B

AUTHOR: Mikhaylov, B. M.; Shchegoleva, T. A.; Shelud'yakov, V. D.

TITLE: Organoboron compounds. Communication 132. Synthesis of cationic complexes from boron trihalides

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1964, 2165-2170

TOPIC TAGS: organoboron compound, halogenated organic compound, organic synthetic process

Abstract: Under the action of dimethylamine on boron trichloride and boron tribromide in a 2:1 reagent ratio, dichloro-bis(dimethylamine)-boronium chloride and dibromo-bis(dimethylamine)boronium bromide are formed, respectively. The same salts are produced by the reaction of dimethylaminoboron dihalides with dimethylammonium salts. A boronium salt containing two different amines in the inner sphere, dichloro-dimethylaminepyridineboronium chloride, was synthesized by the action of pyridine hydrochloride on dimethylaminoboron dichloride, as well as

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ACCESSION NR: AP5015854

by the reaction of boron trichloride, pyridine, and dimethylamine (in a 1:1 ratio). When ether and tetrahydrofuran solutions of boron trichloride were treated with ferric chloride or stannic chloride, dichloro-bis(diethoxide)boronium and dichloro-bis(tetrahydrofuran)-boronium tetrachloroferrates and dichloro-bis(tetrahydrofuran)boronium hexachlorostannate were formed, indicating that in ether solutions boron trihalide exists not only in the form of etherates ($BX_3 \cdot OR_2$), but also in the form of cationic complexes, in equilibrium with the etherates. Orig. art. has 7 formulas.

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

SUBMITTED: 16Feb63 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 007 OTHER: 011 JPRS

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 23595-65 EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4 RPL WW/JH/JWD/RM

ACCESSION NR: AP5001598 S/0062/64/000/012/2170/2175

AUTHOR: Mikhaylov, B. M.; Bubnov, Yu. N.

TITLE: Organoboron compounds. Communication 133. Diene condensation of unsaturated boron compounds

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1964, 2170-2175

TOPIC TAGS: boron, boron compound, organoboron compound, alkenylboronic acid, diene condensation, cyclopentadiene

ABSTRACT: A study has been made of the diene condensation of dimethyl allylboronate with cyclopentadiene (I), 1,2,3,4-tetrachloro-1,3-cyclopentadiene (II), or hexachlorocyclopentadiene (III), and of dibutyl vinylboranate with III. This work was done to determine the effect of the presence of a boron atom on the reactivity of the double bond. The reactions of dimethyl allylboronate proceeded as follows:

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

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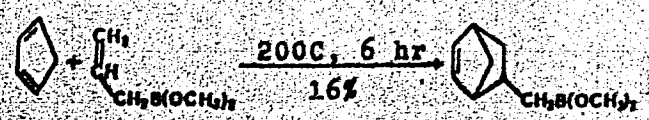
ACCESSION NR: AP5001598



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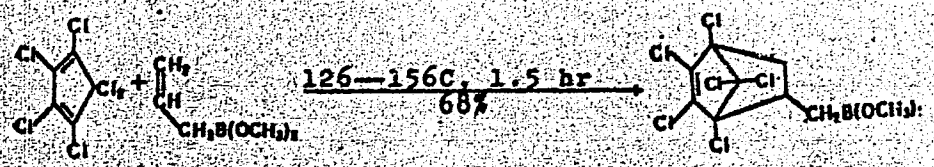

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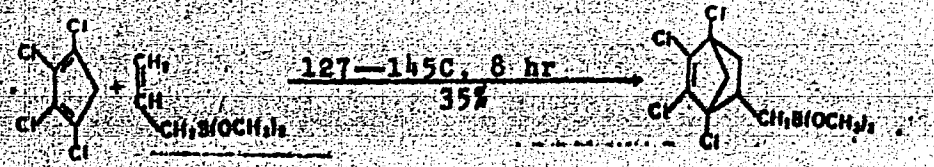

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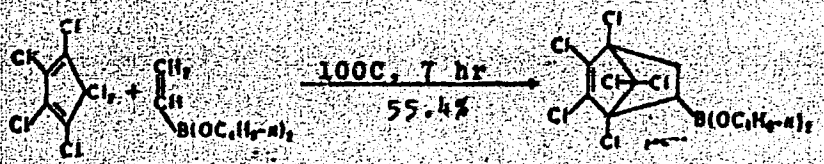
ACCESSION NR: AP5001598

Thus, in terms of reactivity with dimethylallylboronate, the cyclopentadienes arranged themselves in the order:

III > II > I.

Dibutyl vinylboronate reacted with III as follows:



(4)

Comparison of the reactivity with III of the two boronic acids with the reactivity of such unsaturates as 1-hexene and acrylonitrile showed that the boronic acids have a greater tendency to undergo diene condensation than compounds having either electronegative or electropositive substituents at the double bond. It was also shown that no autocatalysis takes place in the reaction of the boronic acids with III. Orig. art. has: 5 formulas. [SM]

Card 3/4

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 23595-65
ACCESSION NR: AP5001598

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo (Institute of Organic Chemistry)

SUBMITTED: 20Feb63 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 003 OTHER: 006 ATD PRESS: 3171

Card 4/4

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

POVAROV, L.S.; MIKHAYLOV, B.M.

Reaction of aromatic amines with vinyl alkyl ethers. Izv. AN SSSR Ser. khim. no.12:2221-2222 D '64 (MIRA 18:1)

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

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

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MIKHAYLOV, B.M.; BUBNOV, Yu.N.

Reactions of organic compounds of boron initiated by peroxides.
Izv. AN SSSR Ser. khim. no.12:2348 D '64 (MIRA 18:1)

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

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L 34533-65 EPA(s)-2/EWP(k)/EWA(c)/EWT(m)/EWP(b)/T/EWP(v)/EWP(t) Pf-4 IJP(c)

ACCESSION NR: AP5000060 JD/HM S/0286/64/000/021/0068/0068 26 B

AUTHOR: Glazunov, S. G.; Gruzdeva, L. A.; Moiseyev, V. N.; Poplavko-Mikhaylov, M. V.; Khorev, A. I.; Mikhaylov, B. M.

TITLE: Filler material for welding titanium alloys with a high content of β-phase. Class 49, No. 166221 14 18 27

SOURCE: Byul. izobr. i tovar. znakov, no. 21, 1964, 68

TOPIC TAGS: titanium, titanium alloy, beta titanium alloy, welding, filler wire, electrode wire

ABSTRACT: This Author Certificate introduces a titanium-base filler alloy for welding titanium alloys with a high content of β-phase. To make the filler suitable for any such titanium alloys and to improve the ductility of the weld metal, the filler alloy contains 1—3% Al and 8—10% Mo.

ASSOCIATION: none

SUBMITTED: 16Oct61 ENCL: 00 SUB CODE: MM, IE

NO REF SOV: 000 OTHER: 000 ATD PRESS: 3148

Card 1/1

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; FEDOTOV, N.S.

Mechanism of nucleophilic substitution at the boron atom in organoboron compounds. Dokl. AN SSSR 154 no.5:1128-1131 F'64. (MIRA 17:2)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR. Predstavleno akademikom B.A. Kazanskim.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; BEZMENOV, A.Ya.; VASIL'YEV, L.S.; KISELEV, V.G.

Cyclic compounds of boron formed during hydroborination of 1,3-butadiene. Dokl. AN SSSR 155 no.1:141-144 Mr '64. (MIR 17:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR. Predstavleno akademikom B.A.Kazanskim.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

M.KHAYLOV, B.M.; BUBNOV, Yu.N.; K.SELEV, [illegible]

Organoboron compounds. Report No.[illegible]: Boron germanium compounds. Izv. AN SSSR Ser. khim. no.1:68-[illegible]

(MIRA [illegible])

1. Institut organicheskoy khimii im. [illegible] AN SSSR.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 20348-66 EWT(m)/EWP(j)/T WW/JW/JWD/RM

ACC NR: AP6012086 SOURCE CODE: UR/0062/65/000/001/0197/0198

AUTHOR: Mikhaylov, B. M.; Blokina, A. N.; Pozdnev, V. F.

ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, AN SSSR (Institut organicheskoy khimii AN SSSR)

41
B

TITLE: Hydroboronation of the n-butyl ester of diallylboric acid

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 1, 1965, 197-198

TOPIC TAGS: diborane, organoboron compound, ester

ABSTRACT: Continuing their investigation of the reactions of diborane with unsaturated compounds of boron, the authors conducted the hydroboronation of n-butyl ester of diallylboric acid to determine the order of addition of boron to the double bond of the allyl radical and to obtain diboric cyclic compounds. It was found that diborane is added to the terminal carbon atom of the double bond on n-butyl ester of diallylboric. The hydroboronation of n-butyl ester of diallylboric acid results in the formation of 1,5-di-n-butoxy-1,5-diaboracyclooctane in a 55% yield. [JPRS]

SUB CODE: 07 / SUBM DATE: 08Jun64 / ORIG REF: 006

Card 1/1 vmb UDC: 542.91+547.244

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; POVAROV, L.S.

Reactions of acetals with β-bromovinyl alkyl ethers. Izv. AN SSSR Ser. khim. no.2:282-285 '65. (MIRA 18:2)

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

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 39300-65 EWT(m)/EPF(c)/EPR/EWP(j) Pc-4/Pr-4/Ps-4 RPL WW/RM

ACCESSION NR: AP5008111 S/0062/65/000/002/0355/0357 28 27 B

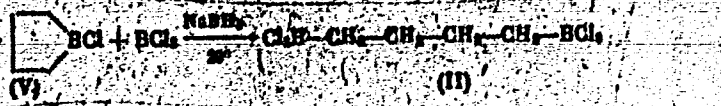
AUTHOR: Mikhaylov, B.M.; Kozminskaya, T.K.; Bezmenov, A. Ya.

TITLE: Chlorine- and ethylmercaptoderivatives of boracyclopenthane and butane-1,4-diboric acid

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 2, 1965, 355-357

TOPIC TAGS: heteroorganic compound, organoboron compound, alkylboric acid, boracyclopentane derivative, ethylmercaptan derivative, boron trichloride, ethylthioborate

ABSTRACT: The reaction of an isomeric mixture of di (1-boracyclopentyl)-alkanes having the formula $C_{12}H_{24}B_2$ (I) with boron trichloride and with ethylthioborate was studied. The mixture I, obtained as the hydroboration product of 1,3-butadiene (Doki. AN SSSR v. 155, 1964, 141) gave 1,4-bis (dichloroboryl)-n-butane (II), 2, 4-bis (dichlorobutyl)-butane (III) and 3,4-bis (dichlorobutyl) butane (IV) at room temperature with an excess of BCl_3 in the presence of $NaBH_4$; II was also prepared by the reaction of 1-chloroboracyclopentane (V) under similar conditions:



(V) (II)

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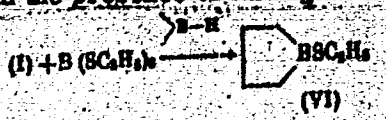
"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 39300-65
ACCESSION NR: AP5008111

The reaction also proceeded in the opposite direction, as shown by the reaction of I at room temperature with BCl_3 in the presence of $NaBH_4$, giving V and isomeric cyclic products. I and ethylthioborate in the presence of $NaBH_4$ and BF_3 etherate gave ethylmercaptoboracyclopentane (VI)



and isomeric products. With an excess of ethylthioborate, VI gave tetraethyl-butane-1, 4-dithioborate,

$$(C_2H_5S)_2B-(CH_2)_4-B(SC_2H_5)_2$$

Orig. art. has: 4 formulas.

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

SUBMITTED: 10Jun64 ENCL: 00 SUB CODE: OC

NO REF SOV: 004 OTHER: 003

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

POVAROV, L.S.; GRIGOS, V.I.; KARAKHANOV, R.A.; MIKHAYLOV, B.M.

Reactions of halogen-containing Schiff's bases with unsaturated ethers. Izv. AN SSSR Ser. Khim. no.2:365-367 '65. (MIRA 18:2)

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

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

L 48975-65 EWT(m)/EPF(c)/EPR/EWP(j)/EWA(h)/EWA(c) Pc-4/Pr-4/Ps-4/Peb/ RPL
WW/JW/RM

ACCESSION NR: AP5009659 UR/0062/65/000/003/0439/0442

34
35
B

AUTHOR: Mikhaylov, B. M., Kozminskaya, T. K.

TITLE: Organoboron compounds. Report No. 139. Reactions of esters of organic thioboric acids with some bifunctional compounds

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 3, 1965, 439-442

TOPIC TAGS: organoboron compound, thiobororganic acid, diamine, hydrazine, biphenylolpropane

ABSTRACT: In order to develop preparative methods for the synthesis of organoboron compounds from the very reactive esters of organic thioboric acids, the authors studied their reactions with hexamethylenediamine, hydrazine, and 2,2-biphenylolpropane. With hexamethylenediamine, polymeric compounds were produced whose nature depends on the ratio of the starting reagents. With hydrazine, di-n-butylphenylthioborate forms 1,4-diphenyl-1,4diborahexahydrotetrazene, whereas di-n-butyl esters of alkylthioboric acids form polymeric substances. In contrast to diamines, di-n-butylbutylthioborate reacts with biphenylolpropane to form the cyclic compound (R = n-C_4H_9)

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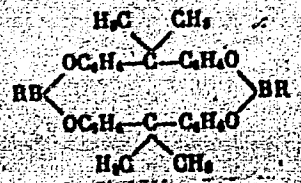
ACCESSION NR: AP5009659



(I)

The reaction of biphenylolpropane with di-n-butylphenylthioborate has a similar course and leads to the formation of an analogous compound, in which R = C_6H_5. The procedures employed in all the reactions are described. Orig. art. has: 5 formulas.

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

SUBMITTED: 07Mar63 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 002 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; TER-SARKISYAN, G.S.; BYSTROVA, A.A.

Polyene compounds. Report No.1[illegible]: Condensation of vinyl ethyl ether with thio ketals. Izv. AN SSSR. Ser. khim. no.3:443-446 '65. (MIRA 18:5)

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

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

TER-SARKISYAN, G.S.; MIKHAYLOV, B.M.

Condensation of unsaturated thio ethers of the terpene series with orthoformic ester. Izv. AN SSSR. Ser. khim. no.3:561-563 '65. (MIRA 18:5)

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

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; VASIL'YEV, L.S.; BEZMENOV, A.Ya.

Transformations of tetraethyl ester of butane-1,4-dithioboronic acid under the effect of amines. Izv. AN SSSR. Ser. khim. no.4: 712-714 '65. (MIRA 18:5)

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

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

SHCHEGOLEVA, T.A.; MIKHAYLOV, B.M.

Boronic salts from di-n-butyl [illegible]. Izv. AN [illegible] khim. no 4:714-716 '6[illegible].

1. Institut organicheskoy khimii im. N. [illegible] AN [illegible]

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M., KISELEV, V.G., BUBNOV, Yu.N.

Preparation of α-olefins from triallylboron. Izv. AN SSSR. Ser. khim. no.5:898-900 '65. MIRA 18:5.

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

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R001034010005-7

MIKHAYLOV, B.M.; BEZMENOV, A.Ya.

Allyl rearrangement in boron chemistry. Izv. AN SSSR. Ser. khim. no.5: 931 '65. (MIRA 18:5)

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

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