

Production of Aryl Halides From Aromatic
Hydroxy Compounds

86466

S/020/60/133/004; 038/040XX
B016/B054

as of the ArX produced, on the basis of the authors' data and publications
There are 1 table and 8 references: 1 Soviet, 1 US, 3 German, and 1 Indian.

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: April 25, 1960

X

Card 4/4

PETROV, A.D.; NEPEDOV, O.M.; LEVKOV, Ya.I.; SHMUK, T.Yu.

Alkylation of benzene with 2-cyclohexylcyclohexanol in the presence of $AlCl_3$. Neftekhimia 1 no.3:362-369 My-Je '61.

(MIRA 16:11)

1. Institut organicheskoy khimii AN SSSR imeni Zelinskogo.

PETROV, A.D.; NEFEDOV, O.M.; KOLESNIKOV, S.P.

Synthesis and pyrolysis of 1-substituted 7, 7-dichloronorcaranes.

Zhur.VKHO 6 no.4:471-472 '61.

(MIRA 14:7)

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

27497
S/062/61/000/009/013/014
B117/B101

5 3700

AUTHORS: Nefedov, O. M., Manakov, M. N., and Petrov, A. D.
TITLE: New method of preparing cyclic organo-silicon compounds
PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh
nauk, no. 9, 1961, 1717

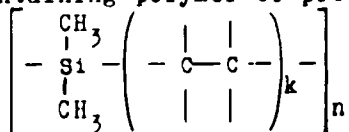
TEXT: The present letter to the editors reports the following: It was found that the reaction of dimethyl-dichloro silane with lithium in tetrahydrofuran (THF) at 10°-70°C in the presence of styrene (2 mole to 1 mole $(\text{CH}_3)_2\text{SiCl}_2$) gives diphenyl-dimethyl silicacyclopentane (probably a mixture of isomers) in 30-50% yield; b.p. 127°-129°C (0.2 mm Hg) and 136°-137°C (0.2 mm Hg), n_D^{20} 1.5722-1.5759, d_4^{20} 1.0077-1.0133, found MR 86.99-87.20, calculated MR 86.69, found mol.wt. (cryoscopically in benzene) 262; 257; calculated mol.wt. 266. Found: C 81.02, 80.90, H 8.60, 8.32, Si 10.40, 10.43%. $\text{C}_{18}\text{H}_{22}\text{Si}$ calculated. C 81.15, H 8.32, Si 10.53%. Together with this compound, a considerable amount of a

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 B117/B101

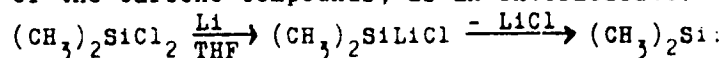
New method of preparing ...

resinous silicon-containing polymer of probable structure



is formed. It is easily soluble in water, acetone, and other solvents. This reaction which was discovered by the authors proceeds in a similar manner with styrene derivatives vinyl naphthalenes, divinyl benzene and methyl methacrylate. Under the same conditions, but in absence of unsaturated compounds, the main reaction product is the high-molecular polydimethyl silylene $[\text{Si}(\text{CH}_3)_2]_n$, obtained in 65-75% yield, m.p.

340°-345°C (under decomposition). It exhibits a much higher resistance to thermal oxidation than a similar polymer obtained from $(\text{CH}_3)_2\text{SiCl}_2$ and sodium in benzene (200°C, 15-20 atm) (Ref. 1. see below). It is assumed that the reactions described involve dimethyl silylene, a silicon analog of the carbene compounds, as an intermediate:



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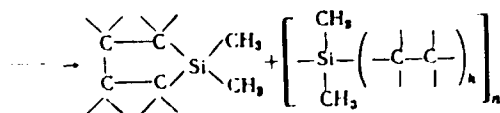
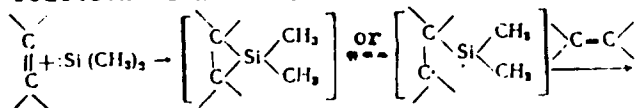
27L97

S/062/61/000/009/013/014

B117/B101

New method of preparing ...

In the absence of alkenes the latter is polymerized to $[\text{Si}(\text{CH}_3)_2]_n$. In the presence of alkenes, dimethyl silylene probably adds to the double bond with formation of unstable silicon analogs of cyclopropane of the corresponding diradicals. These then form derivatives of silicacyclopentane and polymers by reaction with excess alkene:



[Abstracter's note: Complete translation.]

There is 1 non-Soviet reference. This reference to English-language publications reads as follows: C. A. Burkhard, J. Am. Chem. Soc. 71, 963 (1949); pat. USA 2554976, 29. V. 1951; Chem. Abstr. 45, 8809 (1951).

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27497
S/062/61/000/009/013/014
B117/B101

New method of preparing ...

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) X

SUBMITTED: June 27, 1961

Card 4/4

NEFEDOV, O.M.; IVASHENKO, A.A.; MANAKOV, M.N.; SEIRYAYEV, V.I.;
PETROV, A.D.

New method of preparing carbenes. Izv. AN SSSR Otd.khim.nauk
no.2:367 F '62. (MIRA 15:2)

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

S/062/62/000/007/006/013
B117/B180

AUTHORS: Nefedov, O. M., Manakov, M. N., and Petrov, A. D.

TITLE: Synthesis of substituted 1,1-dialkyl silica cyclopentanes
from dialkyl dichlorosilanes and styrenes

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh
nauk, no. 7, 1962, 1226 - 1237

TEXT: The reaction of dialkyl dichlorosilane and aryl ethylene with alkali metals (lithium, sodium) in an inert solvent is here described, as a new method of synthesizing aryl-substituted 1,1-dialkyl silica cyclopentanes (30-75%). The reaction set in immediately with considerable heat evolution when a mixture of aryl ethylene and dimethyl dichlorosilane was slowly added to lithium in tetrahydrofuran. The reaction with sodium was less vigorous. Diethyl ether or benzene instead of tetrahydrofuran decelerated the reaction, but hardly affected the yield (35 - 50%) of the end products. In addition to silica cyclopentanes, polymers with silicon atoms in the principal chain also formed during the above reaction (yield up to 70%). (Their composition and structure will be studied in detail.)

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Synthesis of substituted...

S/062/62/000/007/006/013
B117/B180

These polymers were the main products obtained by the reaction of dichlorosilanes and conjugate dienes (e.g., piperilene) with alkali metals (Li, Na). As a possible mechanism of the formation of silica cyclopentanes, the reaction of dichlorosilane with dilithium derivatives of styrolene and their dimers (reaction A) is suggested, or possibly that of dichlorosilane with the "dimerizing" adduct of lithium to styrene (reaction B) are suggested or the carbenoid mechanism. Synthesized aryl-substituted silica cyclopentanes might possibly be used as monomers for the synthesis of chemically and heat resistant polymers but this has not yet been confirmed by experiment. There are 1 figure and 1 table. ✓

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 26, 1962

Card 2/2

NEPELOV, G.M.; SHIRYAYEV, V.I.; and BERTINA, G.V.

Arylcarbenes from lithium aryls and methylene chloride.
Zhur. ob. khim. 35 (1962) 9-520. No. 155.

(MIRA 18:4)

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

NEFEDOV, O.M.; MANAKOV, M.N.; IVASHENKO, A.A.

Addition of dichlorocarbene to some 1-substituted 1-cyclohexenes.
Izv.AN SSSR.Otd.khim.nauk no.7:1242-1248 J1 '62. (MIKA 15:7)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Carbenes) (Cyclohexene)

NEFEDOV, O.M.; SHIRYAYEV, V.I.; PETROV, A.D.

Phenyl carbene from phenyllithium and methylene chloride.
Zhur.ob.khim. 32 no.2:662-663 F '62. (MIRA 15:2)

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

(Carbene) (Lithium) (Methane)

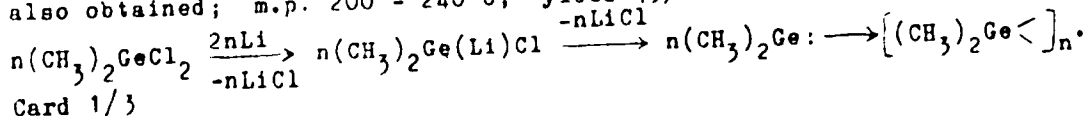
11.542
 S/020/62/147/006/023/034
 B144/B101

AUTHORS: Nefedov, D. M., Manakov, M. N., Petrov, A. D.,
 Corresponding Member AS USSR

TITLE: Organolithium synthesis of germanium hydrocarbon compounds
 from dimethyl dichloro germane. Some reactions with
 $(CH_3)_2Ge$ as a possible intermediate product

PERIODICAL: Akadem. ya nauk SSSR. Doklady, v. 147, no. 6, 1962,
 1376-1379

TEXT: $(CH_3)_2GeCl_2$ which behaves like $(CH_3)_2SiCl_2$ combines with Li
 dissolved in tetrahydrofuran (I) at 20 - 45°C to form a cyclic hexamer,
 $[(CH_3)_2Ge<]_6$, easily soluble in organic solvents; m.p. 211 - 213°C;
 yield up to 80%. At -20°C, $[(CH_3)_2Ge<]_n$, a strongly hydrophobic compound
 similar to polydimethyl germylene and insoluble in organic solvents was
 also obtained; m.p. 200 - 240°C; yield 49%. Reaction scheme:

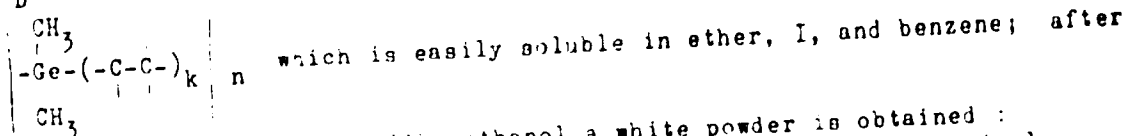


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S/020/62/147/006/023/034
 B144/B101

Organolithium synthesis of ...

$(\text{CH}_3)_2\text{GeCl}_2$, styrene, and Li (molar ratio 1 : 2 : 4) in I yields the following products when stirred violently at -90°C : (1) X,X'-diphenyl-1,1-dimethyl germanacyclopentane; yield 40.5%, b.p. $140 - 141^\circ\text{C}/0.2 \text{ mm Hg}$; $n_D^{20} 1.5920$; $d_4^{20} 1.1688$; (2) A polymer with the general structure



twofold reprecipitation with methanol a white powder is obtained : m.p. $74 - 89^\circ\text{C}$; molecular weight 2790, 2960. Substitution of vinyl toluene for styrene yields 43% X,X'-ditolyl-1,1-dimethyl germanacyclopentane under otherwise equal conditions; b.p. $150 - 151^\circ\text{C}/0.18 \text{ mm Hg}$; $n_D^{20} 1.5825$; $d_4^{20} 1.1346$. The melting point of the linear polymer obtained by reprecipitation was between 58 and 70°C , and its molecular weight was 1280, 1220. The course of the reaction as given shows that the products

Card 2/3

Organolithium synthesis of ...

S/020/62/147/006/023/034
B144/B101

obtained from Li and styrene with $(\text{CH}_3)_2\text{GeCl}_2$, and also the intermediate product $(\text{CH}_3)_2\text{Ge}$: react immediately with $\text{C}_6\text{H}_5\text{CH}=\text{CH}_2$. The structure of the resulting compounds and their similarity with the corresponding silicon compounds were confirmed by the IR spectra. There is 1 figure.

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: September 26, 1962

Card 3/3

NEFEDOV, O.M., MANAKOV, M.N., AND PETROV, A.D.

Investigation of the reaction of organohalides of silicon
and germanium with lithium and its compounds.

Report to be submitted for the Second Dresden Symposium on Organic
and non-silicate silicon chemistry, from 26-30 March 63, East Germany

Institute for organic chemistry of the Academy of Science of the USSR, Moscow.

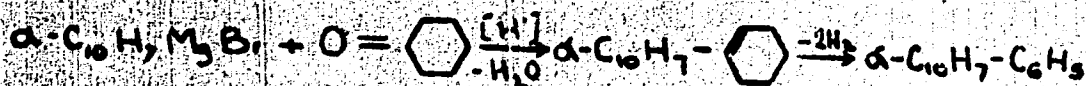
S/204/63/003/001/005/013
 2075/2436

AUTHORS: Nefedov, G.M., Shih Mei-fang

TITLE: The synthesis and catalytic isomerization of phenyl-naphthalenes and their hydroderivatives

PERIODICAL: Neftokhimiya, v.3, no.1, 1963, 48-54

TEXT: α - and β -phenylnaphthalenes were synthesized as it was expected that they will have high thermal and radiation stability. α -Phenylnaphthalene was obtained as follows



Hydrogenation of the product under pressure using Raney Ni as catalyst, gave α -cyclohexylnaphthalene at 50°C and α -cyclohexyl-decalin at 180 to 200°C. β -Phenylnaphthalene was prepared in two steps: 1) condensation of naphthalene with cyclohexanol with 10 to 20% excess AlCl₃ in nitrobenzene at 35 to 65°C. The monoalkyl
 Card 1/3

The synthesis and catalytic ...

8/204/65/003/001/005/013
8075/2436

compound formed predominantly with 100% excess naphthalene (yield 22 to 45%) 2) the product was treated for 40 hours with excess H_2 to give β -phenylnaphthalene in 90 to 95% yield. Hydrogenation of the latter over Raney Ni at 180 to 200°C gave β -cyclohexyldecalin in 90% yield. The study of the catalytic ($AlCl_3$ or silica-alumina) isomerization of easily accessible β -phenylnaphthalene showed that α -isomers form much easier than β -isomers. The properties of the synthesized hydrocarbons are tabulated. There is one table, in 1 table.

ASSOCIATION: Institut organicheskoy khimii AN SSSR im.
N.D.Zelinskego (Institute of Organic Chemistry
AS USSR imeni N.D.Zelinskiy)

SUBMITTED: August 18, 1962

Card 2/3

1-17069-63

SP(c)/SP(j)/BT(m)/BDS

5/062/63/000/004/019/022

ASD P-1/10-1

SI/M/MAT

AUTHOR:

Kislov, O.M. and Yanakov, M.N.

66

TITLE:

Catalytic dehydrogenation of silicon and germanium heterocycles (direct preparation of organo-elemental analogs of cyclopentene and cyclopentadiene)

PERIODICAL:

Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 4, 1963, 769

TEXT:

Silacyclopentene and substituted silacyclopentanes, passed over 10% Pt/C or aluminum-chromium-potassium oxide catalyst (94:14:2) at about 600° undergo partial dehydrogenation into the corresponding silacyclopentenones and silacyclopentadienes. Germaniumcyclopentenones (1,1-dimethylgermaniumcyclopentane, α,α' -diphenyl-1,1-dimethylgermaniumcyclopentane and others) also undergo similar catalytic rearrangement with the formation of unsaturated heterocycles under the conditions given above. The research in this area is continuing.

ASSOCIATION:

Institut organicheskoy khimii im. N. D. Zelinskogo Akademii Nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy, Academy of Sciences USSR)

SUBMITTED:

January 17, 1963

Card 1/1

NEFEDOV, O.M.; KOLESNIKOV, S.P.

Etherates of trichloro-germane. Izv. AN SSSR. Ser. khim. no.11:
2068 N '63. (MIRA 17:1)

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

S/089/63/014/003/015/020
B102/B186

AUTHORS: Sevast'yanov, Yu. G., Bulanov, L. A., Kaplan, Ye. P.,
Nefedov, O. M., Smirnov-Averin, A. P.

TITLE: An activation method for quantitative determination of
organically bound sulfur impurities in polyphenyls

PERIODICAL: Atomnaya energiya, v. 14, no. 3, 1963, 324 - 326

TEXT: A great disadvantage of using polyphenyls as coolants and
moderators in power reactors is their content of sulfur impurities (due
to the production conditions). S^{32} changes over into P^{32} in fast-neutron
induced (n,p) reactions, while P^{32} emits betas of 1.7 Mev and renders the
coolant regeneration difficult; moreover, sulfur reacts with the tube
material to form metal sulfides which cause corrosion. In order to
determine the S^{32} content an activation method based on the $S^{32}(n,p)P^{32}$
reaction was developed. The P^{32} activity is determined on comparison
with a reference standard (pure Na_2SO_4), the irradiation (total 10^{18} n/cm²)
Card 1/2

An activation method for ...

S/089/63/014/003/015/020
B102/B186

taking 26 - 28 hrs; between irradiation and analysis a period of 7 - 10 days was used for complete decay of Na^{24} . The induced activity was measured with an end-window counter with a 78 mg/cm^2 aluminum filter. A content of $\sim 0.1 \%$ S in a batch of 10 - 20 mg was found to correspond to ~ 3000 pulses/min. Consequently, when the irradiation time can be raised 3 to 5 times, quantities of 0.001 - 0.0005 % S can even be determined. The sensitivity can be further increased by concentrating the sample. There is 1 table.

SUBMITTED: March 10, 1962

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L 9876-61 EPR/EMP(j)/EPP(c)/EPT(n)-2/PT(e)/BDS/ES(e)-2 AFFTC/ASD/DBB-3/AFGL/
SSL Pz-4/Pc-4/Pr-4/Ps-4/Pt-4 RM/WI/YAY

ACCESSION NR: AF3002260

S/0089/63/014/006/0555/0558

77

AUTHOR: Serafimov, Ye. G.; Balanov, I. A.; Smirnov-Averin, A. P.; Kaplan, Ye. P.; Mafodov, G. M.; Chel'tsova, M. A.; Petrov, A. D.

15
TITLE: Thermal and radiation stability of certain aromatic compounds

SOURCE: Atomnaya energiya, v. 14, no. 6, 1963, 555-558

TOPIC TAGS: pyrolysis, radiolysis, Gamma radiation, neutron radiation, thermal stability, radiation stability, polycyclic aromatic hydrocarbons, naphthalene, anthracene, biphenyl, terphenyl, alkylated biphenyls, alkylated terphenyls, diphenyl methane, phenoxybiphenyl

ABSTRACT: The pyrolysis and Gamma radiation induced and neutron-radiation induced radiolysis of a number of polycyclic aromatic hydrocarbons, (isopropyl- and phenyl-substituted biphenyls, naphthalenes, and terphenyls; polyphenyls with methylene bridges between the rings; and phenoxybiphenyl isomers) have been studied. The samples were degassed beforehand to prevent oxidation. A study of pyrolysis at 400C indicated that the stability of biphenyls and terphenyls was two to three orders above that of Alpha-phenylnaphthalene, the alkyl-

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I-9876-63

Accession No: AF308860

2

substituted hydrocarbons, and the aromatic others. An increase in the number of alkyl substituents in the hydrocarbons decreased their thermal stability. Of the alkyl-substituted hydrocarbons, isopropyl-m-terphenyl was found to be the most stable to decomposition to gaseous products and isopropylbiphenyl the most stable to polymerization. Thermal stability decreased from biphenyl to phenoxybiphenyls. The pyrolysis kinetics was studied by additional pyrolysis of the most stable compound, m-terphenyl, at 194, 475, and 455°C. From the results obtained, rate constants of pyrolysis were calculated, and activation energy was found to be about 70 kcal/mol. Pyrolysis at 410°C of polyphenylenes with methylene bridges between the rings revealed that their thermal stability was three orders below that of m-terphenyl. In experiments with irradiation of the hydrocarbons in a neutron field ($10 \text{ sup } 13 \text{ n/cm}^2 \text{ sec}$) at 60 and 350°C, m-terphenyl was found to be the most stable of all the compounds. An increase in temperature from 60 to 350°C increased radiation-induced decomposition by a factor of 3.8. From Gamma-irradiation experiments (dose, $10 \text{ sup } 21 \text{ er/g}$) it was found that the energy absorbed was not sufficient to produce radiolytic decomposition of biphenyl, terphenyls, or phenylanthracenes. It was concluded that the superior thermal and radiation stability shown by biphenyl and by the terphenyl isomers makes them suitable as heat transfer agents for nuclear power reactors. Orig. art. has: 5 tables.

Card 2/3

NEFEDOV, O.M.; NOVITSKAYA, N.N.; PETROV, A.D.

Production of cyclopropane hydrocarbons by the reduction of dihalocarbene adducts to olefins. Dokl. AN SSSR 152 no. 3: 629-632 S '63. (MIRA 12:12)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
2. Chlen-korrespondent AN SSSR (for Petrov).

NEFEDOV, O. M.; KOLESNIKOV, S. P.

Formation and telomerization of germanium carbenoids. Izv AN
SSSR Ser Khim no. 4:773-774 Ap '64. (MIRA 17:5)

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

02859-65 EPF(c)/EPR/EWT(m)/EWP(l)/T PC-4/Pr-4/Ps-4 RPL RM/WW/MLK
ACCESSION NR: A5002112 S/0000/64/000/000/0067/0074

AUTHOR: Nefedov, O.M., Manakov, M.N., Petrov, A.D. (Deceased)

TITLE: Utilization of carbenes and their organo-metallic analogs in reactions for the preparation of monomers and polymers

SOURCE: AN SSSR. Institut neftekhimicheskogo sinteza. Sintez i svoystva monomerov (The synthesis and properties of monomers). Moscow, Izd-vo Nauka, 1964, 67-74

TOPIC TAGS: carbene, carbene analog, organometallic compound, carbenoid, silicoorganic compound, cyclopentane derivative, chlorosilane

ABSTRACT: An extremely simple method is described for the preparation of carbenes, involving the direct reaction of lithium with di- and polyhalomethanes or their aryl(alkyl) derivatives in a medium of tetrahydrofuran at a temperature of -40 to +40C. Some of the carbenes formed under these conditions were utilized for the preparation of monomer and polymer products. A new general method has been developed for the preparation of aryl- and vinylsubstituted silicocyclopentanes (yields up to 75-80%), which consists of reacting dichlorosilanes and alkali metals in the presence of aryl-ethylenes or conjugated dienes in

Card 1/2

L 2289-66

ACCESSION NO: AT6002112

a medium of inert polar solvents. Along with the silicocyclopentanes, all reactions led to the formation of the corresponding organo-silicon polymers with silicon atoms in the main chain; the yields were up to 80-90%. Such polymers, but having a cross-linked structure, were also the main products in the reaction of alkali metals with trichlorosilanes and SiCl_4 in the presence of arylenes or 1,3-dienes. The indicated reaction can also be applied to similar organo-halides of other elements in groups III--V. Orig. art. has: 1 table and 10 formulas.

ASSOCIATION: None

SUBMITTED: 30 Jan 64

INCL: 00

SUB CODE: OC,GC

NO REF SOV: 008

OTHER: 013

Card 2/2

ACCESSION NR: AP4037241

8/0062/64/000/005/0840/0844

AUTHOR: Nefedov, G. M.; Manakov, M. N.

TITLE: Reaction of dialkyl(aryl)dichlorosilanes with alkali metals in the presence of conjugated dienes.

SOURCE: AN SSSR. Izv. Seriya khimicheskaya, no. 5, 1964, 840-844

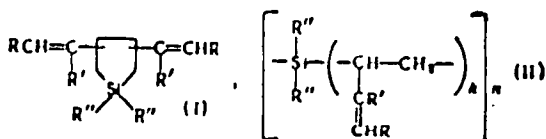
TOPIC TAGS: dialkyldichlorosilane, diaryldichlorosilane, reaction, conjugated diene, divinyl substituted silicacyclopentane, unsaturated silicon containing polymer, silicacyclopentane, production

ABSTRACT: Continuing their earlier works (Izv. AN SSSR Otd. khim. n. 1961, 1717; 1962, 1228) the authors investigated the reaction of dialkyl(aryl)dichlorosilane and conjugated dienes with alkali metals in tetrahydrofuran. A mixture of 0.2 M dichlorosilane (dimethyl-, diethyl- or diphenyldichloro-silane), 0.4 M diene (divinyl, isoprene, piperylene) and 4.5 gm Li or 12 gm Na was reacted for 0.5-1 hour at about 30C in 50-200 ml absolute tetrahydrofuran under dry nitrogen. The product was filtered and the filtrate vacuum fractionated (0.2-0.5 mm Hg). Three types of products, whose relative yield depends on the initial reagents and

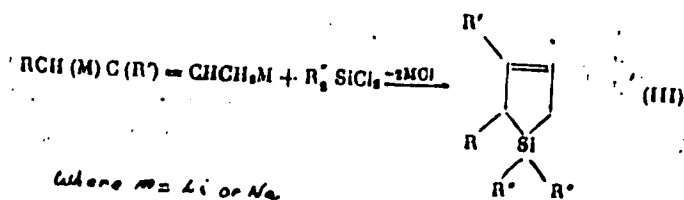
Card 1/4

ACCESSION NR: AP4037241

reaction conditions, (see Table) were formed: I--divinyl substituted silicacyclopentanes, 10-50% yield; II--unsaturated silicon hydrocarbon polymers with Si atoms in the main chain, molecular weight of 1000 or more; and III--silicacyclopentenes, 0-10% yield.



where R = H, CH₃; R' = H, CH₃; R'' = CH₃, C₂H₅, C₆H₅.



ACCESSION NR: AP4037241

Initial Reagents			Reaction Products					
Dichloro-silane	Diene	Metal	Silicacyclopentene (III)		Silicacyclopentane (I)		Polymer (II)	
			Yield		Yield		Yield Molecular	
			gm	%	gm.	%	gm.	Weight
1 (CH ₃) ₂ SiCl ₂	Divinyl	Lithium	Traces	-	3-4.7	9-14	22-23	
2 (CH ₃) ₂ SiCl ₂	Isoprene	Lithium	Traces	-	10.0	26	22.5	950,1080
3 (CH ₃) ₂ SiCl ₂	Piperylene	Lithium	0	0	Traces	-	32	
4 (C ₂ H ₅) ₂ SiCl ₂	Isoprene	Lithium	Traces	-	21.6	49.5	16.5	920,810
5 (C ₂ H ₅) ₂ SiCl ₂	Isoprene	Sodium	2.7	9	6.9	15.5	23	
6 (C ₆ H ₅) ₂ SiCl ₂	Piperylene	Lithium	2.1	7	6.2	14	31	1770,1480
7 (C ₆ H ₅) ₂ SiCl ₂	Isoprene	Lithium	Traces	-	8.0	12.5	36	

Orig. art. has: 3 formulas, 2 tables.

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ACCESSION NR: AP4037241

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

SUBMITTED: 26Oct62

ENCL: 00

SUB CODE: 00

NO REF SOV: 004

OTHER: 004

Card 4/4

L 5:599-61 EPT(m)/EPT(c)/EPT(j) PC-4/PC-6
 ACCESSION NR: AP5013896

DR/0052/SA/000/012/2224/2226

AUTHOR: Nefedov, O. M.; Koleznikov, S. P.; Makhova, N. N.

TITLE: Reducing properties of trichlorogermane and its etherates

SOURCE: AN SSSR. Investiya. Seriya khimicheskaya, no. 12, 1964, 2224-2226

TOPIC TAGS: chemical reduction, ether, chlorine, germanium, germanium compound

Abstract: The high reducing ability of trichlorogermane and its etherates with respect to inorganic and organic compounds was established. Thus, aromatic nitrocompounds are readily reduced to the corresponding amines in 80-90% yield, while $FeCl_2$ is formed in quantitative yield through the action of the etherate on $FeCl_3$. This reducing ability is related to the structure of these germanium compounds and their tendency to dissociate, generating $GeCl_2$. The etherate exhibits this tendency to an even greater degree than $HGeCl_2$ itself. The presence of halogen atoms, sulfo-groups, carbon-carbon-multiple bonds, and other functional groups in the molecule of the aromatic nitrocompound to be reduced does not prevent the almost quantitative selective conversion of the nitro-groups to amino groups.

1/2

Card

L. 52599-65

ACCESSION NO: A15015896

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

SUBMITTED: 04/04/64

ENGL: 00

RTS CODE: 10, 00

NO REF 107: 006

OTHER: 003

JPRS

NEFEDOV, O.M.; MANAKOV, M.N.

Formation of reactions of silylenes, silicon analogs of
carbenes. Zhur. ob. khim. 34 no.7:2465-2467 J1 '64
(MIRA 17:8)

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

ACCESSION NR: AP4012091

S/0020/64/154/002/0395/0397

AUTHORS: Nefedov, O.M.; Manakov, M.N.; Petrov, A.D. (Corresponding
reader)

TITLE: Mechanism of formation of aryl-substituted silacyclopentanes
from organodichlorosilanes, styrenes and lithium. New
method for obtaining substituted disilacyclohexanes.

SOURCE: AN SSSR. Doklady*, v. 154, no. 2, 1964, 395-397

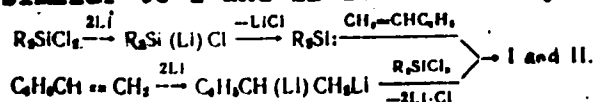
TOPIC TAGS: aryl substituted silacyclopentane, substituted
disilacyclohexane, biradical intermediate, bilonic intermediate,
1, 4-disilacyclohexane, reaction mechanism

ABSTRACT: Dimethyldichlorosilane and styrene (1:1) were reacted in
tetrahydrofuran diluted with n-heptane (1:1) to form a dimer--X,X'
-diphenyl-1,4,4-tetramethyl-1,4-disilacyclohexane, in 30% yield. The
biradical $C_6H_5CHCH_2SiR_2$ (I) or the bilon $C_6H_5CHCH_2SiR_2$ (II) are both
possible intermediates. Similar disilacyclohexanes are obtained
from styrene and other organodichlorosilanes, and from dimethyldich-

Card 1/2

ACCESSION NR: AP4012091

lorosilane and alpha-methyl-styrene or stilbene. X,X'-bistrimethylsilyl-1,1,4,4-tetramethyl-1,4-disilacyclohexane was obtained in 20% yield from dimethyldichlorosilane, vinyltrimethylsilane and lithium. IR spectra and chemical degradation helped determine that 1,2-disilacyclohexanes were not formed. It is shown that intermediate biradicals and bilons similar to I and II are formed by either of the following routes:



"(IR spectra were) taken by L.A. Leytes on the UR-10 spectrometer in a solid solution of KBr". Orig. art. has: 1 figure and 4 equations.

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

SUBMITTED: 25Sept63

DATE ACQ: 14Feb64

ENCL: 00

SUB CODE: CH

NO REF SOV: 004

OTHER: 000

Co.d 2/2

8/0020/64/154/006/1389/1392

ACCESSION NR: AP4019976

AUTHOR: Mafedov, O. M.; Kolesnikov, S. P.; Khachaturov, A. S.; Petrov, A. D.
(Deceased, Corresponding member)

TITLE: Properties of 1,1-dichloro- and 1,1-dimethylgermane cyclopentenes-3

SOURCE: AN SSSR. Doklady*, v. 154, no. 6, 1964, 1389-1392

TOPIC TAGS: 1,1-dichlorogermancyclopentene, 1,1-dimethylgermancyclopentene-3, trichloro germane, 1,1-dichloro-1-germancyclopentene-3, 1,1-dimethyl 1 germancyclopentene 3, germanium compound, germanium

ABSTRACT: During the reaction of an excess of divinyl with HGeCl_3 at a temperature interval of -80 to 50°C , higher molecular germanium organic compounds are formed together with the compounds $\text{CH}_2\text{CH}=\text{CHCH}_2\text{GeCl}_3$ (I) and 1,1-dichloro-1-germane cyclopentene-3 (II). A dimeric was separated (yield 5%) which corresponded more closely to the structure $\text{H}(-\text{CH}_2\text{CH}_2\text{CHCH}_2\text{GeCl}_2)_2\text{Cl}$ (III) and also separated were liquid and solid polymers (weight relation 10:1), made up mostly of the monomer units $-\text{CH}_2\text{CH}_2\text{CHCH}_2\text{GeCl}_2-$ (total yield 15-30%, molecular weight > 1500). The catalytic dehydrogenation of 1,1-dimethyl-1-germane cyclopentene-3 (IV) was also

Card

1/3

ACCESSION NR: AP4019976

studied. This unsaturated heterocycle dehydrates more easily and more fully than the substituted cyclo- and germane cyclopentanes. Thus, at 450C over $Al_2O_3 \cdot Cr_2O_3 \cdot K_2O$ (84:14:2) or at 350-400C over 10% Pt/C, the conversion of (IV) is 60% with H_2 content in the gaseous dehydrogenation products from 96-98% whereas the 1,1-dimethylgermane cyclopentane does not change in these conditions. However, 1,1-dimethylgermane cyclopentadiene-2,4 in pure form was not separated from the dehydrogenate because of its extreme tendency to condense. The structure of dimers and polymers developing from (II) and (IV) or directly from divinyl and $HGeCl_3$, like compounds of the general form $X(-CH_2CH=CHCH_2GeR_2-)Y$ ($R = Cl$ or CH_3 , X and $Y = H$ and Cl or CH_3) is shown by a significant similarity of proton spectra to a spectra of corresponding monomer heterocycles (II) and (IV). The presence of three basic types of protons in these compounds which correspond to the monomer unit $CH_2CH=CHCH_2Ge(CH_3)_2$ (τ 9.83-9.9; duplicate 8.47-8.49 and 8.30-8.36; 4.72-4.75 m.d.) is indicated. Orig. art. has: 2 figs.

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

Card 2/3

ACCESSION NR: AF4019976

SUBMITTED: 14Sep63

SUB CODE: CH

DATE ACQ: 23Mar64

NO NEW SOV: 006

ENCL: 00

OTHER: 002

Card 3/3

NEFEDOV, G.M.; IVASHENKO, A.A.

Reaction of di-, tri-, and tetrahaloacetates with metallic lithium. A new technique of chloroacetylene production. Dokl. AN SSSR 156 no. 4:884-887, 1964. (MIRA 1966)

1. Institut organicheskoy khimii im. N.I. Golovinskogo AN SSSR. Predstavleno akademikom B.A. Kazanskim.

NEFEDOV, O.M.; NOVITSKAYA, N.N.; PETROV, A.D. [deceased]

Production of substituted methylpropylenes by the reaction of alkyl benzenes with chlorocarbene and methylithium. Dokl. AN SSSR 158 no.2: 411-414 S '64. (MIRA 17:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR. 2. Chlen-korrespondent AN SSSR (for Petrov).

NEFEDOV, G.M.; NOVITSKAYA, N.L.

Preparative method for obtaining 1,3,5-cycloheptatriene. Izv.
AN SSSR Ser. khim. no. 4:395-396 1965.

(MIRA 18:2)

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

NEFEDOV, O.M.; SHAFRAN, R.N.

Comparative study of various methods of preparation of dichlorocarbene. Izv. AN SSSR. Ser. khim. no.3:538-541 '65. (MIRA 18:5)

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

L 20350-66 EWT(m)/ENP(j) RM

ACC NR: AP6012082

SOURCE CODE: UR/0062/65/000/003/0579/0580

AUTHOR: Nefedov, O. M.; Kolesnikov, S. P.; Novitskaya, N. N.

37
B

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

TITLE: Addition of trichlorogermane to cyclopropane derivatives

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 3, 1965, 579-580

TOPIC TAGS: cyclic group, aromatic hydrocarbon, germanium compound, chlorine compound, organogermanium compound

ABSTRACT: Cyclopropane and its derivatives exhibit well-known unsaturation, which is evident, for example, in their capacity to add on such reagents as halogens, acids, salts of mercuric oxide. Accordingly, the reaction of cyclopropane derivatives with $HgCl_2$ (I), which is known to add readily to olefins and other unsaturated compounds, has become of considerable interest. It was found that (I) actually very readily adds on to aryl- and alkyl-substituted cyclopropanes to form the corresponding organotrichlorogermans, for example: $R-CH_2-CH_2-CH_2 + HGeCl_3 \rightarrow Cl_3Ge(R)CH_2CH_2CH_2$. Thus, the reaction of 0.1 M phenylcyclopropane with 0.05 M (I) (80-100°, 25 minutes) leads to 1-phenyl-1-(trichlorogermyl) propane, at a yield of 12.6 grams (85%), boiling point 125-126° (8 mm), n_D^{20} 1.5549; Cl found 35.8%, calculated 35.7%. [JPRS]

SUB CODE: 07 / SUBM DATE: 06Jan65 / ORIG REF: 002

Card 1/1 vmb

UDC: 542.91+661.718.6

2

NEFEDOV, G.M.; NOSHCHINA, N.N.; SHIRYAYEV, V.I.

Comparative reactivity of mesoquinone and cyanoquinone in radical
actions. Dokl. AN SSSR 161 no. 5:1084-1092, 1965. (MIRA 1966)

I. Institut organicheskoi khimii im. N.D. Zelinskogo AN SSSR.
Submitted October 10, 1964.

NEFEDOV, O.K.; KOLTSNIKOV, S.I.; SHEVCHENKO, V.I.; SHEVYKER, YU.N.

Etherates of some benzene derivatives in nuclear magnetic resonance spectroscopy. Dokl. AN SSSR, 1971, 231, No. 1, p. 107. (MIRA, 1971)

1. Institut organicheskoy khimii im. N.I. Zelinskogo AN SSSR, Institut khimii prirody i yestestveny AN SSSR, Leningrad, 1971.

NEFEDOV, O.M.; IVASHENKO, A.A.; NOVITSKAYA, N.N.

Preparation of cyclo-1,3-heptadienes from 7-monohalocycloheptanes.
Izv. AN SSSR. Ser. khim. no.9:1716 '65. (MIRA 18:9)

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

L 7886-66 EWT(m)/EPF(c)/EWP(j)/T RM

ACC NR: AP5025039

SOURCE CODE: UR/0286/65/000/016/0085/0085

AUTHORS: Nefedov, G. M. ^{44/5} Kolesnikov, S. P. ^{44/5}

ORG: none

TITLE: Method for obtaining germanium organic polymers. Class 39, No. 173951 ¹⁵

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 85

TOPIC TAGS: organogermanium compound, polymer, ethylene, isobutylene, hexane

ABSTRACT: This Author Certificate presents a method for obtaining germanium organic polymers by reacting trichlorogermanium with unsaturated aliphatic compounds in a polar organic solvent. To increase the variety of starting compounds, ethylene, isobutylene, and n-hexane are used as unsaturated aliphatic compounds. The reaction is carried out at 20-30C.

SUB CODE: 07/

SUBM DATE: 27Aug64

^{nw}
Card 1/1

REC: 678.86:546.289

NEFEDOV, O.M.; GARZO, G.; JERRY, T.; SHIVAYEV, V.I.

Structure and thermal degradation of cyclic and linear polymers of
dimethylsilylene and vinyltrimethylsilylene. Dokl. Akad. Nauk no.4:874-
875 (1975). (MIRA 18:10)

1. Institut organicheskoy khimii im. N.I. Zelinskogo, ul. Leninskaya 29, Sovetskoye
okrug, Moskva, SSSR. (Nefedov O.M., Garzo G., Jerry T., Shivayev V.I.)
Dokl. Akad. Nauk, Ser. Khim., 1975, No. 4, p. 874-875.

NOVITSKAYA, N.N.; ISAYEV, I.S.; NEFEDOV, O.M.

Study of the mechanism of monocyclic hydrocarbon formation
in the pyrolysis of 7,7-dichloronorcaranes by the tracer
technique. Zhur.VKHO 10 no.4:458-459 '65.

(MIRA 18:11)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo
AN SSSR i Novosibirskiy institut organicheskoy khimii
Sibirskogo otdeleniya AN SSSR.

BOBROVSKI, B.M.; NEREDOV, O.K.

Reaction of triiodo peroxide at the aromatic multiple
carbon-carbon bonds. Dokl. VCHD 10 no.4.477-479 1955.

(MIRA 18-11)

Institut organicheskoi khimii imeni N.D.Zelinskogo
Moscow.

NEPELOV, O.M.; IVASHENKO, A.S.

Formation of carbonates in the reaction of diene polymers
with methanes with metallic lithium. Izv. AN S.S.S.R. Ser. Khim.
no. 12:2209-2212, 1965. (MIRA 13:12)

I. Institut organicheskoy khimii im. N.I. Lobachevskogo, Kazan, U.S.S.R.
Submitted April 9, 1965.

L 10873-66 EWT(M)/ENP(11)/EIC(M) REF WY/RA
 ACC NR: AP:025864 SOURCE CODE: UR/0020/65/164/004/0822/0825 57
 18

AUTHOR: Mefedov, O. N.; Carzo, G.; Sekey, T.; Shiryayev, V. I.

ORG: Institute of Organic Chemistry in. N. D. Zelinskiy (Institut organicheskoy khimii); Inorganic Chemistry Research Group, Academy of Sciences, VNR, Budapest (Issledovatel'skaya gruppa po neorganicheskoy khimii Akademii nauk VNR)

TITLE: Structure and thermal degradation of cyclic and linear polymers of dimethylsilylene and dimethylgermylene

SOURCE: AN SSSR. Doklady, v. 164, no. 4, 1965, 822-825

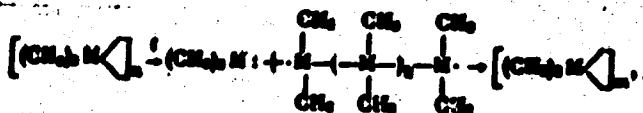
TOPIC TAGS: organosilicon compound, organogermanium compound, pyrolysis

ABSTRACT: An IR, NMR, and mass-spectrometric study of the soluble part of the products resulting from the reaction of $(\text{CH}_3)_2\text{SiCl}_2$ with lithium in tetrahydrofuran showed that it consists mainly (95-97%) of crystals melting at 228-231C and forming the cyclic polymer $[(\text{CH}_3)_2\text{Si}]_n$. Similarly, a mass-spectrometric analysis confirmed that the germanium polymer, melting at 207-209C, also forms the cyclohexamer $[(\text{CH}_3)_2\text{Ge}]_6$. Pyrolysis of dimethylsilylene and dimethylgermylene at moderate temperatures (up to 350-400C) leads mainly to the rupture of M-M bonds to the formation of monomeric, dimeric, and polymeric biradicals:

L 10873-66

ACC NR: AF5025864

9



where M = Si or Ge; k = 0-4 or more; m = 3(?) , 4-6 and more. In the absence of special acceptors, these biradicals recombine chiefly with one another, forming the cyclic polymers $[(CH_3)_2M \leftarrow]_m$. The data obtained indicate that pyrolysis of the polymers $[(CH_3)_2M \leftarrow]_m$, where M = Si, Ge, Sn, or Pb, can be used as a general method of generating the corresponding carbenoids $(CH_3)_2M:$. The paper was presented by B. A. Kazenskiy, Member of AN SSSR, 26 Mar 65. Authors thank M. I. Gorfinkel, A. S. Khachaturov, and L. A. Leytes for carrying out the spectroscopic determinations.

Orig. art. has: 2 tables.

SUB CODE: 07 / SUBM DATE: 11Mar65 / ORIG REF: 004 / OTH REF: 007

OC
Card 2/2

NEFEDOV, O.M.; KOLESNIKOV, S.P.

Preparation of organogermanium oligomers and polymers by reactions of trichlorogermane and its etherates with unsaturated compounds. Vysokom. soed. 7 no.11:1857-1862 N '65.
(MIRA 19:1)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.
Submitted November 27, 1964.

L 27337-66 EWT(m)/ENP(j)/T IJP(c) RM

ACC NR: AP6008962

(A)

SOURCE CODE: UR/C190/65/007/011/1857/1862

AUTHORS: Nefedov, O. M.; Kolesnikov, S. P.

35

33

B

ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, AN SSSR (Institut organicheskoy khimii AN SSSR)TITLE: Preparation of organogermanium⁷ oligomers and polymers by reacting germanium trichloride and its etherates with unsaturated compoundsSOURCE: Vysokomolekulyarnyye soyedineniya, v. 7, no. 11, 1965, 1857-1862

TOPIC TAGS: organic synthetic process, germanium compound, polymer chemistry

ABSTRACT: Preparation of new heteroaliphatic and olefinic organogermanium oligomers and polymers has been investigated by using germanium trichlorides as a source of GeCl_2 groups which readily attack unsaturated bonds. Mono-olefins (ethylene, ⁷isobutylene), 1,3-dienes (butadiene, ⁷isoprene), acetylene, and α, β -unsaturated compounds served as sources of double bonds, while simple ethers were used as solvents. The chlorinated organogermanium oligomers and polymers formed according to the scheme

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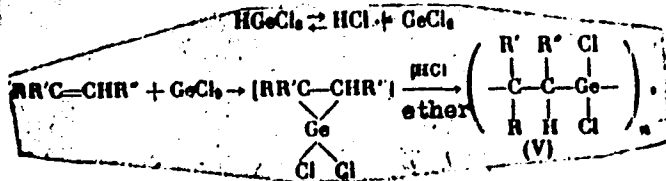
Card 1/2

UDC: 541.64+678.86

L 27337-66

ACC NR: AP6008962

2



where R, R', and R'' = H, alkyl, alkenyl, are pale yellow viscous liquids or white powders having m. p. from 50--70C (in case of 1,3-dienes), or 250--350C (in case of C₂H₂, C₂H₄, iso-C₄H₈). The average molecular weight of the polymers was from 2500 to 6000. The presence of labile Ge-Cl bonds in addition to unsaturated carbon-carbon bonds makes these compounds suitable for a variety of chemical transformations. "The authors express their gratitude to L. A. Leytes and A. S. Khachaturov for help in performing spectral analyses." Orig. art. has: 1 figure, 2 formulas, and 2 equations.

SUB CODE: 07/ SUBM DATE: 27Nov64/ ORIG REF: 006/ OTH REF: 003

Card 2/2

L 31366-66 ENP(j)/ENT(m) RM

ACC NR: AP6021098

SOURCE CODE: UR/0062/66/000/002/0201/0211

AUTHOR: Nefedov, O. M.; Kolesnikov, S. P.

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

TITLE: Etherates of trichlorogermanium as sources of germanium dichloride -- a germanium analog of dichlorocarbene

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 2, 1966, 201-211

TOPIC TAGS: ether, organogermanium compound, organotin compound, halogenated organic compound, halide, analytic chemistry

ABSTRACT: A study of the physical and chemical properties of etherates of trichlorogermanium and other trihalogenides of germanium and tin shows that they have a carbenoid character and may serve in many reactions as sources of corresponding dihalogenides of germanium or tin -- inorganic analogs of dihalocarbenes. The germanium dichlorides and dibromides generated in this way, are more reactive than the monomeric carbenoids GeCl_2 and SnCl_2 . The etherate of composition $2(\text{C}_2\text{H}_5)_2\text{O} \cdot \text{GeCl}_2$ is a volatile, oily greenish-yellow liquid, insoluble in ether and organic solvents, and decomposes upon distillation or prolonged storage. [JPRS]

SUB CODE: 07 / SUBM DATE: 03Aug65 / ORIG REF: 020 / OTH REF: 007

Card 1/1 CC

UDC: 543.422 + 546.289

L 31893-66 EWT(m)/EWP(j) EM

ACC NR: AP6012526

SOURCE CODE: UR/0062/66/000/003/0443/0452

AUTHOR: Kolesnikov, S. P.; Nefedov, O. M.; Sheychenko, V. I.

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E

ORG: Institute of Organic Chemistry im. N. D. Zelinskiy, Academy of Science SSSR
(Institut organicheskoy khimii Akademii nauk SSSR)

TITLE: Reaction of trichlorogermane with aromatic compounds and uncatalyzed addition of germanium chloroform at aromatic unsaturated bonds

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 3, 1966, 443-452

TOPIC TAGS: organic synthesis, aromatic hydrocarbon, germanium compound, deuterated compound

ABSTRACT: Germanium chloroform displays extremely high reactivity in addition to olefins and acetylenes in the absence of catalysts and generally exothermally. Two of the authors reported previously [*Izv. ZN SSSR. Ser. Khim.*, 579, (1965)] addition of $HGeCl_3$ to alkyl- and arylsubstituted cyclopropanes with opening of the three-membered ring and formation of isoalkyl or aralkyltrichlorogermanes. The article describes addition of $HGeCl_3$ and along the aromatic unsaturated bonds which have not been investigated prior to this time. It is shown that the reaction of germanium

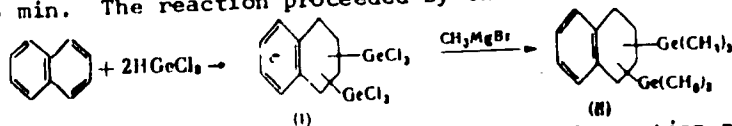
Card 1/4

UDC: 543.422 + 542.91 + 661.718.66

L 31893-66

ACC NR: AP6012526

chloroform with a number of aromatic compounds proceeds quite readily at moderate temperatures and without catalysts, contrary to the experience with hydrides of other elements of group IVB. The addition occurs not only at the olefinic and acetylene bonds, but also at the aromatic double bonds. Addition of HGeCl_3 to naphthalene was accomplished by single heating of equimolar mixture of reagents to 100-130°C for 10-25 min. The reaction proceeded by the following scheme:

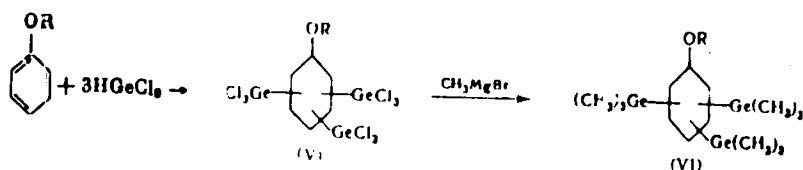


In addition to bis(trimethylgermyl)tetralines methylated reaction products of HGeCl_3 with naphthalene containing high boiling germanium hydrocarbons. Reaction of alkyl-naphthalenes with germanium chloroform proceeds even easier than with naphthalene and results in formation of isomeric bis(trichlorogermyl)alkyltetrahydronaphthalenes. In contrast to polynuclear aromatic hydrocarbons, benzene and alkylbenzenes do not add HGeCl_3 (even after prolonged boiling), but introduction of electron donor alkoxy group into the benzene ring promotes addition of germanium chloroform to the double bond of the benzene ring:

Card 2/4

L 31893-66

ACC NR: AP6012526



It was also found that HGeCl_3 can be added to heteroaromatic systems. It was reacted exothermally with thiophene producing isomeric bis(trichlorogermyl) tetrahydrothiophenes. It was concluded that introduction of electron donor groups (CH_3 , CH_3O , $\text{C}_2\text{H}_5\text{O}$) onto the ring facilitates the addition of HGeCl_3 at the aromatic double bond while electron acceptor groups such as halides hinder such a reaction. This indicates the electrophilic nature of the addition reaction of germanium chloroform to aromatic compounds. Such an exclusive nature of germanium chloroform among hydrides of group IVB elements is explained mainly by the strong acidic properties of this compound. To evaluate accurately the acid strength of HGeCl_3 and to determine its reactivity as a function of the basicity of aromatic hydrocarbon, experiments were conducted on deuterium exchange between DGeCl_3 and the benzene series hydrocarbons. Experiments show that while with toluene deuterium exchange does not take place even during 1 hr mixing with DGeCl_3 with more basic hydrocarbons (mesitylene, isodurene) DGeCl_3 acts as a strong acid capable of rapid deuterium exchange. Isotope exchange

Card 3/4

L 31893-66

ACC NR: AP6012526

data indicate the tendency of HGeCl_3 to ionize. The authors thank V. A. Koptug and M. I. Gorfinkel for assisting in the experiments on deuterium exchange and for the discussion of the results. The authors also thank M. G. Voronkova for commenting on the reaction mechanism. Orig. art. has: 3 figures and 1 table.

SUB CODE: 07/ SUBM DATE: 03Sep65/ ORIG REF: 010/ OTH REF: 004

Card 4/4

L 31887-66 EWT(■)/ENP(j)/T IJP(c) RM

ACC NR: AP6012537

SOURCE CODE: UR/0052/66/000/003/0584/0584

AUTHOR: Kolesnikov, S. P.; Shirayayev, V. I.; Nefedov, O. M.

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2

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

TITLE: Germanium dichloride complex compound ↑

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 3, 1966, 584

TOPIC TAGS: germanium compound, complex compound, chemical decomposition

ABSTRACT: During the study of the reaction of $HGeCl_3$ with diethers it was discovered (that contrary to the report of a previous communication [*Angew. Chem.*, 76, 496, (1964)] 1,4-dioxane does not produce trichlorogermane ether with $HGeCl_3$, but that they react upon the liberation of HCl. According to data obtained from elemental analysis, IR, NMR and molecular weight, they produce a crystalline complex compound of germanium dichloride $C_4H_8O_2 \cdot GeCl_2$. Formation of $C_4H_8O_2 \cdot GeCl_2$ from $HGeCl_3$ and dioxane is a direct proof of the ability of $HGeCl_3$ to dissociate easily upon the formation of $GeCl_2$. The complex is stable in air and upon aqueous hydrolysis

Card 1/2

UDC: 661.718.1

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ACC NR: AP6012537

produces $\text{Ge}(\text{OH})_2$, is insoluble in hydrocarbons, and reacts with ethanol and acetone. Upon heating, it decomposes at 140-210°C. With unsaturated compounds, the complex produces germanium organic monomers and polymers.

SUB CODE: 07/ SUBM DATE: 27Dec65/ ORIG REF: 004/ OTH REF: 002

Card 2/2

1. M.S. D'V, P.
2. USSR (600)
4. Electric Motors
7. Device for making the starting of a short-circuited electric motor easier.
Khol. tekhn. 29 no. 4, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

NEFEDOV, P. G.

"Ways of Reducing Labor-consuming Trimming and Cleaning of Castings"

The Kirov District of Leningrad Strives for Technological Progress; Collection of Articles, Leningrad, Sudpromgiz, 1957. 171pp.

This collection of articles describes the progressive experience of the industrial plants of the Kirov district of the city of Leningrad in the fields of shipbuilding, machine building, instrument-making, casting, hydrolytic and other industries. New manufacturing methods are discussed

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GANKINA, N.Z.; DRABKIN, G.M.; KRISTOL, D.I.; LAPINAGOV, P.I.; NEFEDOV, P.K.,
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Prom. stroi. 40 [i.e. 41], no.5:37-40 My '63. (MIRA 1963)
(Industrial buildings--Design and construction.)

GLUSKIN, E.Ya.; POLYAKOV, N.V.; TROYNIN, E.F.; USHAKOV, N.S.;
NEFEDOV, P.K., inzh., red.

[Overall mechanization and automation of intraplant
transportation in instrument plants] Kompleksnaia me-
khanizatsiia i avtomatizatsiia vnutrizavodskogo trans-
porta v priborostroeni. 2., izd., ispr. i dop. Mo-
skva, Mashinostroenie, 1964. 283 p. (MIRA 17:11)

SAMOYLOVICH, G.G., prof.; BELYAYEV, N.I., inzh.; KUDRITSKIY, D.M., dots.; GLAGOLEV, A.V., inzh.; NEFEDOV, E.M., inzh.; GALKINA, Ye.A., st. nauchn. sotr.; PLINK, L.I., inzh.; DONSKOY, I.P., prof., retsenzent; SAVEL'YEV, V.V., kand. tekhn. nauk, dots., retsenzent; ALYSHEV, I.F., kand. tekhn. nauk, dots., retsenzent; LOBANOV, A.N., prof., doktor tekhn. nauk, retsenzent; DOROKHOV, B.A., inzh., red.

[Use of aerial photographic surveying in forest engineering]
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1. Kafedra sukhoputnogo transporta lesa Lesotekhnicheskoy akademii im. S.M.Kirova (for Alyshev). 2. Zamestitel' glavnogo inzhenera Gosudarstvennogo instituta po proyektirovaniyu lesnogo transporta (for Dorokhov).

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See MEMORANDUM no. 157-100-160.

(Foundations)

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NEFEDOV, P. Ya., Candidate Tech Sci (diss) -- "Producing cupola-furnace coke-briquette fuel based on anthracite". Sverdlovsk, 1959. 18 pp (Min Higher Educ USSR, Ural Polytech Inst in S. M. Kirov, Chair of Chem Tech of Fuel), 150 copies (KL, No 24, 1959, 139)

GOFTMAN, M.V.; NEFEDOV, P.Ia.

Briquetted coke fuel for cupola furnaces. Koks i krim. no.3:
31-34 '64. (MIRA 17:4

1. Ural'skiy politekhnicheskiy institut (for Gofman .
2. Vostochnyy uglekhimicheskiy institut (for Nefedov).

MCFCJG. 1741

18(5) PAGE I BOOK EXPLOITATION 307/2048
Sverdlovsk. Ural'skiy politekhnikeskii institut imeni S.M. Kirova
Teoriya i praktika litornogo proizvodstva (Theory and Practice in the
Foundry Industry) Moscow, Minsk, 1959, 231 p. and 32 p.
(Series, No. 7; Zhurnal, 77, 85). Errata slip inserted. 5,000
copies printed.

Ed.: A.A. Gerabov, Corresponding Member, USSR Academy of Sciences,
Doctor of Technical Science, Professor; Tech. Ed.: S.A. Dugin;
Assoc. Ed.: (Ural-Siberian Division, Minsk); A.V. Galst'kin,
Engineer.

REMARKS: This book is intended for engineering and scientific workers
of institutes and machine-building plants, as well as for students
of advanced courses at vuzs.

CONTENTS: This collection consists of articles dealing with practical
problems in foundry processes. The articles review the achieve-
ments of Ural foundry workers in the past 10 years and present
aspects of a current study on the casting of nodular cast iron,
the properties and casting methods. Consideration is given to
artistic and architectural casting. Consideration is given to the
problem of combining gases in steel and aluminum. The structure
of cast steel is discussed. A recent investigation of vacuum
casting including its characteristic properties and new applications
is also presented. There are 32 pages of photographs illustrations
at the end of the book. No personalities are mentioned. Reference
follow each article.

TABLE OF CONTENTS:

PAUF 2. IRON CASTINGS
Gerabov, A.V. (Doctor of Technical Science), and P. Ya. Markin,
Engineer. Production of a Special Cast Briquet Fuel for Cupola 46
Pages

The author discusses the disadvantages and economic losses re-
sulting from the use of blast-furnace and other low-quality
slag in cupola blast. The goal of the investigation involved
is to develop a new method of producing improved cupola coke
with a porosity not higher than 20 to 25 percent, a low re-
sistibility, and a given uniform mean size. Laboratory in-
vestigations by the author confirm the possibility of producing
such coke from available materials.

Gerabov, A.A., and Yu.P. Fershter. Cupola Slag 60
The authors describe the composition of cupola slag in con-
trolling the chemical composition of the iron, preventing salt-
system of the iron with gases from the furnace atmosphere, dis-
solving non-metallic inclusions, and controlling lining life.
They give the optimum composition of slag required for a furnace
with fire clay lining in order to insure a proper operation of
the cupola and to produce a high-quality iron.

REF: [unclear] 1954

ПЛАН I МОД. РЕКОМЕНДАЦИЙ 807/1199

Ленинград. Политехнический институт

Собрание работ по теме: "Проблемы совершенствования технологии литейного производства".
Собрание работ по теме: "Проблемы совершенствования технологии литейного производства".
Собрание работ по теме: "Проблемы совершенствования технологии литейного производства".

Буря, М. А. Кандидат, Доктор технических наук, Профессор, Казань.
Буря, М. А. Кандидат, Доктор технических наук, Профессор, Казань.
Буря, М. А. Кандидат, Доктор технических наук, Профессор, Казань.

ПРОЛОГ: Эта книга предназначена для студентов и аспирантов металлургических вузов и техникумов. Она содержит материалы по основным вопросам литейного производства. В ней даны краткие сведения по истории развития литейного производства, описаны основные процессы литейного производства, рассмотрены вопросы совершенствования литейного производства. Книга может быть использована также преподавателями и студентами техникумов и вузов.

Содержание (cont.) 807/1199

- 18. Буря, М. А. Исследование новых типов сталей для подшипников. 188
 - 19. Буря, М. А. и П. Я. Митропол. Новые методы производства подшипников. 194
 - 20. Буря, М. А. Использование сталей и чугунов в промышленности. 199
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NEFEDOV, P.Ye.; CHERNOBROVKIN, V.P.; KATARIN, V.P.; ANAN'IN, A.A.;
BALBASHEV, V.K.; RYVKIN, I.Yu.; TSYNOVNIKOV, A.S.; KUZ'MIN, I.V.;
YAKOVLEV, S.Ye.; SHULAYEV, V.I.; MATSEVICH, S.I.; NARNITSKIY, A.P.;
BOKOV, O.K.; CHEREPANOV, V.Ye.

Coke briquets for cupola furances. Lit. proizv. no.3:6-7
Mr '65. (MIRA 18:6)

NEFEDOV, S.A., inzh.

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1. Vsesoyuznoye soveshchaniye po stroitel'stvu. 3rd, Moscow, 1958. (Farm buildings)

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1. Akademiya stroitel'stva i arkhitektury SSSR. Nauchno-
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sooruzheniy (for Zhuchin).

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~~МАРШОВ~~, Сергей Иванович; СЕМК, А.А., редактор; МЫСАЙ, Ye.P., редактор.
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ства; КАРАБИК, N.P., технический редактор

[Tackle for floating lumber] Takelashnoe khoziasstvo na lesosolave.
Moskva, Goslesbumizdat, 1957. 213 p. (MIRA 10:10)
(Lumber--Transportation)

GAVRILOV, Ye.N., inzh.; GONIK, A.A., kand. tekhn. nauk; DONSKOY,
I.P., kand. tekhn. nauk; ZHUKOV, G.A., inzh. [deceased];
LAZAREV, M.P., inzh.; NEFEDOV, S.I., inzh.; PETROV,
Ya.P., kand. tekhn. nauk; SAVEL'YEV, V.V., kand. tekhn.
nauk; FILIMONOV, S.S., inzh.; SHUL'TS, G.F., kand. tekhn.
nauk; ZOTOV, N.V., inzh., retsenzent; ORLOV, N.N., inzh.,
otv. red.; KCZLOV, A.D., red. izd-va; AKOPOVA, V.M.,
tekhn. red.

[Water transportation of lumber] Vodnyi transport lesa;
spravochnik. Moskva, Goslesbumizdat, 1963. 560 p.
(MIRA 16:11)

(Lumber--Transportation)

SHOGAL, G., insh.; MIRZADOV, V., insh.

Using industrial methods in sanitary-engineering and
electric-wiring operations. Zhil.stroi. no.8:18-19
'60. (MIRA 13:8)

(Sanitary engineering)
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NEFEDOV, V., inzhener-konstruktor

Industrial esthetics and flight safety. Tekh. est. 2 no.8:15-16
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NEFEDOV, V.A.

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Modern significance of the Canadian Arctic Archipelago and the
Northwest Passage. Izv. Vses. geog. ob-va '66 no.3:250-254, '64

(MIRA 17:P)

ACC NR: AP7003670

SOURCE CODE: UR/0079/66/036/008/1508/1508

AUTHOR: Nefedov, V. A.

ORG: none

TITLE: Formation of cyclopentadienylides from ferrocenes

SOURCE: Zhurnal obshchey khimii v. 36, no. 8, 1966, 1508

TOPIC TAGS: ferrocene, pyridine, IR spectrum

ABSTRACT: The action of chlorine or bromine on ferrocene, as well as the action of N-chlorosuccinimide or N-bromosuccinimide in pyridine, was found to lead to the formation of 1-pyridinium-2,3,4,5-tetrachlorocyclopentadienylide, or the analogous tetrabromo-derivative. In spite of the excess halogen, no ferricinium was formed. The identity of the reaction products was demonstrated by a study of the infrared spectra. The cyclopentadienylides formed are typical of their class and dissolve in acids, forming colorless solutions, and do not melt when heated. [JPRS: 38,970]

SUB CODE: 07 / SUBM DATE: 10Jan66 / ORIG REF: 002

UDC: 546.72:547.514.72

Card 1/1

0926 0295

REPORT OF ... lieutenant.

Characterization of astronomical observations in the Arctic. Mor. Rep.
no. 163-64 Mr 164. (MIRA 1817)

L 34023-66 EWT(m)/EWP(1) RM
ACC NR: AP6025536

SOURCE CODE: UR/0079/66/036/001/0122/0126

AUTHOR: Nefedov, V. A.; Nefedova, M. N.

64
C

ORG: none

TITLE: Synthesis based on organic derivatives of mercury. I. Reaction of mercurated ferrocenes with copper salts

SOURCE: Zhurnal obshchey khimii, v. 36, no. 1, 1966, 122-126

TOPIC TAGS: chemical synthesis, mercury, ferrocene, copper compound, mercury compound, anion, reaction rate, IR spectrum

ABSTRACT: Halo-, thiocyanato-, acetoxy-, and phthalimidoferrocenes were prepared from mercurated ferrocenes by exchange of the mercury group for the anion of a copper salt. The rate of exchange of the mercury residue was found to be proportional to the strength of the acid corresponding to the anion of the copper salt. The halogen in bromoferrocenes was replaced by the phenoxy group, yielding previously undescribed phenoxyferrocenes, with potassium phenolate according to the Ullmann reaction. A series of new sulfur derivatives of ferrocene were synthesized from the thiocyanatoferrocenes. The structures of the products were confirmed by their infrared spectra. The authors thank V. N. Drozd for providing some of the substances for comparison. They also thank E. G. Perovalova for her critical remarks on the work. [JPRS: 35,998]

SUB CODE: 07, 20 / SUBM DATE: 12Jun64 / ORIG REF: 008 / OTH REF: 004
Card 1/1 UDC: 546.261

ACC NR: AP7013160

SOURCE CODE: UR/0062/66/000 012/2239/2240

AUTHOR: Shilovtsova, L. S.; Perevalova, E.; Nefedov, V. A.; Nesmeyanov, A. N.

ORG: Moscow State University in. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Aminomethylation of ethylferrocene

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1966, 2239-2240

TOPIC TAGS: methylation, ferrocene

SUB CODE: 07

ABSTRACT: The dimethylaminomethylation of ethylferrocene was conducted with N,N,N',N'-tetramethyldiaminomethane. 1,2-, 1,3-, and 1,1'-(N,N-dimethylaminomethyl)ethylferrocenes (total yield approximately 70% of the theoretical) and 1,1'-di(N,N-dimethylaminomethyl)-2-ethylferrocene and 1,1'-di(N,N-dimethylaminomethyl)-3-ethylferrocene (total yield about 7%) were isolated from the reaction products. The products were characterized, and their structures studied according to their absorption capacity and infrared spectra. The yield of the homoannular isomers was approximately four times as great as that of the heteroannular isomers. The ratio of 1,3-isomers to 1,2-isomers was approximately 3:1, both for the mono- and for the diamines. R_f values for the isomers obtained

Card 1/2

UDC: 542.958.3 + 547.1'13 + 546.72

0933 0876

ACC NR: AP7013160

are cited for chromatography on alumina impregnated with formamide.
Orig. art. has: 1 table. [JPRS: 40,422]

Card 2/2

NEFEDOV, V.B.; POPOV, V.P.; YAZVITSKIY, Yu.S.

[Gamma radiation in inelastic interaction of fast neutrons with atomic nuclei] Gamma-izluchenie pri neuprugom vzaimodeistvii bystrykh neitronov s atomnymi iadrami. Moskva, Glav. upr. po ispol'zovaniyu atomnoi energii, 1960. 21 p. (MIRA 17:2)

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Results of electrocardiographic examination in pulmonary tuberculosis.
Sov. Med. J. 1962, 62: 107. (Rus. 107)

1. Iz kateory dr. med. (zav. - prof. I. Ye. Lomova) II Moskovekogo
meditsinskogo instituta imeni I. V. Stalina
(TUBERCULOSIS, PULMONARY
ECG in follow-up)
(ELECTROCARDIOGRAPHY, in various dis.
pulm. tuberc., follow-up)

NEFEDOV, V. B., Candidate Med Sci (diss) -- "The clinical and electrocardio-
graphic investigation of patients with pulmonary tuberculosis". Moscow, 1959.
15 pp (Second Moscow State Med Inst im N. I. Pirogov), 250 copies (IKL, No 24,
1959, 151)

KHEDOV, V.B.

Clinical morphological examination of the myocardium in pulmonary tuberculosis. Sov.med. 23 no.9:34-40 S '59. (MIRA 13:1)

1. Iz kafedry tuberkuleza (zav. - prof. I.Ye. Kochnova) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova i patologoanatomicheskogo otdeleniya (zav. - kand. med.nauk N.N. Pokrovskaya, konsul'tant - prof. P.P. Dvishkov) Moskovskoy gorodskoy klinicheskoy bol'nitsy No.5.
(TUBERCULOSIS PULMONARY pathol.)
(HEART pathol.)