

SOV/137-58-11-23100

Translation from: Referativnyy zhurnal. Metallurgiya, 1958. Nr 11, p 182 (USSR)

AUTHORS: Beskov, S. D., Kochetkova, L. I., Golubeva, R. M.

TITLE: A Survey of Volatile Inhibitors (Obzor letuchikh ingibitorov)

PERIODICAL: Uch. zap. Mosk. gos. ped. in-ta, 1957. Vol 99, pp 129-145

ABSTRACT: A list of the methods of application and the characteristics of the protective action of 69 organic compounds investigated as possible volatile inhibitors published in the foreign and Soviet literature. Bibliography: 54 references.

V. P.

Card 1/1

RESKOV, S.D.; KOCHETKOVA, L.I.; GOLUBEVA, R.M.

Vapor of ethanolamine and its carbonate salt. Uch. zap. MOPI
99:147-149 '57. (MIRA 12:3)
(Ethanol) (Vapor pressure)

83977

S/080/60/033/009/009/021
A003/A001

11.1160

AUTHORS: Mukanov, I.P., Beskov, S.D., Kochetkova, L.I.TITLE: The Interaction of Concentrated Nitric Acid With Carbon Steel¹⁴

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol. 33, No. 9, pp. 2084-2096

TEXT: The nature and the mechanism of corrosion¹⁴ destruction of carbon steels in concentrated solutions of nitric acid were studied. In the experiments Armco iron and steel-20, 40 and 70 with a carbon content of 0.045, 0.195, 0.39 and 0.69%, respectively, were used. All samples were immersed in acid solutions with a concentration from 70 to 92-94% HNO₃. They were covered with a dark-gray "passive" film which could not be eliminated by washing. In a 95-99% solution gases are liberated very vigorously during 1-2 min which points to the active interaction between the metal and the acid. The metal surface assumes a dark color and on the metal-acid interface a concentrated solution of Fe(NO₃)₃ is formed. The conclusion is drawn that with an increase in the carbon content the dissolution rate of steel increases. With an increase in the carbon content of steel the amount of nitrogen oxides in the HNO₃ solution increases. The concentration of iron ions in the acid solutions after their interaction with the

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The Interaction of Concentrated Nitric Acid With Carbon Steel

steel samples confirms the conclusion that the dissolution rate of steel in acid solutions depends on the carbon content in it. This is explained by the greater heterogeneity of the steel surface and by the number of cathode and anode sections with increased potential difference. It was also established that with an increase in the HNO_3 concentration and in the size of the crystallite grains in the steel composition the rate of intercrystallite corrosion increases. The destruction of Armco iron in highly-concentrated (97-99.5%) solutions takes place mainly at the expense of intercrystallite corrosion. The weight of carbon steel-40 and -70 decreases due to simple dissolution of iron. The corrosion rate of carbon steel in vapors of nitric acid changes analogously to the corrosion rate in the corresponding solutions. The dissolution rate increases also with the temperature. The temperature coefficient within the range of 20-30°C is very high, within the range of 30-87°C it decreases attaining its limit value of 1.2-1.25. There are 11 figures, 8 tables and 11 references: 7 Soviet, 3 English, 1 German.

ASSOCIATION: Moskovskiy gosudarstvennyy pedagogicheskiy institut (Moscow State Pedagogical Institute)

SUBMITTED: March 2, 1960

Card 2/2

KOCHETKOVA, M.I.

Experience in working with school physicians on health education of children. *Oig.1 san.no.2:54-55 F '54.* (MLRA 7:2)

1. In Saratovskogo doma sanitarnogo prosveshcheniya. (Health education)

PROKUDIN, V.A.; KOCHETKOVA, M.A., red.; SVESHNIKOV, A.A., tekhn. red.

[Memory devices of electronic digital computers] Zapominaushchie
ustroistva elektronnykh tsifrovyykh vychislitel'nykh mashin. Mo-
skva, "Sovetskoe radio," 1961. 126 p. (MIRA 14:10)
(Electronic digital computers)

NESMEYANOV, A.M., akad.; KOCHETKOVA, N.A.; MATERIKOVA, R.P.

Acetyl derivatives of pentaethanodiferrocene. Dokl.AN SSSR 136
no.5:1096-1098 P 161. (MIRA 14:5)

1. Institut elementoorganicheskikh sovedineniy AN SSSR.
(Iron)

OSIPOV, Konstantin Dmitriyevich; PASYNKOV, Vsevolod Vladimirovich; KOCHER-
KOVA, N.A., red.; SUKHANOV, Yu.I., red.; SMUROV, B.V., tekhn. red.

[Handbook on radio measurement devices] Spravochnik po radioizmeritel'nym priboram, Pod red. G.A.Rameza. Moskva, Izd-vo "Sovetskoe radio." Part 2. [Frequency measuring devices and instrument oscillators] Pribory dlia izmereniia chastoty i izmeritel'nye generatory. 1960. 203 p. (MIRA 1416)

(Radio measurements)

LITVINENKO, O.N.; SOSHIKOV, V.I.; FEL'D, Ya.M., prof., retsenzent;
AYZINOV, M.M., prof., retsenzent; KOCHETKOVA, N.A., red.

[Theory of nonuniform lines and their use in radio engineering] Teoriia neodnorodnykh lini i ikh primeneniye v radio-
tekhnikе. Moskva, "Sovetskoe radio," 1964. 535 p.
(MIRA 17:6)

OSIPOV, K.D.; PASYNKOV, V.V.; REMEZ, G.A., red.; COLOVANOVA, L.V.,
red.; KOCHETKOVA, N.A., red.; MUKOLEVA, T.V., red.

[Reference book on radio measuring devices] Spravochnik po
radioizmeritel'nym priboram. Pod red. G.A.Remeza. Moskva,
Sovetskoe radio. Pt.5. [Supplement] Dopolnitel'naisa.
1964. 397 p. (MIRA 17:6)

NEKRASOV, Mikhail Makarovich; KOCHETKOVA, N.A., red.

[Microminiaturization and miniature electronic equipment using nonlinear resistances] Mikrominiaturizatsia i mikroelektronika na nelineinykh soprotivleniakh. Moskva, Sovetskoe radio, 1965. 488 p.
(MIRA 18:1)

KSENZ, S.P.; GRU:ICHEV, A.S., kand. tekhn. nauk, redsentent;
KRASNOV, I.F., kand. tekhn. nauk, redsentent; GEL'FER, I.N.,
red.; KOCHETKOVA, N.A., red.

[Searching for faults in radioelectronic systems using a
functional test method] Poisk neispravnostei v radioelektron-
nykh sistemakh metodom funktsional'nykh prob. Moskva, Sovet-
skoe radio, 1965. 135 p. (MIRA 18:4)

KOCHETKOVA, N.K.; BUDOVSKIY, E.I.; SHIBAYEV, V.N.

Structure and function of nucleoside diphosphate sugars.
Biokhimiia 28 no.4:741-750 J1-Ag '63. (MIRA 18:3)

1. Institut khimii prirodnykh soyedineniy AN SSSR, Moskva.

KOCHETKOVA, N.M.

Ostracoda in the lower Kazan substage in western Bashkiria.
Vop. geol. vost. okr. Rus. platf. i Ush. Urala no.2:5-37
'59. (MIRA 12:12)
(Bashkiria--Ostracoda, Fossil)

KOCHETKOVA, N. M., CAND GEOL-MIN SCI, "UPPER PERMIAN
OSTRABODA OF WESTERN BASHKIRIA AND THEIR STRATIGRAPHIC
SIGNIFICANCE." UFA, 1960. (SARATOV STATE UNIV IN N. G.
CHERNYSHEVSKIY, MINING-GEOL INST OF ^{the} BASHKIR AFFILIATE of the
ACAD SCI USSR). (KL, 3-61, 207).

KOCHETKOVA, N.M.

Stratigraphic correlation of upper Permian sediments in western
Bashkiria based on ostracods. Vop. geol. vost. okr. Rus. platf.
i IUzh. Urala no.4:134-152 '59. (MIRA 14:6)
(Bashkiria—Geology, Stratigraphic)

S/576/61/000/000/004/020
E032/E514

AUTHORS: Kochetkova, N.M. and Rezhukhina, T.N.

TITLE: The specific heat of gallium, antimony and their intermetallic compounds at high temperatures

SOURCE: Soveshchaniye po poluprovodnikovym materialam, 4th. Voprosy metallurgii i fiziki poluprovodnikov; poluprovodnikovyye soyedineniya i tverdyye splavy. Trudy soveshchaniya. Moscow, Izd-vo AN SSSR, 1961. Akademiya nauk SSSR. Institut metallurgii imeni A. A. Baykova. Fiziko-tekhnicheskiy institut. pp.34-37

TEXT: The gallium and antimony employed was 99.99% pure (zonal recrystallization) and the compound GaSb was obtained by heating a stoichiometric combination of Ga and Sb in evacuated quartz ampoules, followed by structural X-ray analysis. It is stated that there is no published information about the specific heat of GaSb. The specific heats of the above substances were measured by the method of mixtures in a massive calorimeter in the following temperature ranges: 20-700°C (Ga and GaSb) and

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The specific heat of gallium ... S/576/61/000/000/004/020
E032/E514

The discrepancy is ascribed to the fact that Schubel did not take into account the cooling of the specimen as it drops from the furnace into the calorimeter. Heat losses by evaporation of the calorimetric liquid were not corrected for by Schubel. There are 1 table and 8 references: 4 Soviet and 4 non-Soviet.



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The specific heat of gallium ...

S/576/61/000/000/004/020
E032/E514

<u>Amount of substance</u>	<u>Temperature range, °C</u>	<u>c_p</u>	<u>Table</u>
	Галлий (Gallium)		
10,2006	315,1-20,01	0,09180	✓
	433,1-20,05	0,09120	
	512,2-20,02	0,09099	
	612,5-20,00	0,09085	
	712,0-20,02	0,09046	
	CaSb		
8,3604	312,7-20,01	0,08161	
	431,2-20,01	0,08281	
	511,9-20,00	0,08309	
	611,8-20,02	0,08407	
	707,2-20,01	0,08481	
	Сурьма (Antimony)		
7,1504	313,6-20,01	0,05108	
	433,0-20,00	0,05418	
	513,2-20,01	0,05600	
	611,7-20,00	0,05610	

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8/137/62/000/004/080/201

A052/A101

26.2532

AUTHORS: Kochetkova, N. M., Resukhina, T. N.

TITLE: The heat capacities of gallium, antimony and of their intermetallic compound at high temperatures

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 4, 1962, 6 - 7, abstract 4144 (V sb. "Vopr. metallurgii i fiz. poluprovodnikov", Moscow, AN SSSR, 1961, 34 - 37)

TEXT: The heat capacities of 99.99% pure Ga and Sb and of GaSb compound were measured by the method of mixing in a massive Cu-calorimeter in the temperature range of 20 - 590°C for Sb and of 20 - 700°C for Ga and GaSb with an accuracy of ±0.2%. The obtained values of mean heat capacities were recomputed into true specific heat capacities by the formula

$$c_p(t - 20^\circ) = \int_{20}^t c_p dt.$$

The temperature dependence of true molar heat capacity is described by the equa-

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The heat capacities of...

tions; for Ga $c_p = 6.445 - 3.72 \cdot 10^{-4} t$ cal/degree.g-atom; for Sb $c_p = 5.297 + 5.644 \cdot 10^{-3} t$ cal/degree.g-atom; for GaSb $c_p = 11.313 + 3.042 \cdot 10^{-3} t$ cal/degree.g-mole. The obtained results agree well with the published data.

L. Bystron

[Abstracter's note: Complete translation]

Card 2/2

KOCHETKOVA, N.M.

New Visean Ostracoda species in Bashkiria. Paleont. zhur. no.3:
73-81 '64. (MIRA 18:2)

1. Gorno-geologicheskii institut Bashkirskogo filiala AN SSSR.

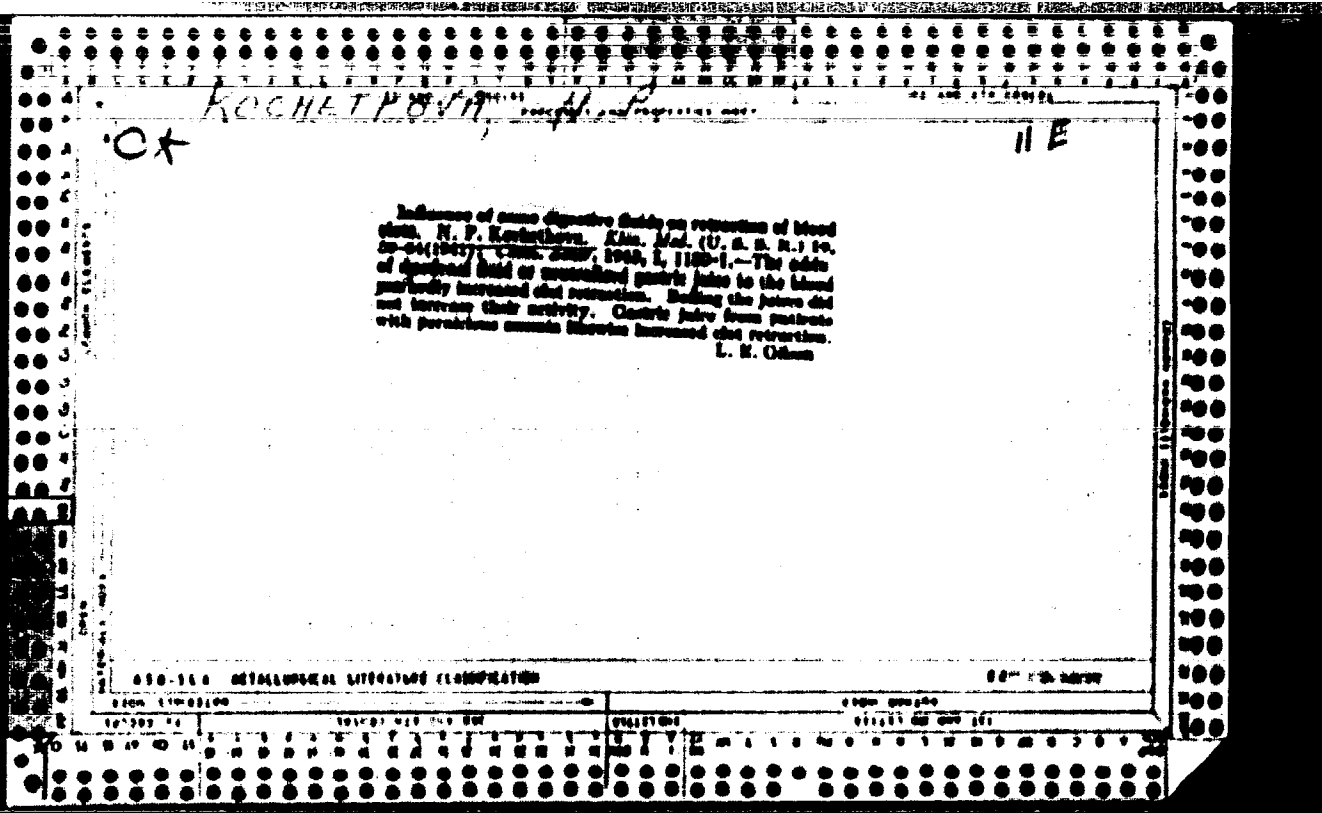
KOCHETKOVA, N.P.; ORLOVA, P.Ye.; FEDOROVA, I.A.

[Instructions of captains of vessels navigating between Southern Straits of Novaya Zemlya (Yugorski Strait, Kara Gate Strait) or Cape Mauritis and the Port of Igarka on the Yenisei River] Instruktسيا dlia kapitanov sudov o plavanii mezhdru IUaknyimi Novozemel'skimi prolivami (IUgorakim Sharom, Karakimi Vorotami) ili mysem Zhelannia i portom Igarka na reke Enisei. Moskva, 1960. 22 p.

(MIRA 14:7)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye Severnogo morskogo flota.

(Kara Sea—Navigation) (Yenisey River—Navigation)



N. F.

USSR/Pharmacology and Toxicology - Antiinflammatory Agents.

V. 8

Abs Jour : Ref Zhur - Biol., No 14, 1953, 66394

Author : Kochetkova, N.P.

Inst : -

Title : The Effects of Salicylate Therapy on Capillary Permeability in Rheumatism.

Orig Pub : V. kn.: Ocherki po sustavnoy promeayemosti. M., Medgiz. 1956, 334-349.

Abstract : When salicylates (I) were proscribed to rheumatic patients in a dosage of 6-7 g per day, there followed a decrease in capillary permeability. The experiments performed on rabbits (80) which received subcutaneous injections of blood serum from the patients who had or had not been treated with (I), as well as a mixture of hyaluronidase with a 1% solution of sodium salicylate or hyaluronidase alone given intracutaneously, have demonstrated that I are capable

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USSR/Human and Animal Physiology - The Nervous System.

T

Abs Jour : Ref Zhur Biol., No 3, 1959, 13266

Author : Kochetkova, N.P.

Inst : Novosibirsk Medical Institute - Chair of Faculty Therapy

Title : Unconditioned and Conditioned Reflex Vascular Reactions in Patients with Rheumatism with Consideration to the Role and Significance of Tonsillar and Nasopharyngeal Infections.

Orig Pub : Tr. Novosibirskogo med. in-ta, 1957, 27, 270-278

Abstract : In most of the patients (12 - 28 years of age) with a cardiac form of rheumatism in the acute phase, there was noted an unstable background by plethysmograph, intensive vascular contractive reactions to cold (6 degrees) with long aftereffects, and absence of vaso-dilative reaction to heat (42 degrees).

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SECRET KPM N.S.

Organochlorine compounds of mercury. XXVII. In-
teraction of chlorides with mercuric salts in various media.
R. Kh. Fridman and N. S. Kuchinskaya (Inst. Org. Chem.,
Acad. Sci., U.S.S.R.). *Dokl. Acad. Sci. U.S.S.R., Chem.*
ser. chem. 1949, 130-36 (in English, 130); cf. *C.A.* 20,
1837v. — The reaction of $C_2H_5HgCl_2$ in pyridine has
been investigated. An opinion about the structure of the
product is given. Dry $HgCl_2$ (7 g) and 130 cc. ethyl
pyridine were shaken for 48-60 hrs. in a vessel fitted with
 C_2H_5 under pressure of 20-40 cm. of Hg. The prod.
crystals of $C_2H_5_2NH \cdot HCl$, filtered off, washed with ether,
and recrystd. from abs. alc., m. 143°; yield 72.9%. The
filtrate, evapd. under vacuum without admitting CO_2 or
steam moisture and without heating, yielded 69.2% of crude
 $C_2H_5_2NCH_2CH_2HgCl$ (II), m. 28-30° which, when dried
over H_2SO_4 under vacuum and recrystd. from a mixt. of
abs. alc. and ether, m. 77.5-8°, decmpo. 134°. It is a
white, fine, cryst. powder, very sol. in $CHCl_3$ and benzene,
sol. in water, alc., slightly sol. in ligroin and petroleum
ether, reduced with $Na-Sn$ to 1-ethylpyridine, recovered
as a picrate, m. 167° (yield 25%). [With a mod. soln. of
KI gave quantitatively $C_2H_5_2NCH_2CH_2I$ (III), m. 100-1°
(decmpn) after purification, white, shiny plates, sol.
in alc., ether, $CHCl_3$, and benzene, insol. in water. [
with dry HCl in ether gave the HCl salt, which after
recrystn. from abs. alc., m. 128° (decmpn.), white shiny
needles, very sol. in H_2O and eq. alc., insol. in ether, $CHCl_3$,
and benzene.] In water treated with OH^- or CO_3^{2-} ,
reacts alkali or acid, with H_2S does not form a ppt. of
 HgO or HgS , resp. I and II readily give up C_2H_5 on heat-
ing or on treatment with an excess of KI or KCN. I (0.11
g.) in alc. treated with NaI , dtd. with water after 20 hrs.,
and acid. with H_2S , pptd. 0.0723 g. of HgS . The thermal
decompn. of I (HCl) was studied; 0.1400 g. of the salt gave
0.5 cc. of C_2H_6 (740 mm., 21.5°) on heating for 2 hrs. at
120-21°, 0.0004 g. heated 1 hr. at 120-6° in a stream of
 CO_2 evolved 4.3 cc. of C_2H_6 (754 mm., 20°) (78.20%);
0.0001 g. heated 1 hr. under the same conditions in a
stream of dry HCl instead of CO_2 gave 2.3 cc. of C_2H_6 (720
mm., 20°) (69%). The minimal acid salts of secondary-
mercuric compds. do not decmpn. even on boiling with
concd. mineral acids. 20 references. XXVIII. Addition
product of metal halides to unsaturated compounds. A.
N. Nodaryanov, R. Kh. Fridman, and A. E. Borkov.
Ibid. 127-44 (in English, 144). — The structure and the
configuration of *cis*- and *trans*-2-chloroethylmercuric
chloride have been studied. The authors attribute to the
salt, product of C_2H_4 and $HgCl_2$ described by Rosenell
(*Am. J. Inorg. Chem.*, 1904, 16-20) (m. 124°, sol. in
 CCl_4 0.18%), dipole moment 1.64D) a *trans* configuration
and to the generally better described by Nodaryanov and
Borkov (Part XXIX) (m. 79°, sol. in CCl_4 10%, dipole
moment 2.78D) a *cis* configuration. They explain the
quasicospecific behavior of the adducts of C_2H_4 and $HgCl_2$
by resonance, the superposition of the covalent structure
and of the ionic one in which C_2H_4 is not connected with
 Cl^- and Hg^+Cl^- . The weight of the ionic structure was

INTERNATIONAL LITERATURE CLASSIFICATION

KUCHETKOVA, N. S. Cand. Chem. Sci.

Dissertation: "Investigation of the Properties and Structure of Products
Obtained by Addition of Mercury Salts to Olefins in an Amine Medium."
Inst of Organic Chemistry, Acad Sci USSR, 13 Feb 47.

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

~~SECRET~~
 10
 1-12-(1-*isobromovariolobyl*)piperidine (1 g.) in 50 cc. dry
 Et₂O slowly treated with 0.27 g. HI in abs. EtOH gave
 the HI salt, m. 85-8°, sensitive to heat and light. MgCl₂
 (2 g.) in 50 cc. dry Et₂NH, in the previously de-
 scribed app. shaken 40-5 hrs., stirred, and the EtOH
 removed by azeo without heating, gave 2.5 g. 1-*isobro-*
*movariolobyl*dithylamine, (C₁₈H₂₇NH₂CH₂CH₂Cl), a yellow
 oil, darkening in air; with HCl in Et₂O it gave the HCl
 salt, m. 105-5.5° (from abs. EtOH).
 G. M. K.

Inst. Org. Chem., AS USSR

"APPROVED FOR RELEASE: 09/18/2001

CIA-RDP86-00513R000723510020-1

APPROVED FOR RELEASE: 09/18/2001

CIA-RDP86-00513R000723510020-1"

AUTHORS: Mesnyanov, A. N., Member of the Academy, 20-114-4-33/63
Kochetkova, N. S.

TITLE: The Synthesis of Alkylferrocenes by Friedel-Crafts Reaction
(Sintez alkilferretsenov reaktsiyey Fridelya-Kraftsa)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol. 114, Nr 4, pp. 800-802
(USSR)

ABSTRACT: The authors were the first to describe the alkylation reaction of ferrocene by haloalkyls in the presence of anhydrous chloroaluminum. The surplus of haloalkyl was used as solvent. The authors succeeded in the present work to carry out the same reaction without having to use the surplus of haloalkyl. Thereby the yield of the mono- and dialkylderivatives of the ferrocene was increased. As a solvent they used n-heptane or absolute petroleum ether (boiling point 60-80°C). By ferrocene alkylation through haloalkyls (chloromethyl, chloroisopropyl) and through unsaturated hydrocarbons (ethylene) the authors have obtained hitherto unknown alkylferrocenes: methylferrocenes whose two alkyl groups are in a nucleus of the cyclopentadiene. The isomeric alkylferrocenes were separated chromatographically over

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Kochetkova, N.S.

AUTHORS: Nesmeyanov, A. N., Academician, and
Kochetkova, N. S.

20-1-24/42

TITLE: A Note on Ferrocene Homologues with a Tertiary Alkyl Radical (Zamelegi ferrotsena s tretichnym alkil'nym radikalom)

PERIODICAL: Doklady AN SSSR, 1957, Vol. 117, Nr 1, pp. 92-94 (USSR)

ABSTRACT: Among the number of alkyl-ferrocenes, which have been known up to now, a series of monoalkyl homologues (C_1 to C_5) were produced, and furthermore di- and polyalkyl homologues. The infrared spectra indicate, that the dialkylferrocenes contain both alkyl substituents in the same cyclopentadiene ring. In the present paper isobutylene was employed apart from haloidalkyles for the purpose of alkylizing. According to the conditions, which were selected, up to 50 % of monotertiary butylferrocene (at a total rate of production of alkylized products of 30 %, table 2) were obtained. Tertiary butylferrocene, di-tertiary butylferrocene and di-tertiary amylferrocene each contain a free cyclopentadiene ring and show characteristic frequencies in the range of $1003 - 1107 \text{ cm}^{-1}$.

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A Note on Ferrocene Homologues with a Tertiary Alkyl Radical

A comparison of the values found for molecular refraction shows, that in the homologous series of alkylferrocenes a habitual additivity ("additivnost") of molecular refraction occurs (table 1). This is in accordance with an almost complete identity of the absorption curves in the ultraviolet range as well of the ferrocene itself as of its homologues. The difference between the molecular refraction found here and the sum of the atomic refractions of C and H in the ferrocene homologues fluctuates between 13,58 and 13,69 (13,74 on the average). It comprises the atomic refractions of iron and the increment of the ferrocene structure (of combinations and others) and, on certain conditions, may be called ferrocene-increment. This value in the case of ferrocene yields a computed molecular refraction of 48,91 (not 46,8, as according to reference 3). No statements can be made concerning the stability of this value in the case of other ferrocene derivatives. There follows an experimental part with the usual data. There are 1 figures, 2 tables, and 4 references, 3 of which are Slavic.

Card ~~25~~

The Interaction of Ferrocene With Olefines

62-2-23/28

tain tri-*t*-butylferrocene (43,5%), melting point 88°C and tetra-*t*-butylferrocene (21,4%), boiling point 195-200°C. The measurement of the IR-spectra of tri-*i*-butylferrocene and tetra-*t*-butylferrocene showed the absence of the characteristic frequencies within the range of 1000 and 1107 cm^{-1} ; consequently alkyl groups exist in these substances in both nuclei of cyclopentadiene. The IR-spectrum of pentamethylferrocene, however, shows the characteristic frequencies within the range of 1003 and 1107 cm^{-1} , and thus combines all 5 methyl-groups in one nucleus of cyclopentadiene. There are 3 Slavic references.

ASSOCIATION: Institute for Element-Organic Compounds AN USSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR)

SUBMITTED: October 5, 1957

AVAILABLE: Library of Congress

1. Ferrocene-Exchange reactions
2. Olefines-Exchange reactions
3. Aluminum chloride catalyst-Applications

Card 2/2

5 (3)

AUTHORS:

Mesnyanov, A. N., Academician,
Kochetkova, N. S.

SOV/20-126-2-22/64

TITLE:

Pentaethano-diferrocene (Pentaetanodiferrotsen)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 126, Nr 2,
pp 307-309 (USSR)

ABSTRACT:

The authors have realized the reciprocal effect of ferrocene with a great excess of 1,2-dichloro ethano without foreign solution. This forms a continuation of the study of ferrocene alkylation under the conditions of the Friedel-Crafts reaction with halogen-alkyls and alkylenes. Now, instead of diferrocenyl-ethane and relatively high molecular resins (which have a structure of several ferrocene nuclei, due to there being connected by $\text{CH}_2\text{-CH}_2$ -bridges) they obtained a series of polyethane-polyferrocenes. These contained no halogen, are soluble in chloroform and benzene, but not in methanol. They differ from each other by their solubility in ether. This different solubility was utilized in separating the reaction mass in individual substances. The substance with the least molecular weight, with a decomposition-temperature of 130° ,

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Pentaethano-diferrocene

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contained, according to the analysis, 2 ferrocene nuclei and 5 ethane bridges. Its molecular weight proved, that it was the substance named in the title. According to the infra-red spectrum, this substance can only have the structure of model (I). A further proof is the density, compared with ferrocene, which indicates a very dense packing of the carbon atoms in molecule. The substance under review at room temperature exhibits no Debyeogram of a crystalline substance. This can be caused by an arbitrary mutual orientation of the tun-shaped molecules along along axis. Time consuming investigations will be necessary to prove the structure of the aforementioned substance chemically. According to provisional results, its brominating lead to pentabromo-cyclopentane. The polyethane-ferrocenes, with a higher (about 1000 and 2000) molecular weight can be isolated through fractionated precipitation with methanol. They are less soluble in ether and contain 4 or 8 ferrocene residues. According to the analysis they are closely connected to the firstmentioned substance and produce possibly 2 and 4 similar molecules which are bound by ethane bridges. This is confirmed by infra-red spectra. There follows, finally, an experimental part, entitled **F e r r o c e n e**

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Pentaethano-diferrocene

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and Dichloroethane. The theoretical calculation of the density of the substance I was made by O. V. Starovskiy, under the supervision of Prof. A. I. Kitaygorodskiy. Infra-red spectra were measured by N. A. Chumayevskiy in the laboratory of I. V. Obreimov, Academician. There are 1 figure and 4 references, 3 of which are Soviet.

ASSOCIATION: Institut elementoorganicheskikh soedineniy Akademii nauk SSSR
(Institute of Elemental-organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: January 8, 1959

Card 3/3

53700

28738
S/026/61/000/011/004/004
D038/D113

AUTHORS: Kochetkova, N.S., Materikova, R.B., and Slinkin, A.A.

TITLE: Ferrocene

PERIODICAL: Priroda, no. 11, 1961, 98-100

TEXT: This article deals with the structure and application of various aromatic compounds, particularly ferrocene. Scientists from many countries, including A.N. Nesmeyanov of the USSR, are mentioned in connection with the development of ferrocene - a diamagnetic organometallic compound with a dipole moment equal to 0. X-ray analyses have shown that, in the ferrocene molecule, the iron atom is in the mean position between the cyclopentadienyl radicals lying in parallel planes, the carbon atoms of the upper ring being located above the gaps between the carbon atoms of the lower ring. Two horizontal five-membered rings with aligned CC and CH bonds rotate in parallel planes around the central iron atom, which is similarly connected with all ten carbon atoms. Nickelocene, cobaltocene and other similar compounds are likewise constructed. In the last few years, a sufficiently accurate idea of the electronic structure of these compounds was originated. In investigating the chemical properties of ferrocene, it can be readily seen that, in many reactions, the metal does not expose itself in the molecule and the reaction passes along the
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Ferrocene

26732
S/026/61/000/011/004/004
D038/D113

molecule's organic part. Like benzene, ferrocene is capable of substitution reactions of its own hydrogen atoms. Not all the metallocenes are as resistant to oxidation as ferrocene; nickelcene, cobaltocene and other "cenes" are resistant only in the form of cations which do not induce reactions characteristic of aromatic compounds, whilst in the form of neutral compounds they exist only in very pure nitrogen and are very sensitive to oxidation. Cyclopentadienyl rings can be connected with the central atom of the metal not only covalently with the formation of multicentric orbits, but also with the ion bond. Dicyclopentadienylmanganese is so constructed. Many so-called compound metallocenes are now known, which have only one cyclopentadienyl radical in the molecule, the second ring being composed of CO, NO groups, etc, containing π -electrons. Similar to metallocenes are a class of "areny", where the central atom of the metal is connected with two benzene rings, parallel to one another - for example, dibenzolchrome. Discussing the various applications of ferrocene and other metallocenes, the author states that these compounds are still in too early a stage of development to talk of their wide application; however, "cenes" and other substances are used as antidetonators. Several are anti-burn substances - in their presence metals are more resistant to the effect of fire and high temperatures. Ferrocene is used in the redox polymerization of styrol, whilst a similar titanium compound is the component part of a catalyzer for obtaining polythene. Soluble ferrocene derivatives can be used for pharmaceutical pur-

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Ferrocene

28738
S/026/61/000/011/004/004
D038/D113

poses. Data have been collected on heat-resistant ferrocene derivatives containing both iron and silicon atoms in their molecules. The chemistry of benzene, naphthalene, anthracene and other aromatic systems is being developed for similar purposes. In the very near future, new aromatic systems will come into being; the differences in their properties will depend not only on the difference in the substitution products but also in the central atoms of the metals which constitute the heart of the molecule. There are 6 figures.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy AN SSSR /Moskva/ (Institute of Elemental Organic Compounds of the AS USSR/Moscow/).

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5.3700

2209.1273, 1164

20359
S/020/61/136/005/017/032
B103/B208

AUTHORS: Nesmeyanov, A. N., Academician, Kochetkova, N. S.,
and Materikova, R. B.

TITLE: Acetyl derivatives of pentaethane diferrocene

PERIODICAL: Doklady Akademii nauk SSSR, v. 136, no. 5, 1961, 1096-1098

TEXT: The authors correct the composition of the substance previously termed "diferrocenyl ethane" by them (Ref. 1) (melting point 135°C). Actually, this is a mixture of isomers: diferrocenyl ethane-1,1 (melting point 147-149°C), and diferrocenyl ethane-1,2 (melting point 192-192.5°C, small quantity). This mixture was obtained by reacting ferrocene with 1,2-dichloro ethane in the presence of anhydrous $AlCl_3$ (in addition to pentaethane diferrocene, PEDF). The authors were able to isolate the isomers by a modified treatment of the reaction products, i.e., after chromatographic purification on aluminum oxide in benzene - n-heptane mixture (1:1). Diferrocenyl ethane-1,2 is identical with that obtained by A. N. Nesmeyanov and I. I. Kritskaya (Refs. 4, 5), and

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S/020/61/136/005/017/032
B103/B208

Acetyl derivatives of pentaethane ...

A. N. Nesmeyanov, E. G. Perevalova, and Yu. T. Ustynyuk (Ref. 6). The authors further correct the confusion (Refs. 4,5,9,10) of the condensation product of formaldehyde with ferrocene with a substance of the

structure $C_{10}H_8Fe$  (see Ref. 11). Actually, this

condensation product was 1,2-diferrocenyl ethane. The authors acylated PEDF (Ref. 2) with acetic anhydride in the presence of 85% phosphoric acid, and obtained monoacetyl PEDF. This is a yellow powder, well soluble in alcohol, acetone, and benzene, slightly soluble in water and ether. Acylation by acetyl chloride in the presence of anhydrous aluminum chloride in methylene chloride (as the solvent) gave diacetyl PEDF and several polyacetyl PEDF. The former is an orange-yellow powder, and was recrystallized from n-heptane. The authors found that these acylation results confirm the structure of PEDF previously assumed by them. N. A. Chumayevskiy studied the infrared spectra of the afore-mentioned acetyl derivatives. They disclosed a carbonyl group, and a free

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Acetyl derivatives of pentaethane ...

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ferrocene ring in monoacetyl PEDF. Diacetyl PEDF also contains the carbonyl group, but its two acetyl groups belong to two different rings of PEDF. The presence of two non-substituted rings in PEDF is thus thought to be confirmed. Both PEDF and its acetyl derivatives are amorphous, and have no distinct melting point. On heating, they gradually darken, and soften at 100°C. The heating curve taken with Kurnakov's ПК-55 (PK-55) pyrometer up to 200°C reveals neither exothermal nor endothermal effects. V. M. Koshin and Ye. I. Yarembash are thanked for thermographic measurements. Yu. Yu. Samitov determined the spectra of nuclear magnetic resonance, which indicate an absence of methyl groups in PEDF. There are 1 figure, 1 table, and 11 references: 6 Soviet-bloc and 5 non-Soviet-bloc.

ASSOCIATION: Institut elementoorganicheskikh sovedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds, Academy of Sciences, USSR)

SUBMITTED: November 9, 1960

Card 3/3

5

15 8114 2209
24 3600 (1035, 1138, 1482)

8/020/61/137/006/013/020
B103/B217

AUTHORS: Nesmeyanov, A. N., Academician, Korshak, V. T., Corresponding Member AS USSR, Voyevodskiy, V. V., Corresponding Member AS USSR, Kochetkova, N. S., Sosin, S. L., Materikova, R. B., Bolotnikova, T. N., Chibrikov, V. M., and Bashin, N. M.

TITLE: Synthesis and some optical-magnetic properties of polyferrocenes

PERIODICAL: Doklady Akademii nauk SSSR, v. 137, no. 6, 1961, 1370-1373

TEXT: The authors studied the magnetic properties of ferrocene derivatives: 1) of the polyferrocenylenes (Table 1, nos. 1-6), 2) the polydiisopropylferrocene (Table 1, nos. 7-8), 3) the polymethano- and 4) the polyethanopolyferrocenes (Table 1, nos. 9-13). They were synthesized by: A) Polyrecombination. To 1) and 2). 1 mole ferrocene (or of its diisopropyl homolog) was treated with 1 mole tertiary butyl peroxide in nitrogen atmosphere at 200°C. 1) and 2) are assumed to be formed as follows: the Butoxyl and methyl radicals formed during peroxide decomposition separate the hydrogen from ferrocene (or the α -hydrogen). The radicals thus formed

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S/020/617137/006/013/020
B103/B217

Synthesis and some ...

recombine and form linear 1) or 2), easily soluble in benzene. An insoluble polymer (Table 1, nos. 5-6) with a two- or tridimensional network structure is formed simultaneously. The conversion of ferrocene to high-molecular products amounted to 25%. Nos. 1-3 have a softening temperature of 290-300°C and are a dark-red powder, whereas nos. 5-6 had their softening temperature at about 400°C and were light-yellow. B) Polyalkylation of ferrocene by methylene chloride and 1,2-dichloroethane in the presence of anhydrous aluminum chloride. Aluminum chloride solution in 50 ml of dihalogen alkane was added gradually to 40 g ferrocene dissolved in 250 ml dry dihalogen alkane. The mixture was stirred for 6 hr at the boiling temperature of the solvent. The next day, 10 g aluminum chloride in 25 ml dihalogen alkane were added and treated for 6 hr as above. The mixture was decomposed by ice and HCl and treated with sodium sulfite. The obtained 3) and 4) were well soluble in benzene, differed, however, by their solubility in ether. Table 1 shows the molecular weights, the always equal g-factor and the magnetic characteristics of all substances produced. The decomposition temperature of 9-13 was 115-120°C. All substances are amorphous powders, nos. 9 and 10 light-yellow, no. 11 grey-brown. Nos. 10 and 11 are of a chemical composition similar to that of no. 9 (pentaethanodiferrocene).

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B103/B217

Synthesis and some ...

They consist possibly of 2 and 4 molecules similar to the latter, connected by ethane bridges. 4-5 methylenes in the molecule of nos. 12 and 13 belong to 2 ferrocene radicals. They do not contain halogen. The infrared spectra of nos. 9-13 have frequencies within the range $1000-1100\text{ cm}^{-1}$. To 1). Derivatives 1) having a π -conjugation between the ferrocene links give a signal the electron paramagnetic resonance (e-p-r), similarly to the polyaromatic hydrocarbons. This cannot be explained by the presence of a corresponding quantity of the oxidised form of the ferricinium cation. Table 1 shows that also polymers in which the ferrocene links are separated by the $-\text{CH}_2-\text{CH}_2-$ group give an e. p. r. signal. It is known that the delocalisation of the unpaired electrons between the two phenyl rings is not prevented by this group. In the substances described here, which give an e. p. r. signal, this signal is the smaller, the smaller the number of ferrocene links is. This signal vanishes in 2). Polymers with a low molecular weight give no e. p. r. signal in the solution (benzene), but in solid state. This is explained by the fact that the intramolecular interactions cause in solid state a conjugation of the adjacent polymer molecules. This causes for its part an e. p. r. signal. All polymers

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B103/B217

Synthesis and some ...

giving this signal show a single symmetrical line of the e. p. r. of the Lorens type. The 1) obtained from the reaction A yields a wide e. p. r. line of 120-160 oersteds, its width being dependent on the polymer structure. This line becomes broader on reducing the measuring temperature. Its width is changed most considerably in low-molecular polymers. The authors believe the nature of the measured signals to be unclarified, they cannot maintain that the number N of the unpaired electrons per 1 member, determined by a comparison with the standard, corresponds to their actual number. N may, however, be a certain characteristic of the magnetic properties of the system. (nos. 2-4). N reaches an anomalous size in the insoluble polymer no. 5. This is assumed to be connected with a collective effect of the ferromagnetic type. The ultraviolet (UV-) spectra of 1) dissolved in n-octane, which give an e. p. r. signal in solid state, differ from the ultraviolet spectra of such that give no signal in solid state. In the first case the UV-spectrum agrees completely with that of ferrocene dissolved in CCl_4 . It was proved for these spectra (Ref. 7) that the charge transfer takes place here under formation of an ion pair $Fe^+CCl_4^-$. On the contrary, the UV-spectrum of such 1) that give no e. p. r. signal is similar

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8/020/61/137/006/013/020
B103/B217

Synthesis and some ...

to that of ferrocene in a neutral solvent (n-octane), i. e. under conditions under which the charge is not transferred. Finally, the authors point out that their results concerning the UV-spectra apparently confirm the "pseudoferrromagnetism" of the polynucleotides and of the polyaromatic hydrocarbons (Refs. 5 and 8). There are 1 figure, 1 table, and 8 references: 7 Soviet-bloc and 1 non-Soviet-bloc. The only reference to English-language publication reads as follows: J. C. D. Brand. Ref. 7: Trans. Farad. Soc., 53, 894, 1957.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR
(Institute of Elemental-organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: December 20, 1960

Legend to Table 1. I) Current number, 1-4) linear polyferrocenylene, 5-6) insoluble polyferrocenylene, 7) polydiisopropylferrocene, linear, 8) like 7, insoluble, 9-11) condensation products of ferrocene with Di-1,2-chloroethane, 12-13) with methylene chloride, 14) ferricinium cation. II) Substance, III) molecular weight, IV) g-factor, V-VI) line width, oersted

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NESMEYANOV, A.N., akademik; RUBINSHTEYN, A.M.; SLOVINSKIY, O.I.; SLIKIN,
A.A.; KOCHETKOVA, N.S.; MATENIKOVA, R.B.

Magnetic susceptibility of polyalkenopolyferrocenes and polyferro-
cenylenes. Dokl.AN SSSR 138 no.1:125-126 My-Je '61.
(MIRA 14:4)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Ferrocene--Magnetic properties)

NESMEYANOV, A.N., akademik; VIL'CHEVSKAYA, V.D.; KOCHETKOVA, N.S.

o-Carboxybenzoylferrocene reactions. Dokl.AN SSSR 138 no.2:390-392
№ '61. (MIRA 14:5)

1. Institut elementoorganicheskikh soyeineniy Akademii nauk SSSR.
(Ferrocene)

S/062/62/000/011/002/021
B101/B144

AUTHORS: Mesneyanov, A. N., Kursanov, D. N., Setkina, V. N.,
Kislyakova, N. V., and Kochetkova, N. S.

TITLE: Study of hydrogen exchange in nonbenzoidic aromatic systems
(cenes). Communication 1. Hydrogen exchange of ferrocene,
and mono- and diacetyl ferrocene, with acids

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh
nauk, no. 11, 1962, 1932 - 1936

TEXT: An investigation was made of the hydrogen exchange between the following, dissolved in benzene: ferrocene, acetyl ferrocene, diacetyl ferrocene, or toluene and trifluoro deuterio acetic acid at 25°C, and of ferrocene with deuterio sulfuric acid. In acetylated ferrocenes, the deuterium added on the acetyl group was removed by 160 - 170 hrs standing in 10% alcoholic KOH solution, and the amount of deuterium added on the cyclopentadienyl rings was determined from the density of the water obtained when the compound was burned. The compound : acid : benzene ratio was 1 : 3 : 20. Experiments with CF_3COOD gave the following rate constants

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S/062/62/000/011/002/021
B101/B144

Study of hydrogen exchange in...

for the exchange reaction (sec^{-1}): ferrocene $1.6 \cdot 10^{-4}$; acetyl ferrocene $1.5 \cdot 10^{-7}$; diacetyl ferrocene $7.7 \cdot 10^{-8}$; toluene $3 \cdot 10^{-8}$. Under the given conditions, benzene did not react with CF_3COOD . A 50% hydrogen exchange between ferrocene and D_2SO_4 occurred after 5 min. But no isotopic equilibrium was established because part of the ferrocene oxidizes to ferricinium ion, which does not react with D_2SO_4 , as has been shown by special experiments. On the other hand, deuterium phosphoric acid had no oxidising action; here the exchange proceeded until reaching equilibrium. There are 6 tables.

ASSOCIATION: Institut elementoorganicheskikh sovedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences USSR)

SUBMITTED: March 28, 1962

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S/062/62/000/011/003/021
B101/B144

AUTHORS: Mesmeyanov, A. N., Kochetkova, N. S., Yil'chevskaya, V. D.,
Sheynker, Yu. N., Senyavina, L. B., and Struchkova, M. I.

TITLE: o-Carboxy- and o-hydroxy benzoyl ferrocenes and their
derivatives

PERIODICAL: Akademiya nauk SSSR. - Izvestiya. Otdeleniye khimicheskikh
nauk, no. 11, 1962, 1990 - 1996

TEXT: The IR and UV spectra of the following compounds were studied:
o-carboxy benzoyl ferrocene (A); o-hydroxy benzoyl ferrocene (B) synthesized
from salicyl chloride and ferrocene in the presence of $AlCl_3$ in CH_2Cl_2
solution at 45 - 50°C; o-methoxy benzoyl ferrocene (C) obtained by
methylating B with dimethyl sulfate, yield 96%; o-acetoxy benzoyl ferrocene
(D) obtained by acetylating B with acetic anhydride, yield 95%; o-hydroxy
benzyl ferrocene (E) obtained by reducing B with zinc amalgam, yield 77%;
o-methoxy benzyl ferrocene (F) obtained by methylating E with dimethyl
sulfate, yield 94%; o-hydroxy phenyl ferrocenyl carbinol (G) obtained by
reducing B with $LiAlH_4$, yield 90%; and o-methoxy ferrocenyl carbinol (H)

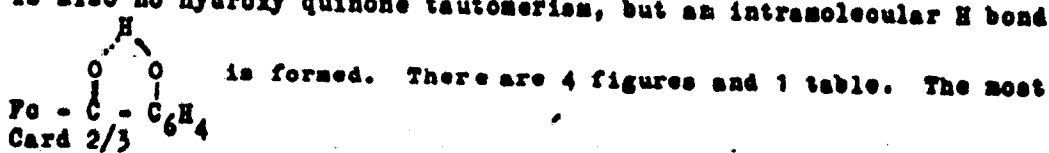
Card 1/3

o-Carboxy- and o-hydroxy...

S/062/62/000/011/005/021
B101/B144

obtained by methylating O with dimethyl sulfate, yield 93%. Ethers of the type $C_{10}H_9Fe-CH(OR)-C_6H_4OH$ were obtained by recrystallizing O in the corresponding alcohols. For R = CH_3 , the m.p. was 119 - 120°C, the yield 89%; for R = C_2H_5 , m.p. 117°C, yield 94%; and for R = $i-C_3H_7$, m.p. 79-80°C, yield 89%. The spectroscopic studies showed: (1) Both the crystallized and the dissolved A showed no tautomerism by ring closure. The structure of A is therefore open: $Fe-CO-C_6H_4$, (Fe = ferrocenyl), although in an

earlier study (Dokl. AN SSSR, 138, 390 (1961)) derivatives of the tautomeric form $Fe-C-C_6H_4$ were also synthesized from this compound. (2) With B there is also no hydroxy quinone tautomerism, but an intramolecular H bond



o-Carboxy- and o-hydroxy...

S/062/62/000/011/005/021
B101/B144

important English-language reference is: R. L. Schaaf, J. Organ. Chem.,
27, 107 (1962).

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk
SSSR (Institute of Elemental Organic Compounds of the
Academy of Sciences USSR). Institut khimii prirodnykh
soyedineniy Akademii nauk SSSR (Institute of Chemistry of
Naturally Occurring Compounds of the Academy of Sciences USSR)

SUBMITTED: April 4, 1962

Card 3/3

NESMEYANOV, A.N., akademik; KURSANOV, D.N.; SETKINA, V.N.; KISLYAKOVA, N.V.;
KOCHETKOVA, N.B.; MATRIKOVA, R.B.

Hydrogen isotope exchange of cyclopentadienylmanganetricarbonyl.
Dokl. AN SSSR 143 no.2:351-353 Hr '62. (MIRA 15:3)

1. Institut elemento-organicheskikh soyedineniy AN SSSR. 2. Chlen-
korrespondent AN SSSR (for Kursanov).
(Hydrogen--Isotopes)
(Cyclopentadiene)

KESMEYANOV, A.M., akademik; KOCHETKOVA, N.S.; MATRIKOVA, R.B.

Scission of cyclopentadienyl compounds of metals by
bromine and potassium hypobromite: Dokl. AN SSSR 147
no.1:113-116 N '62. (MIRA 15:11)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Organometallic compounds)
(Cyclopentadiene) (Bromine)

RESMEYANOV, A.N.; MATERIKOVA, R.B.; KOCHETKOVA, H.S.

Preparation of cyclopentadienyl metals via cyclopentadienyl thallium.
Izv. AN SSSR. Ser.khim. no.7:1334-1336 JI '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Organometallic compounds)
(Cyclopentadiene)

S/020/63/149/001/013/023
B144/B186

AUTHORS: Yavorskiy, B. M., Kochetkova, N. S., Zaslavskaya, G. B.,
Nesmeyanov, A. N., Academician

TITLE: Absorption spectra of some ferrocene derivatives

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 149, no. 1, 1965,
111-113

TEXT: Absorption spectra were taken of acyl and alkyl ferrocene derivatives dissolved in isooctane. Results: 1) The break at 520 m μ described by D. R. Scott, E. S. Bucher (J. Chem. Phys., 35, 516 (1961)) was not observed. 2) An almost complete conformity was detected in the absorption spectra (280 - 600 m μ) of: a) normal monosubstituted ferrocene homologs, such as monoethyl and mono-n-propyl ferrocene; b) normal heterocyclic disubstituted ferrocene homologs, such as 1,1'-diethyl and 1,1'-di-n-propyl ferrocene; c) normal monosubstituted acyl derivatives of ferrocene, such as monoacetyl, monopropionyl and mono-n-butyryl ferrocene; d) normal heterocyclic diacyl derivatives of ferrocene, such as 1,1'-diacetyl, 1,1'-dipropionyl and 1,1'-di-n-butyryl ferrocene. 3) The

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S/020/63/149/001/013/023
B144/B180

Absorption spectra of some ...

spectra of the heterocyclic disubstituted ferrocene derivatives differed from those of the corresponding monosubstituted compounds in the position as well as in the intensity of the absorption bands. 4) The absorption spectra depend on the nature of the substituting group: a) The difference between the absorption bands of ferrocene and its alkyl homologs is only slight. An insignificant hypsochrome shift of the 440 m μ band was observed together with an increase in its intensity in the order ferrocene - normal alkyl ferrocenes - normal heterocyclic dialkyl ferrocenes; b) In the spectra of ferrocene compounds with electron-acceptor substituents (monoacyl and heterocyclic diacyl ferrocene derivatives) a marked bathochrome shift of the 440 m μ band was observed; the intensity of this band increased in the order ferrocene - monoacyl derivatives - heterocyclic diacyl derivatives. Instead of the 325 m μ band of ferrocene, a band was detected at 318 m μ ; the break was located at 356 m μ . A further study will deal with homocyclic ferrocene derivatives. There are 2 figures and 2 tables.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences USSR)

Card 2/3

Absorption spectra of some ...

8/020/63/149/001/013/023
B144/B186

SUBMITTED: December 1, 1962

Card 3/3

NESMEYANOV, A.N., akademik; KOCHETKOVA, M.S.; PETROVSKIY, P.V.; FEDIN, E.I.

Pentaethanodiferrocene. Dokl. AN SSSR 152 no.4:875-878 O '63.
(MIRA 16:11)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

NESMEYANOV, A.N.; VIL'CHEVSKAYA, V.D.; KOCHETKOVA, N.S.; PALITSYN, N.P.

Synthesis of phosphorus-containing derivatives of ferrocene.
Izv. AN SSSR. Ser. Khim. no.11:2051-2052 N '63. (MIRA 17:1)

1. Institut elementorganicheskikh soedineniy AN SSSR.

NESMEYANOV, A.N., akademik; VIL'CHEVSKAYA, V.D.; KOCHETKOVA, N.S.

Synthesis of 1-ferrocenyol-2-carbomethoxyethylene. Dokl. AN SSSR
152 no.3:627-628 3 '63. (MIRA 16:12)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

33283-66 EWP(1)/EWT(m) FM

ACC NR: AR6017230

SOURCE CODE: UR/0058/65/000/012/DO27/DO27

AUTHORS: Yavorskiy, B. M.; Zaslavskaya, G. B.; Kochetkova, N. S.; Nesmeyanov, A. N.

TITLE: Absorption spectra of certain derivatives of ferrocene 1

39
B

SOURCE: Ref. zh. Fizika, Abs. 12D218

REF SOURCE: Tr. Komis. po spektroskopii. AN SSSR, t. 3, vyp. 1, 1964, 350-354

TOPIC TAGS: absorption spectrum, ferrocene, absorption band

ABSTRACT: The authors investigated the absorption spectra of ferrocene, of its alkyl and acyl derivatives in the region 300—180 nm, and also the absorption spectra of carboxylic acids of ferrocene and their ethers in the 180-230 nm region. The oscillator strengths of all the investigated bands are calculated for absorption. Earlier deductions concerning the position of the bands and the laws governing their shifts are confirmed. [Translation of abstract]

SUB CODE: 20 ,07/

Card 1/1 *ply*

ACCESSION NR: AP4035814

S/0020/64/156/001/0099/0101

AUTHOR: Mesnyanov, A. M. (Academician); Kochetkova, N. S.; Vitt, S. V.;
Bondarev, V. B.; Kovshov, Ye. I.

TITLE: Alkylation of ferrocenes

SOURCE: AN SSSR. Doklady*, v. 156, no. 1, 1964, 99-101

TOPIC TAGS: ferrocene, alkylation, Friedel Crafts, ethylferrocene, diethylferrocene, triethylferrocene, tert butylferrocene, butyl ferrocene, preparation, IR spectra, NMR spectra

ABSTRACT: In this work ferrocenes were alkylated to give 80-90% yields, in comparison with the Friedel Crafts methods which give 20-30% of alkylates. Ferrocene was reacted with ethylbromide in the presence of equimolar amounts of $AlCl_3$ and $LiAlH_4$ in n-heptane; the reaction products were water extracted and the organic portion subjected to vacuum distillation. The 100-130C (at 1 mm Hg) fraction contained ethylferrocene and isomers of diethylferrocene, and the 130-150C/1mm fraction contained a mixture of isomeric triethylferrocenes. Mono-, di-, tri- and tetra-tert-butylferrocenes were similarly prepared. IR and NMR

Card 1/2

NESMEYANOV, A.N., akademik; DVORIANITSEVA, G.O.; KOCHETKOVA, R.S.;
MATERIKOVA, R.B.; SHEYKER, Yu.N.

Properties and structure of dicyclopentadienylmercury. Dokl.
AN SSSR 159 no.4:847-850 D '64 (MIRA 18:1)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

EFF (j)/BWP(j)/EWT(m) Ps-4/Pr-4 25-

NR AP5006855

08 11 1960 004 08 11 1960

Hebryanov, A. N. Academician Yuryevich

APPROVED FOR RELEASE: 09/18/2001

I 21783-66 EWI(a)/EWP(j) RM
ACC NR: AP6002867 (A) SOURCE CODE: UR/0286/65/000/024/0026/0027

AUTHORS: Nesmeyanov, A. N.; Vili'chevskaya, V. D.; Kochetkova, N. S.; Gorelikova, Yu. Yu.

ORG: none

TITLE: A method for obtaining ferroceneanthraquinone. Class 12, No. 176923
/announced by Institute for Heteroorganic Compounds, AN SSSR (Institut
elementoorganicheskikh soedineniy AN SSSR)/

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 26-27

TOPIC TAGS: ferrocene, dye chemical, organic chemistry

ABSTRACT: This Author Certificate describes a preparative method for ferrocene-
anthraquinone in the form of

The diagram shows the chemical structure of ferroceneanthraquinone. It consists of a ferrocene core, which is two cyclopentadienyl rings sandwiching an iron atom. Attached to one of the rings is an anthraquinone group, represented as a fused ring system with two carbonyl groups.

Card 1/2 UDC: 247.673.419.6.07

1 21783-66

ACC NR: AP6002867

To obtain a product useful for dyeing¹⁵ wool, silk, and artificial fibers, the ferroceneanthrone is reacted with a manganese dioxide suspension in benzene. Orig. art. has: 1 formula.

SUB CODE: 07/ SUBM DATE: 19Mar65

Card 2/2 ULR

NESMEYANOV, A.N., akademik; MATRIKOVA, R.B.; KUC ETKOVA, N.S.; TSUPGOZEN, L.A.

Salts of 1,1'-dialkylcobalticinium. Dokl. AN SSSR 160 no.1:137-138
Ja '65. (MIRA 18:2)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

NEBMEYANOV, A.N., akademik; YATORSKIY, B.M.; ZASLAVSKIY, G.B.; POCHETKOVA,
N.S.

Absorption spectra of some ferrocene derivatives. Izv. AN SSSR
160 no.4:837-840 F '65. (MIRA 18:2)

1. Institut elementoorganichesk kh soedineniy AN SSSR.

... aqueous solutions ...
... H_2SO_4 , triferrocenyphosphine oxide decomposes to form diferrocenyl-
... This case detachment of only one ferrocenyl radical is unique

"APPROVED FOR RELEASE: 09/18/2001

CIA-RDP86-00513R000723510020-1

AP5007566

APPROVED FOR RELEASE: 09/18/2001

CIA-RDP86-00513R000723510020-1"

NESMEYANOV, A.N., akademik; VIL'CHEVSKAYA, V.D.; KOCHETKOVA, N.S.

Reactions of α -carboxybenzoylferrocenes. Dokl. AN SSSR 165
no.4:835-837 D '65. (MIRA 18:12)

1. Institut elementoorganicheskikh soedineniy AN SSSR.

L 35314-66 EWT(m)/EWP(j) RM

ACC NR: AP6026889

SOURCE CODE: UR/0020/65/165/004/0835/0837

AUTHOR: Nesmeyanov, A. N.; Vil'chevskaya, V. D.; Kochetkova, N. S.

ORG: Institute of Organometallic Compounds, AN SSSR (Institut elementoorganicheskikh sovedineniy AN SSSR)

TITLE: Reactions of *o*-carboxybenzoylferrocene¹

SOURCE: AN SSSR. Doklady, v. 165, no. 4, 1965, 835-837

TOPIC TAGS: ferrocene, phenol, phosphoric acid, cation, chemical reaction, molecular structure, IR spectrum, phosphorus chloride, IR analysis

ABSTRACT: A study was made of the reactions between *o*-carboxybenzoylferrocene and nucleophilic reagents such as thiophenol and phenol in the presence of phosphoric acid. This results in the formation of 3- and 0-substituted and 3-ferrocenyl phthalides. An attempt to accomplish these reactions in the absence of H₃PO₄ was fruitless. Evidently, the first stage of the reaction is the formation of an alpha-ferrocenylmethyl cation, with subsequent attack of the cationic center by the nucleophilic agent. This reaction is a new example of the alpha-ferrocenylmethyl cation reaction. The structure of 3-ferrocenyl-3-thiophenylphthalide has been confirmed by the findings of ultimate analysis as well as IR spectral data. The IR spectrum of this substance contains frequencies in the regions of 1000, 1107, and 1785 cm⁻¹. Thus, the presence of a lactone ring may be considered proved. This was first concluded theoretically during a study of the reaction between *o*-carboxybenzoylferrocene and phosphorus trichloride, which yielded a substance resembling Boyde's acid chloride and believed to contain a free cyclopentadienyl nucleus and a lactone ring.

JPRS: 36,455

SUB CODE: 07, 20/ SUBM DATE: 07Jun65/ ORIG REF: 004/ OTH REF: 001

Card 1/1

UDC: 547.213.07

L 36506-66 E-T(m)/EMP(J) RW

ACC NR: AP6017882

(A)

SOURCE CODE: UR/0062/66/000/005/0938/0940

AUTHOR: Nesmeyanov, A. N.; Vil'chevskaya, V. D.; Kochetkova, M. S.ORG: Institute of Organometallic Compounds, Academy of Sciences, SSSR (Institut elementoorganicheskikh sovedineniy Akademii nauk SSSR)TITLE: Cyclisation of o-carboxybentylferrocene

SOURCE: AN SSSR, Izvestiya. Seriya khimicheskaya, no. 5, 1966, 938-940

TOPIC TAGS: cyclisation, iron compound, ferrocene

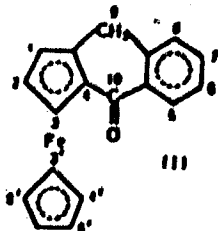
ABSTRACT: Cyclisation of o-carboxybentylferrocene in the presence of phosphorus pentachloride at 60°C in a nitrogen stream produced an analog of anthrone (I) containing one ferrocenyl ring in place of one benzene ring. For such analogs, the authors suggest that the same nomenclature be introduced as for ordinary aromatic compounds with the prefix "Fc" for each benzene ring substituted by the ferrocene ring. Thus, the compound (I) obtained should be termed Fc-anthrone:

UDC: 547.25 + 66.095.25 + 546.72

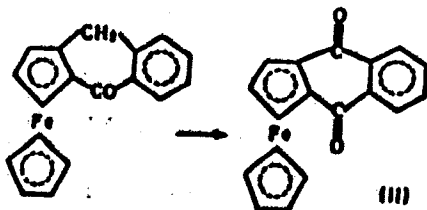
Card 1/3

L 36506-66 APPROVED FOR RELEASE: 09/18/2001

CIA-RDP86-00513R000723510020-1



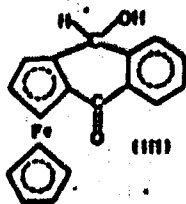
The structure of (I) was confirmed by IR and NMR spectra and by determining the molecular weight. Hence, it is shown that the cyclization of o-carboxybentylferrocene under the influence of PCl_5 forms a cyclopentadienyl ring. The Fc-anthrone obtained readily oxidises to Fc-anthraquinone (or phthaloylferrocene) on stirring its benzene solution with MnO_2 :



Under milder oxidising conditions, a compound is formed whose IR spectra indicated the structure of Fc-hydroxyanthraquinone (III):

Card 2/3

1 36506-66
ACC NR: AP6017882



SUB CODE: 07/ SUBM DATE: 18Oct65/ ORIG REF: 003/ OTH REF: 001

Card 3/3

FORM 111 11/65

UIC: 547.419.6.172.3.07

S/075/63/018/003/001/006
E071/E436

AUTHORS: Nemodruk, A.A., Kochetkova, N.Ye.

TITLE: A study of the reaction of tetravalent plutonium with
arsenazo III

PERIODICAL: Zhurnal analiticheskoy khimii, v.18, no.3, 1963, 333-338

TEXT: Arsenazo III is the most sensitive reagent for tetravalent plutonium but the reaction itself has been little studied. This work was undertaken to obtain data on the composition of complexes formed, their stability and conditions for the development of maximum color. Two series of complexes are formed in this reaction depending on the concentration of nitric acid. At low concentration ($\sim 0.1N$) the ratios of plutonium to arsenazo III in the complexes are 1:1 and 1:2. At higher acidities (4 to 7N) these ratios are 1:1, 1:2 and 1:3. Optical density measurements indicate that complexes formed in 0.1N and 5N nitric acid are stable and that the method of molar ratios is suitable for the determination of their compositions. The following optimum conditions for the photometric determination of plutonium were established: not less than three-fold excess of arsenazo III in
Card 1/2

A study of the reaction ...

S/075/63/018/003/001/006
E071/E436

4 to 7 N nitric acid. The molar extinction coefficient of the complex formed (with 1:3 ratio of the components) under these conditions is 136000. There are 4 figures and 1 table.

SUBMITTED: May 18, 1962

Card 2/2

L 14963-67

EPP(m)-2/EWP(c)/EWT(m)/BDS STD Pu-4 W/JD/JG

ACCESSION NR: AF9003682

9/0186/63/005/001/0335/0342

AUTHORS: Nemodruk, A. A.; Paley, P. N.; Kochetkova, N. Ye.

TITLE: Comparative study of reagents for the photometric determination of plutonium

SOURCE: Radiokhimiya, v. 5, no. 3, 1963, 335-342

TOPIC TAGS: photometric determination, plutonium, photometric reagent, toron, arsenazo, chlorophosphonazo I, chlorophosphonazo

ABSTRACT: A comparative study of toron I, toron II, arsenazo I, arsenazo II, arsenazo III, chlorophosphonazo I, and chlorophosphonazo III has been performed to determine their possible use as complexometric reagents in the spectrophotometric determination of tetravalent plutonium. The optimum conditions for the determination of plutonium are presented for each reagent investigated. The interfering ions for each reagent are pointed out. It was determined that arsenazo III and chlorophosphonazo III are most sensitive in the determination of plutonium and give good reproducibility. Orig. art. has: 7 graphs and 7 formulas.

ASSOCIATION: none

Card 1/1

NEMODRUK, A.A.; KOCHETKOVA, N.Ye.

Reaction of tetravalent plutonium with arsenazo III. Zhur.
anal. khim. 18 no.3:333-338 Mr'63. (MIRA 17:5)

L 32313-66 ENT(m)/EWP(t)/EII TJP(e) ES/JY/WW/JG

ACC NR: AP6012905 (N) SOURCE CODE: UR/0075/66/021/004/0427/0432

AUTHOR: Nemodruk, A. A.; Kochetkova, N. Ye.

36
3

ORG: none

TITLE: Interaction of trivalent and hexavalent plutonium with arsenazo III ₂₁

SOURCE: Zhurnal analiticheskoy khimii, v. 21, no. 4, 1966, 427-432

TOPIC TAGS: plutonium, arsenazo III, ~~interaction~~, rapid transition chemical reaction

ABSTRACT: The paper concerns the color reaction of arsenazo III with tetravalent plutonium. It is shown that in its trivalent and hexavalent states, plutonium reacts with arsenazo III over a wide range of concentrations of nitric and hydrochloric acids. The sensitivity of the reaction depends on the acidity of solutions. In strongly acid solutions trivalent plutonium (due to its oxidation by air oxygen) and hexavalent plutonium (being reduced by the arsenazo III excess) gradually become tetravalent. For rapid and quantitative transition of other plutonium valences to the tetravalent state, a mixture of salts of bivalent and

Card 1/2

UDC: 543.70

L 32313-66

ACC NR: AP6012905

trivalent iron should be added to the analyzed solution. Orig. art.
has: 5 figures and 1 table. [Based on author's abstract] [AM]

SUB CODE: 07/ SUBM DATE: 25Jul64/ ORIG REF: 005/ OTH REF: 001

Card

2/2

JO

FRUZHINIHA-GRANOVSKAYA, V.I.; KOZLOVA, N.M.; KOCHETKOVA, R.M.

Volt-ampere characteristics and carrying capacity of nonlinear
thermite resistors for commutational discharges. Elektrichestvo
no.2:74-77 F 162. (MIRA 15:2)

1. Vsesoyuznyy elektrotekhnicheskiy institut im. Lenina.
(Electric lines—Overhead)
(Electric protection)

KOCHETKOVA, S.A.; BYLINKINA, A.A.; D'YAKOVA, N.P.

4-Phenyl-8-nitroquinoline. Met. poluch. khim. reak.
i prepar. no.6:48-50 '62. (MIRA 17:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

5(0)

AUTHORS:

Teys, R. V., Gromova, T. S.
Kochetkova, S. N.

SOV/20-122-6-28/49

TITLE:

Isotopic Composition of Natural Phosphates (Isotopnyy sostav prirodnnykh fosfatov)

PERIODICAL:

Doklady Akademii nauk SSSR, 1958, Vol 122, Nr 6, pp 1057 - 1060 (USSR)

ABSTRACT:

The method of isotopic paleothermometry (Refs 1 - 3) is the most important application of isotopic analysis to the solution of geochemical problems. This method is based on the dependence of the distribution of the heavy oxygen isotope between the oxygen of water and the mineral on temperature, that means it is based on the isotopic exchange between these two components. The oceans are an immense reservoir of oxygen that hardly changes its isotopic composition in the course of geological time. Therefore, its isotopic composition can be regarded as constant and equal to a certain average value. However, this condition of a constant water background (vodnyy fon) is not always and not everywhere complied with. Therefore, the possibilities of isotopic paleothermometry are limited by insufficient

Card 1/4

Isotopic Composition of Natural Phosphates

SOY/20-122-6-28/49

information on the character and the causes for the fluctuations in the isotopic composition of sea water. At present only the carbonate paleothermometry is elaborated, as carbonates in the solution exchange their oxygen quickly enough with that of water. If it were possible to find any reaction mechanism that would prompt the oxygen exchange of another mineral with the oxygen of water, two equations with two unknown quantities could be obtained; the precipitation temperature and the isotopic composition of the aqueous phase would be the unknown quantities here. The solution of these equations with respect to both unknown quantities would make it unnecessary to know the isotopic composition of the oxygen of water, which has been necessary up to now. The authors succeeded in ascertaining that the oxygen of the sulfate is exchanged very slowly with the oxygen of water (Ref 4). Thus sulfates cannot serve as mineral thermometers. A phosphate temperature scale was then suggested (Refs 2, 3, 5). The phosphates exchange their oxygen with water even more slowly than sulfates. The heterogeneous exchange with carbonic acid was investigated with two samples of apatite (from the Lake Baikal and from the Khibiny). The velocity

Card 2/4

Isotopic Composition of Natural Phosphates

SOV/20-122-6-28/49

constants and the half-periods of the exchange at 700, 900 and 1100° are given in table 2. Figure 1 shows the isothermal lines of these measurements, whereas figure 2 gives the isotherms. By extrapolation of these data into the range of normal temperatures (20°), $1.3 \cdot 10^7$ hours is obtained for the half-period of the exchange. The isotopic composition of natural phosphates has never been investigated. The authors used apatites and phosphorites for this purpose. The oxygen of these substances has proved to be lighter than that of river water. From table 3 it can be seen that apatite contains less O^{18} than river water. Contrary to expectations, the content of O^{18} in the phosphorites of podolite was lower than that of river water. It can be seen from the data of the authors that there is a difference between the relations between the isotopic composition of the oxygen of water, the sulfates and the phosphates. Natural sulfates mostly have a composition approaching the equilibrium with the oxygen of sea water (Ref 4), whereas the oxygen of natural phosphates is considerably different. There are 2 figures, 3 tables, and 9 references, 5 of which are Soviet.

Card 3/4

Isotopic Composition of Natural Phosphates

SOV/20-122-6-28/49

ASSOCIATION: Institut geokhimi i analiticheskoy khimii im. V. I.
Vernadskogo Akademii nauk SSSR (Institute of Geochemistry
and Analytical Chemistry imeni V. I. Vernadskiy of the Academy
of Sciences, USSR)

PRESENTED: June 3, 1958, by A. P. Vinogradov, ~~Academy~~

SUBMITTED: May 28, 1958

Card 4/4

15674-53

EWK(b)/EWP(j)/EWP(c)/EWK(b)/EWK(1)/

EWK(n)/NDS ASD Pa-4/Pc-4/Pr-4/Pv-4 RM/W

ACCESSION NO: AT1004524

5/2946/S1/000/003/0081/0101

Dr. A. I. Kozlov, A. I. Kozlov, A. I. Kozlov, A. I. Kozlov

USSR Ministry of Health

... they are listed

AMN SSSR, Toksikologiya novykh pryemykh i lekovykh khimicheskikh
vеществ, no. 3, 1961, 51-101

... silicon tetrachloride derivative, organosilicon compound,
... allylchlorosilane, cumulative property, ...

ABSTRACT: This paper contains new experimental data by the authors on the com-
parative toxicity of some monomeric organosilicon compounds, some materials
... by Ye. A. Kozlyakova at the laboratory of industrial toxicology, as well
as the data from the literature. The high toxicity of organosilicon derivatives
... tetrachloride and their considerable ... to the ...
... ways of application are ...
... areas of effective doses and ...
... the ability of low concentrations of the ... to produce ...
changes in the organism, as well as the pronounced necrotic effect on direct
Card 1/4

...the tissues. Of record is the general character of the ...
...of all organosilicon monomers. ...
...various substances the symptoms of irritation ...
...only by chloroderivatives but a ...
chlorine, e.g., ethoxysilanes. (It is assumed that the irritating properties ...
...compounds are due mainly to the effect of ...
...of chlorine and the formation on hydrolysis of ...
...into the chlorosilanes of organic radicals increases their ...
...ary-derivatives being more toxic ...
...compounds, but the effective toxicity of arylchlorosilanes is compar-
tively small due to their low volatility. The chlorination of organic radicals ...
...of organosilicon compounds enhances the absolute toxicity of the ...
...trichloride, then chloro-organochlorosilanes are still more toxic. Some ...
...compounds possess not only pronounced irritating properties ...
but general toxicity as well. This is evidenced in expanded vascular disturbances ...
and hypertrophic changes of the parenchymatous organs. The general effect is ...
more pronounced with arylchlorosilanes and ethoxysilanes, which is due to the ...
relatively lesser susceptibility of these compounds to hydrolysis and a greater ...
solubility in lipids, which permit the whole molecule to exert its effect on the

Card 2/4

I 15471-63

AT 1005,521

organics. Basically, silicochloroform and methylphenyldichlorosilane act as irritating toxins. The investigated compounds can be sorted according to their irritating properties in the following ascending order: ethylchlorosilane, dimethylchlorosilane, chloromethyltrichlorosilane, phenylmethylchlorosilane, dimethyltrichlorosilane, phenylmethyltrichlorosilane, and chloromethylchlorosilane. The evaluation of the irritating properties of these silicochloroform compounds remains obscure. One may assume that the pronounced toxic effect of organosilicon compounds develops by the interaction of the insplit molecule of the product with the tissues. Hydrolysis may thus take place, with the formation of decomposition products "in statu nascendi", making them more active. After prolonged systematic exposure to low concentrations of monomeric organosilicon compounds the resulting toxicity effects are of moderate character and are accompanied by sclerotic changes of the lungs and by emphysema. The morphological changes in chronic cases are lacking specific characteristics and are similar to the ones produced by other irritating toxins. In contrast to the lesions produced by other inorganic silica compounds, some of the organosilicon compounds, such as phenylmethylchlorosilane, are capable of provoking a leucocitary-type reaction in the tissues. The experiments did not reveal any fibrosis which would be typical for silicosis. After 13 1/2 months (under the effect of chloromethyltrichlorosilane) there appeared some miliary dust nodes remotely resembling those found in silicosis.

Card 3/4

KOCHETKOVA, T. A.

KOCHETKOVA, T. A. -- "Sudden Death." Sub 7 May 52, Acad Med Sci USSR.
(Dissertation for the Degree of Candidate in Medical Sciences.)

SO: Vechernaya Moskva January-December 1952

KOCHETKOVA, T.A., kandidat meditsinskikh nauk

**Pneumoconiosis in flour mill workers. Gig. i san. 21 no.12:42-45
D '56. (MLRA 10:1)**

**1. Is patologoanatomicheskogo otdeleniya Instituta gigiyeny truda
i professional'nykh zabolevaniy ANM SSSR.**

(PNEUMOCOCONIOSIS

in flour mill workers)

(OCCUPATIONAL DISEASES

pneumoconioses in flour mill workers)

Country : USSR
Category: Human and Animal Physiology. Action of Physical
Factors. Ionizing Radiation.
Abs Jour: *RZhBiol.*, No. 19, 1950, 09370
Author : Kochetkova, T.I.; Ivramina, G.I.
Inst : -
Title : Changes in the Lungs and other Organs Following Intra-
tracheal Administration of Radioactive Sodium Chloride
and Chromium phosphate.
Orig Pub: *Tr. Vses. konfrentsii po med. radiol. elyarin. med.*
radiol. M., Medits, 1957, 196-197
Abstract: Rats were administered, intra-tracheally, insoluble
 $\text{CrP}^{32}\text{O}_4$, in doses of 30 mg in 1 ml of a 5% solution
of glucose and Na^{24}Cl in the form of a 1 ml 2.5%
solution. The greatest single dose of Na^{24}Cl was

Card : 1/2

T-144

KOCHETKOVA, T.A.

KOCHETKOVA, T.A., kand.med.nauk

Symposium on the problem of pneumoconiosis. Sig. 1 ser. 2) no.1:
82-86 Ja '58. (MIRA 11:2)

(PNEUMOCONIOSIS
conf.)

DVIZHKOV, P.F., prof.; KOCHETKOVA, T.A., kand.med.nauk; KHUKHERINA, Ye.V.,
doktor med.nauk

Reaction of connective tissue to the subcutaneous injection of
dust with a high content of free silicon dioxide. Ber'ba s sil.
4:98-102 '59. (MIRA 12:11)

1. Institut gigiyeny truda i profsabolevaniy ANU SSSR.
(CONNECTIVE TISSUES--DISEASES)
(DUST--PHYSIOLOGICAL EFFECT)

KOCHETKOVA, T.A. (Moskva)

Effect of cobalt dust. Gig. truda i prof. zab. 4 no.11:34-38
N 160. (MIRA 15:3)

1. Institut gigiyeny truda i professional'nykh zabolevaniy
AMN SSSR.

(LUNGS—DUST DISEASES)
(COBALT—TOXICOLOGY)

KHUKHRINA, Ye. V.; GO NAY; DVIZHKOV, P. P.; KOCHETKOVA, T. A.;
LOBOVA, T. T. (Moskva)

Maximum admissible concentrations of some kinds of inorganic
dust. Oig. truda i prof. zab. 5 no.7:16-23 J1 '61.
(MIRA 15:7)

1. Institut gigyeny truda i professional'nykh zabolevaniy
AMN SSSR.

(DUST)

NAY, K.; KOCHETKOVA, T.A.

Experimental studies on the effect of sulfur pyrite dust. Arkh.
pat. 23 no.3:51-56 '61. (MIRA 1413)
(LUNGS—DUST DISEASES) (PYRITES)