"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

The formation of this acid is in accord with the polarization of the double bond in hexafluoro propylene $\overset{\delta+}{CF_2} = \overset{\delta-}{CF}—CF_3$. The double bond in $CF_2 = CFCl$ is polarized such that a partly negative charge is present on the carbon atom of the CFCl group. This has been repeatedly confirmed by reactions of nucleophile additions to $CF_2 = CFCl$. In the final result only derivatives of fluoroacetic acid are produced. Thus, the condensation of formaldehyde with trifluoro chloroethylene could be expected to lead to α-fluoro-α-chloro hydracrylic acid: $HOCH_2^+ + \overset{\delta-}{C}FCl = \overset{\delta+}{C}F_2 \longrightarrow [HOCH_2C\overset{+}{F}ClCF_2] \xrightarrow{H_2O} HOCH_2CFClCOOH$.

This acid has actually been isolated as its ethyl ester. The yield amounted to 19.8 % of the theoretical one. However, beside this yield, another 30.5 % of ethyl ester of α,α-difluoro hydracrylic acid have been produced. Its formation can be only explained as a result of the electrophile attack to the CF_2 group, i.e., to a negatively polarized carbon atom being more weak than is the case with the C atom in the CFCl group of trifluoro chloroethylene. I. L. Knunyants, V. V. Shokina and Li Chih-yüan (Ref. 9: DAN,

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

25481
S/020/61/139/001/013/018
B103/B226

Condensation of formaldehyde...

136, 611 (1961)) observed two types of orientation in the addition of iodine chloride to trifluoro chloroethylene:

$$CF_2=CFCl + ICl \rightarrow CF_2I-CFCl_2 + CF_2Cl-CFClI.$$

It could not be found out whether this reaction is released by the ionic or by the radical mechanism. However, in the condensation with formaldehyde, an orientation being opposed to polarity appears in a pronounced ionic process, viz., that of the electrophile addition to the double bond. The authors try to explain this phenomenon by the competition of the polar and steric factors. The effective radius of F is 1.25 Å, that of Cl 1.58 Å. Thus, the orientation of reaction which corresponds to polarity meets a great steric hindrance. The steric and polar factors, however, agree as to their effect in the nucleophile addition to trifluoro chloroethylene. Due to this fact, orientation in these reactions has to be a rigorously unambiguous one. There are 9 references: 2 Soviet-bloc and 7 non-Soviet-bloc. The three references to English-language publications read as follows: M. S. Raasch. (Ref. 2: Am. pat. 2452791); D. D. Coffman et al. (Ref. 3: J. Org. Chem. 14, 747 (1949)); E. T. McBee et al. (Ref. 4: J. Am. Chem. Soc., 74, 444 (1952)).

Card 4/5

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

25481
S/020/61/139/001/013/018
B103/B226

Condensation of formaldehyde...

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

SUBMITTED: March 23, 1961

Card 5/5

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

STERLIN, R.N.; LI VEY-GAN [LA Wei-kang]; KNUNYANTS, I.L., akademik

Electronegativity of the perfluorovinyl radical. Dokl. AN SSSR 140 no.1:137-140 S-O '61. (MIRA 14:9)
(Vinyl compounds)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; DYATKIN, B.L.

Reaction of hexafluoroacetone with olefins. Izv. AN SSSR Otd.khim.nauk no.2:355-356 F '62. (MIRA 15:2)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Acetone)
(Olefins)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; GAMBARYAN, N.P.; CHEN' TSIN-YUN' [Ch'ên Ch'ing-yün]; ROKHLIN, Ye.M.

Certain reactions of hexafluoroacetone. Izv.AN SSSR Otd.khim.-nauk no.4:684-692 Ap '62. (MIRA 15:4)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Acetone)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; GAMBARYAN, N.P.; ROKHLIN, Ye.M.

2-Phenyl-4-hexafluoroisopropyl-5-benzoyloxyoxazole. Izv. AN SSSR. Otd.khim.nauk no.5:924-926 My '62. (MIRA 15:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Oxazole)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ROKHLIN, Yu.L.; GAMBARYAN, N.P.; KNUNYANTS, I.L.

Interaction of hexafluoroacetone with 2-phenyl-4-benzyl-5-oxazolone. Izv. AN SSSR. Otd.khim.nauk no.5:927-929 My '62. (MIRA 15:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Acetone) (Oxazolinone)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; KARPAVICHUS, K.I. [Karpavicius, K.I.]; KIL'DISHEVA, O.V.

Cancerolytic peptides with specific action. Report No.4: New derivatives of sarcolysine and their use for the synthesis of peptides with different position of sarcolysine in the peptide chain. Izv.AN SSSR,Otd.khim.nauk no.6:1024-1031 '62. (MIRA 15:8)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Peptides) (Sarcolysine)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; PERVOVA, Ye.Ya.

Reaction of triethyl phosphite with α,β-dichloro-ω-iodoperfluoro alkanes. Izv.AN SSSR.Otd.khim.nauk no.8:1409-1412 Ag '62. (MIRA 15:8)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphinic acid) (Paraffins)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

39794
S/062/62/000/008/014/016
B101/B180

11.7714

AUTHORS: Knunyants, I. L., Dyatkin, B. L., and Mochalina, Ye. P.

TITLE: Anionotropic rearrangement in reactions of perfluorobutadiene

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 8, 1962, 1483-1484

TEXT: The addition of nucleophilic reagents (e.g. alcohol) to hexafluorobutadiene-1,3 in the presence of triethylamine was investigated at 80°C. As oxidation of the addition compound with permanganate gives trifluoroacetic acid, while hydrolysis with H_2SO_4 gives trifluoroacetone, it is assumed that the primary addition occurs in the 1,2 position, and that the presence of the triethylamine causes an allyl rearrangement: $CF_2=CF-CFHCF_2OR \rightarrow CF_3CF=CHCF_2OR$. This was proved in that the dialkylamides of α-hydroperfluorocrotonic acid (II) were obtained from the dialkylamides of α-hydroperfluorovinylacetic acid in the presence of triethylamine, as was the diethylamide of (II): b.p. 81-82°C/7 mm Hg; n_D^{20} 1.3983; d_4^{20} 1.2010. Oxidation of this product with $KMnO_4$ gave tri-

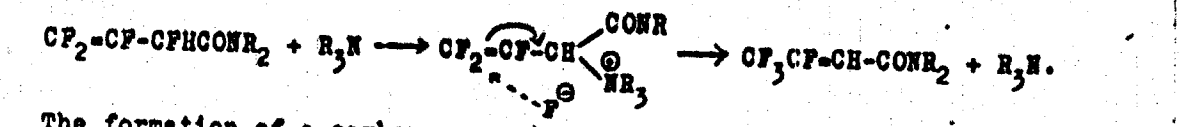
X

Card 1/2

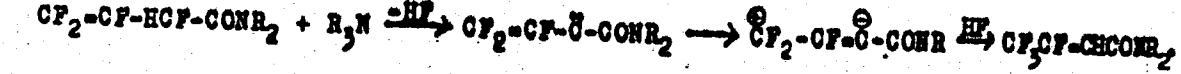
APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

fluoroacetic acid in quantitative yield, and its hydrolysis with H_2SO_4 gave trifluoroacetone. Since neither anhydrous HF nor triethylaminefluorohydrate cause a rearrangement of the dialkylamine of (I) into the corresponding compound of (II), the triethylamine is assumed to have a specific effect:



The formation of a carbon as an intermediate is also possible:



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

SUBMITTED: February 19, 1962

Card 2/2

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; DYATKIN, B.L.; GERMAN, L.S.; MOCHALINA, Ye.P.

Condensation of formaldehyde with trifluoroethylene. Izv.AN SSSR.Otd. khim.nauk no.9:1676-1677 S '62. (MIRA 15:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Formaldehyde) (Ethylene) (Chlorine compounds)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

43309

S/062/62/000/012/004/007
B117/B101

5.3600

AUTHORS: Knunyants, I. L., Krasuskaya, M. P., Kysov, Ye. I., and Kukhtarov, I. A.

TITLE: Reactions of fluoro olefins. Communication 15. Catalytic hydrogenation of perfluoro cyclobutene

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, No. 12, 1962, 2141-2145

TEXT: A Pd catalyst was used for the hydrogenation of perfluoro cyclobutene at room temperature. A mixture containing two isomers of 1,2-dihydroperfluoro cyclobutane was found to form: one (approximately 90%) with a boiling point of 63°C (d_4^{20} 1.5780; n_D^{20} 1.2985) and the other (less than 10%) with a boiling point of 27°C (d_4^{15} 1.5580; n_D^{15} 1.2970). Radiospectroscopic studies were made to determine the configuration of the isomers separated by distillation. An analysis of the rotational bands in microwave absorption spectra showed the isomer with the higher boiling point to have a cis-configuration and that with the lower boiling point to have a trans-configuration. Dehydrofluorination converted both isomers into

Card 1/2

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

1-hydroperfluoro cyclobutene, b.p. 26°C. Oxidation of the latter yielded tetrafluoro succinic acid m.p. 115-120°C. 1,1,2-trihydroperfluoro cyclobutane (83%; b.p. 50-52°C; d_4^{20} 1.441; n_D^{20} 1.3025) was obtained by hydrogenating 1-hydroperfluoro cyclobutene on a Pd catalyst. It was then dehydrofluorinated into 1,2-dihydroperfluoro cyclobutene, b.p. 53-54°C, and dibromide, b.p. 117-119°C, and dehydrobromated into 1-bromo-2-hydrotetrafluoro cyclobutene, b.p. 72-74°C. 1,1,2,2-tetrahydroperfluoro cyclobutane, b.p. 50°C, n_D^{20} 1.3038, was obtained by hydrogenating 1,2-dihydroperfluoro cyclobutene on Pd/Al_2O_3 at 60-70°C.

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

SUBMITTED: April 12, 1962

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

GAMBARYAN, N.P.; NESMEYANOVA, G.S.; KNUNYANTS, I.L.

Synthesis of bis-epoxypropyl ether of 2,2-bis-(p-oxyphenyl)-hexafluoropropane and of a copolymer based on it. Zhur.VKHO 7 no.2:231 '62. (MIRA 15:4)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Ethers) (Epoxy resins)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; GOLUBEVA, N.Ye.; KARPAVICHUS, K.I.; KIL'DISHEVA, O.V.

Cancerolytic peptides having specific action. Zhur.VKHO 7 no.2: 238 '62. (MIRA 15:4)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Peptides) (Cytotoxic drugs)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L., akademik

Conjugated bonds in the fluorinated olefin series. Zhur. VKHO 7 no.3:276-282 '62. (MIRA 15:6)

(Chemical bonds) (Olefins)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.

GOFMAN, A.; FREY, A.I.; RUTSHMANN, I.; OTT, Kh.; SHEMYAKIN, M.M.; KISHFALUDI, L.; KOCHETKOV, N.K.; DEREVITSKAYA, V.A.; PROKOF'YEV, M.A.; SHABAROVA, Z.A.; FILIPPOVA, L.A.; SHANKMAN, S.; KHAYGA, S.; LIV, F.; ROBERTS, M.Ye.; GAVRILOV, N.I.; AKIMOVA, L.N.; KHLUDOVA, M.S.; MAKSIMOV, V.I.; IZELIN, B.M.; SHEPPARD, R.K.; SHKODINSKAYA, Ye.N.; VASINA, O.S.; BERLIN, A.Ya.; SOF'INA, Z.P.; LARIONOV, L.F.; KNUNYANTS, I.L.; GOLUBEVA, N.Ye.; KARPAVICHUS, K.I.; KIL'DISHEVA, O.V.; MEDZIGRADSKIY, K.; KAFTAR, M.; LEV, M.; KORENSKI, F.; BUASSONA, R.A.; GUTTMAN, St.; KHOYOKNIN, R.L.; ZHAKENO, P.A.; BAZHUS, S.; LENARD, K.; DUAL'SKI, S.; SHREDER, Ye.; SHMIKHEN, R.; KHOKHLOV, A.S.

Results of the Fourth European Symposium on the chemistry of peptides. Abstracts of reports. Zhur. VKHO 7 no.4:468-476 '62. (MIRA 15:8)

1. Aktsionernoye obshchestvo "Sandos", Basel', Shveytsariya (for Gofman, Frey, Ott, Rutshmann). 2. Farmatsevticheskaya fabrika "G.Rikhter", Budapesht, Vengriya (for Kishfaludi, Korenski, Dualski). 3. Institut khimii prirodnykh soyedineniy AN SSSR, Moskva (for Kochetkov, Derevitskaya, Shemyakin, Khokhlov). 4. Laboratoriya khimii belka Moskovskogo gosudarstvennogo universiteta (for Prokof'yev, Shabarova, Filippova, Gavrilov, Akimova, Khludova). 5. Fond meditsinskikh issledovaniy, Passadena, Kaliforniya, Sev.Soyed.Shtaty Ameriki (for Shankman, Khayga, Liv, Roberts). 6. Laboratoriya khimii belka Instituta organicheskoy

(Continued on next card)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

Gofman, A.,---(Continued) Card 2.

khimii AN SSSR, Moskva (for Maksimov). 7. Aktsionernoye obshchestvo "Tsiba", Basel', Shveytsariya (for Iselin). 8. Liverpul'skiy universitet, Angliya (for Sheppard). 9. Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR, Moskva (for Shkodinskaya, Vasina, Berlin, Sof'ina, Larionov). 10. Institut elementoorganicheskikh soyedineniy AN SSSR, Moskva (for Knunyants, Golubeva, Karpavichus, Kil'disheva). 11. Institut organicheskoy khimii Budapeshtskogo universiteta, Vengriya (for Medzigradskiy, Kaftar, Lev). 12. Farmatsevticheskiy otdel Aktsionernogo obshchestva "Sandos", Bazel', Shveytsariya (for Buassona, Guttman, Khoygenin, Zhakeno, Rutshmann). 13. Issledovatel'skiy institut farmatsevticheskoy promyshlennosti, Budapesht, Vengriya (for Bashus, Lenard). 14. Aktsionernoye obshchestvo "Shering", Zapadnyy Berlin (for Shreder, Shmikhen).

(Peptides--Congresses)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

41110

S/063/62/007/005/004/006
A057/A126

AUTHORS: Knunyants, I.L., Bykhovskaya, E.G.

TITLE: On the reaction of HN_3 with fluorolephins (ftorolefin)

PERIODICAL: Zhurnal vsesoyuznogo khimicheskogo obshchestva imeni D.I. Mendeleyeva, v. 7, no. 5, 1962, 585 - 586

TEXT: In continuation of previous investigations the reaction of HN_3 with fluorine-substituted ethylenes was studied. According to the expectations fluorethylenes react with HN_3 under more rigid conditions than φ-propylene or φ-isobutylene. This is completely in agreement with the change of electrophility in the sequence of fluorolephins. The following compounds were prepared: β-monohydrogenperfluorethylazide with a 30% yield from triethylammoniumazide in chlorobenzene by passing tetrafluorethylene at 80 - 90°C and subsequent distillation; β-hydrogen-β-chlorperfluorethylazide with a 60% yield from triethylammoniumazide in chlorbenzene by passing trifluorchlorethylene at 50°C with subsequent rectification; β-hydrogen-β-iodoperfluorethylazide with a 48% yield from perfluorvinyliodide in acetone with sodium azide by boiling and subsequent distillation.

SUBMITTED: December 9, 1961

Card 1/1

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KHUNYANTS, I.L.; FOKIN, A.V.; KOMAROV, V.A.

Nitration of perfluoropropylene with nitrogen dioxide.
Zhur. VKHO 7 no.6:709-710 '62. (MIRA 15:12)
(Propene)
(Nitrogen oxide)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I. L.; KRASUSKAYA, M. P.; MYSOV, Ye. I.; MUKHTAROV, I. A.

Reactions of fluoro olefins. Report No. 15: Catalytic hydrogenation of perfluorocyclobutene. Izv. AN SSSR Otd. khim. nauk no.12:2141-2145 D '62. (MIRA 16:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

(Cyclobutene) (Fluorine compounds)
(Hydrogenation)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; GOLUBEVA, N.E.; KARPAVICHYUS, K.I.; KIL'DISHEVA, O.V.

Cancerolytic peptides of directed action. Coll Cs Chem 27 no.9: 2253-2254 S '62.

1. Institute of Organoelementary compounds, Academy of Sciences of the U.S.S.R., Moscow (for Golubeva and Kil'disheva).

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; RYTSLIN, E.Ye.; GAMBARYAN, N.P.

Steric factors in the reaction of dehydrobromination of amides of β-bromo-substituted acids. Zhur.ob.khim. 32 no.4:1262-1274 Ap '62. (MIRA 15:4)
(Amides) (Hydrobromic acid) (Steric hindrance)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

FOKIN, A.V.; SKLADNEV, A.A.; STUDNEV, Yu.N.; KNUNYANTS, I.L., akademik

Interaction of asymmetric fluoroolefins with hydrogen sulfide. Dokl. AN SSSR 142 no.1:99-101 Ja '62. (MIRA 14:12)
(Olefins) (Hydrogen sulfide)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L., akademik; KIL'DISHEVA, O.V.; GOLUBEVA, N.Ye.; ZURABYAN, S.

Diethyleneimidophosphoryl and diethyleneimidothiophosphoryl derivatives of amino acids and peptides. Dokl. AN SSSR 142 no.2:370-373 Ja '62. (MIRA 15:2)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Amino acids)
(Peptides)
(Phosphorus organic compounds)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L., akademik; FOKIN, A.V.; BLAGOVESHCHENSKIY, V.S.; KOSYREV, Yu.M.

New interesting cases of the formation of nitroso compounds.
Dokl. AN SSSR 146 no.5:1088-1091 O '62. (MIRA 15:10)
(Nitroso compounds)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

MARKOV, S.M.; LOSHADKIN, N.A.; CHISTOVA, M.A.; KNUNYANTS, I.L., akademik

Some problems of nucleophilic substitution in the phosphorus atom in the reactivation of phosphorylated cholinesterase. Dokl. AN SSSR 147 no.2:484-487 N '62. (MIRA 15:11)
(Phosphorus) (Substitution (Chemistry)) (Cholinesterase)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

PHASE I BOOK EXPLOITATION SOV/6488

Knunyants, Ivan Lyudvigovich, Academician, and Aleksandr Vasil'yevich Fokin, Professor

Pokoreniye nepristupnogo elementa (Conquest of an Inaccessible Element) Moscow, Izd-vo AN SSSR, 1963. 189 p. (Series: Akademiya nauk SSSR. Nauchno-populyarnaya seriya) Errata printed on inside of back cover. 25,000 copies printed.

Ed. of Publishing House: V. M. Tarasenko; Tech. Ed.: S. P. Golub'.

PURPOSE: This textbook is intended for chemists and engineers.

COVERAGE: The book covers the full range of fluorine chemistry and technology and is based on Soviet and Western sources. The text includes: properties of fluorocarbons; fluorinated hydrocarbons, e.g., fluorinated olefins which have high thermal stability and chemical resistance; esters of dibasic

Card 1/3

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

perfluorocarboxylic acids which are used in the preparation of stable lubricants and in synthetic rubber; preparation, properties, and applications of fluorine-containing plastics [teflon, teflon-100, poly(vinylidene fluoride)]; their radiation polymerization; fluorine containing elastomers used in supersonic aircraft and jet engines; freons; and other applications. The fifth chapter is devoted to lubricants and hydraulic fluids with high thermal and oxidation stability, which can be used under severe conditions and in systems with aggressive media. It is noted that chlorofluorocarbon oils lower the friction coefficient of rubbing surfaces made of the same metal under heavy loads and at high temperatures. Certain Soviet oils, greases, and hydraulic fluids are also described. Tabulated data are given for: 4-F, 3-F, 3-OK, 10-OK, 20-F, Summer No.5, Winter No.8, UPI, Fluid No.12, manometric fluid, and balancing fluid. Only KS, UPI, and Summer No.5 are insoluble in ammonia and amines. In describing esters of dicarboxylic acids and fluorinated

Card 2/3

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

alcohols, the author mentions the applicability of such lubricants for submarines to avoid a detectable oil film on the water surface (the ONR research is quoted). Modern lubricants are already in use in jet engines and other engines working at high temperatures. The author points out the importance of fluorine compounds in rocketry, aviation, astronautics, atomic energy, and industry. The last chapter is devoted to fluorine organic compounds used for: the improvement of light fastness of dyes (benzotrifluoride, fluorobenzene, trifluoromethylbenzene); the preparation of chemotherapeutic compounds; and the preparation of a class of toxic compounds (fluoroacetates). These compounds belong to esters of the general type $F(CH_2)_n COOR$, fluoroalcohols, and fluoroacetamides with their derivatives. Fluorophosphates are mentioned as CW compounds (e.g., DFP-3, Sarin, Soman) which caused a change in anti-CW methods. No personalities are mentioned. There are no references.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

AMBARTSUMYAN, V.A., akademik; ASRATYAN, E.A.; BOGOLYUBOV, N.N., akademik; VINOGRADOV, A.P., akademik; GINETSINSKIY, A.G.; KNUNYANTS, I.L., akademik; KOCHETKOV, N.K.; KURSANOV, A.L., akademik; MEL'NIKOV, O.A.; NESMEYANOV, A.N., akademik; NESMEYANOV, An.N., doktor khim. nauk; OBREIMOV, I.V., akademik; POLIVANOV, M.K., kand.fiz.-mat.nauk; REUTOV, O.A.; RYZHKOV, V.L.; SPITSIN, V.I., akademik; TAMM, I.Ye., akademik; FESENKOV, V.G., akademik; FOK, V.A., akademik; SHCHERBAKOV, D.I., akademik; FRANK, I.M.; FRANK, G.M.; KHOKHLOV, A.S., doktor khim. nauk; SHEMYAKIN, M.M., akademik; ENGEL'GARDT, V.A., akademik; SHAPOSHNIKOV, V.N., akademik; BOYARSKIY, V.A.; LIKHTENSHTEYN, Ye.S.; VYAZEMTSEVA, V.N., red.izd-va; KLYAYS, Ye.N., red.izd-va; TARASENKO, V.M., red.izd-va; POLYAKOVA, T.V., tekhn. red.

[As seen by a scientis: From the Earth to galaxies, To the atomic nucleus, From the atom to the molecule, From the molecule to the organism] Glazami uchenogo: Ot Zemli do galaktik, K iadru atoma domolekuly, Ot molekuly do organizma. Moskva, Izd-vo AN SSSR, 1963. 736 p. (MIRA 16:12)

1. Akademiya nauk SSSR. 2. Chlen-korrespondent AN SSSR (for Asratyan, Ginetsinskiy, Kochetkov, Mel'nikov, Reutov, Ryzhkov, Frank, I.M., Frank, G.M.)
(Astronomy) (Nuclear physics) (Chemistry) (Biology)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L., glav. red.; KULIDZHANOVA, I.D., tekhn. red.

[Concise chemical encyclopedia] Kratkaia khimicheskaia entsiklopediia. Red. koll. I.L.Knuniants i dr. Moskva, Gos. nauchn. izd-vo "Sovetskaia entsiklopediia." Vol.2. ZH-Malonovyi efir. 1963. 1086 columns. (MIRA 16:4)

(Chemistry--Dictionaries)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

S/062/63/000/001/021/025
B101/B186

AUTHORS: Knunyants, I. L., and Krasuskaya, M. P.

TITLE: Derivatives of perfluoro dicarboxylic acids

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 1, 1963, 190 - 192

TEXT: The synthesis of perfluoro adipic acid (I), perfluoro sebacic acid (II) and perfluoro dodecamethylenic acid (III) by oxidation of the corresponding α,ω-perfluoro diolefins has been described in a previous paper (Izv. AN SSSR, Otd. khim. n. 1961, no. 8, 1462). The following substances were synthesized in the present study: (1) Diethyl ester of I, yield 90%, b.p. 96-97°C/7 mm Hg, n_D^{20} 1.3541, d_4^{20} 1.426; diethyl ester of II, yield 95%, b.p. 118-120°C/5 mm Hg, n_D^{20} 1.3424, d_4^{20} 1.578; and diethyl ester of III, yield 70%, b.p. 142-143°C/5 mm Hg, n_D^{20} 1.3408, d_4^{20} 1.686, by reaction of I, II, and III, respectively, with absolute ethanol in the presence of fluosulfonic acid; (2) dichloride of I, yield 78%, b.p. 130-132°C, n_D^{20} 1.3484;

Card 1/3

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

m.p. 135-136°C, phenyl urethane complex m.p. 140-141°C; and α, α, ω, ω-tetrahydroperfluoro tetradecane diol, yield 87%, m.p. 183-184°C, phenyl urethane complex m.p. 153-154°C, were obtained from the diethyl esters of I, II, and III by reaction with $NaBH_4$ and $AlCl_3$ in diglym (diethylene-glycol dimethyl ether).

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

SUBMITTED: August 30, 1962

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

L 12718-63 EPR/EPF(c)/EWP(j)/EWT(m)/BDS ASD Ps-4/Pc-4/Pr-4 RM/MAY/WW
ACCESSION NR: AP3002298 S/0062/63/000/006/1123/1127 72

AUTHOR: Knunyants, I. L.; Sterlin, R. N.; Tyuleneva, V. V.; Pinkina, L. N. 71

TITLE: Pseudohalo properties of perfluoroalkenyl radicals in esters of perfluoroalkenylphosphoric acid

SOURCE: AN SSSR. Izv. Otdeleniya khimicheskikh nauk, no. 6, 1963, 1123-1127

TOPIC TAGS: perfluorovinyl phosphoric acid, perfluoropropenyl phosphoric acid, perfluoroisobutenyl phosphoric acid, perfluoroisobutenyl phosphoric acid, methyl perfluoropropyl phosphoric acid, hydrolysis, diisopropyl ester

ABSTRACT: The following new esters of perfluoroalkenylphosphoric acids were prepared; chemical and physical data is given: diethyl ester of 1,2-difluoro-2-chlorovinyl phosphoric acid; diisopropyl ester of perfluorovinyl phosphoric acid; diisopropyl ester of perfluoropropenyl phosphoric acid; diisopropyl ester of perfluoroisobutenyl phosphoric acid; diisobutyl ester of perfluoroisobutenyl phosphoric acid; and isopropyl ester of methyl perfluoropropenyl phosphoric acid. The perfluoropropenyl and perfluoroisobutenyl radicals at the pentavalent P show pseudohalo properties: alkaline hydrolysis of the above esters gives the corresponding fluoroalkenes, alcohols and alkali phosphate; the fluorovinyl phosphoric

Card 1/2

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

L 12718-63
ACCESSION NR: AP3002298

acids did not give trifluoroethylene on hydrolysis. Orig. art. has: 3 tables, 4 formulas and 2 figures.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Organoelemental Compounds, Academy of Sciences SSSR)

SUBMITTED: 15Jan63 DATE ACQ: 16Jul63 ENCL: 00

SUB CODE: 00 NO REF SOV: 004 OTHER: 001

Card 2/2

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; CHERBUKOV, Yu.A.; BARGAMOVA, M.D.

Perfluorodimethylketene and perfluoromethacrylic acid. Report No.1: Hexafluoroisobutyric acid halides from fluorinated ethers. Izv.AN SSSR.Ser.khim. no.8:1389-1393 Ag '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Fluorine organic compounds) (Ketene)
(Isobutyric anhydride)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; CHEBURKOV, Yu.A.; BARGAMOVA, M.D.

Perfluorodimethylketene and perfluoromethacrylic acid. Report No.2: Comparison of α-hydrohexafluoroisobutyric acid halides in the reaction with triethylamine. Izv.AN SSSR.Ser.khim. no.8:1393-1397 Ag '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Ketene) (Fluorine organic compounds) (Isobutyric anhydride) (Triethylamine)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

CHEBURKOV, Yu.A.; MISOV, Ye.I.; KNUNYANTS, I.L.

Perfluorodimethylketene and perfluoromethacrylic acid. Report No.3: Comparison of haloanhydrides of α-halohexafluoroisobutyric acids in the reaction with zinc. Izv. AN SSSR. Ser.khim. no.9:1570-1572 S '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Ketene) (Propionic acid) (Zinc)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

CHEBURKOV, Yu.A.; KNUNYANTS, I.L.

Perfluorodimethylketene and perfluoromethacrylic acid. Report No.4: Pyrolysis of some derivatives of α-hydrohexafluoroisobutyric acid. Izv. AN SSSR. Ser.khim. no.9:1573-1576 S '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Ketene) (Propionic acid) (Fluorine organic compounds)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; PERVOVA, Ye.Ya.; TYULENEVA, V.V.

Reactions of fluorinated olefins. Report no.17: Competing conjugation in perfluoroalkenylphosphinic esters. Izv. AN SSSR. Ser.khim. no.9:1576-1583 S '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Phosphinic acid) (Olefins) (Conjugation (Chemistry))

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; FOKIN, A.V.; KOSYREV, Yu.M.; SOROCHKIN, I.N.; FROSINA, K.V.

Nitration of perfluorobutadiene with nitrogen peroxide. Izv. AN SSSR Ser.khim. no.10:1772-1775 O '63. (MIRA 17:3)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; GERMAN, L.S.; ROZHKOV, I.N.

Aliphatic fluoronitro compounds. Report No.1: Conjugated nitrofluorination of olefins. Izv. AN SSSR. Ser. khim. no.11: 1946-1950 N '63.

Aliphatic fluoronitro compounds. Report No.2: Preparation of α-fluorocarboxylic acids. Ibid.:1950-1951 (MIRA 17:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ROKHLIN, Ye.M.; GAMBARYAN, N.P.; KRUNYANTS, I.L.

Reaction between 2-phenyl-4-hexafluoroisiopropylidene-5-oxazolone and ketene. Izv. AN SSSR. Ser. khim. no.11:1952-1958 N '63. (MIRA 17:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I. L.; FOKIN, A. V.; IVATKIN, B. L.; KOMAROV, V. A.

Action of nitrogen dioxide on perfluoroisobutylene. Zhur. VKHO 8 no.2:239-240 '63. (MIRA 16:4)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

(Nitrogen oxides) (Propene)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; LI CHZHI-YUAN' [Li Chih-yüan]

Linear polyfluorinated similar bifunctional compounds as potential monomers. Usp.khim. 32 no.9:1052-1086 S '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Fluorine organic compounds)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ZEYFMAN, Yu.V.; GAMBARYAN, N.P.; KNUNYANTS, I.L., akademik

Hexafluoroacetone imines. Dokl. AN SSSR 153 no.6:1334-1337 D '63. (MIRA 17:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L., glav. red.; BAKHAROVSKIY, G.Ya., zam. glav. red.; ZHAROVA, Ye.I., red.

[Short chemical encyclopedia] Kratkaia khimicheskaia entsiklopediia. Red. kollegiia: I.L.Knuniants i dr. Moskva, Izd-vo "Sovetskaia Entsiklopediia." (Entsiklopedii, slovari, spravochniki). Vol.3. Mal'taza - Piroliz. 1964. 1112 columns. (MIRA 17:8)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KAZ'MINA, N.B.; KIL'DISHEVA, O.V.; KNUNYANTS, I.L.

Cancerolytic peptides of specific action. Report No.5: Some amino acids and peptides containing a N-di-(β-chloroethyl)aminophosphoryl group. Izv.AN SSSR, Ser.khim. no.1:117-131 Ja '64. (MIRA 17:4)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ACCESSION NR: AP4019016 S/0062/64/000/002/0367/0369

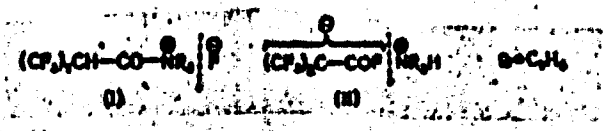
AUTHORS: Cheburkov, Yu. A.; Bargamova, M. D.; Knunyants, I. L.

TITLE: Fluoroanhydride of α-hydrohexafluoroisobutyric acid - a new system with mobile hydrogen atom

SOURCE: AN SSSR. Izv. Seriya khimicheskaya, no. 2, 1964, 367-369

TOPIC TAGS: hydrohexafluoroisobutyric acid, hexafluoro pivalic acid, bromohexafluoro isobutyric acid, mobile hydrogen atom, fluoroanhydride, structural formula

ABSTRACT: This is a continuation of an earlier work by the authors (Izv. AN SSSR, Ser. khim. 1963, 1393) in which they described the remarkable properties of the above product. The purpose of the present article is to chose between two structural alternatives for it, namely:



(I) (II)

Card 1/2

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ACCESSION NR: AP4019016

After a discussion supported by reactive evidence, the authors expressed preference for the second alternative formula, although they admit the possibility of existence of structure I. Spectroscopic investigation was inconclusive. During the course of this investigation, the following products were prepared; and fluoroanhydride of hexafluoropivalic acid, ethyl ester of their characteristics described: α-bromohexafluoroisobutyric acid. Orig. art. has: 6 formulas.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy, AN SSSR (Institute of Elementoorganic Compounds AN SSSR)

SUBMITTED: 19Jul63 DATE ACQ: 27Mar64 ENCL: 00

SUB CODE: 00 NR REF SOV: 003 OTHER: 000

Card 2/2

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; KHRLAKYAN, S.P.; ZEYFMAN, Yu.V.; SHOKINA, V.V.

Fluorinated diiodoalkanes and diolefins. Izv.AN SSSR.Ser.khim. no.2:384-386 F '64. (MIRA 17:3)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I. L.; LIN'KOVA, M. G.; KULESHOVA, N. D.

Preparation and properties of some B-thiolactones. Izv AN SSSR Ser Khim no. 4:644-651 Ap '64. (MIRA 17:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KAZ'MINA, N. B.; KIL'DISHEVA, O. V.; KNUNYANTS, I. L.

Acylation of serine, cystine, and cystamine with p-d i (2-chloroethyl) aminophenylalkanic acid chlorides. Izv AN SSSR Ser Khim no. 4:755-756 Ap '64. (MIRA 17:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; DYATKIN, B.L.

Perfluoro tert-butyl alcohol and dissociation constants of trifluoromethylcarbinols. Izv. AN.SSSR.Ser.khim. no. 5:925-925 My '64. (MIRA 17:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

GAMBARYAN, N.P.; SIMONYAN, L.A.; KNUNYANTS, I.L., akademik

Case of unusual addition of diazoacetic ester to ketones. Dokl. AN SSSR 155 no. 4:833-835 Ap '64. (MIRA 17:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

BYSTROV, V.F.; NEYMYSHEVA, A.A.; STEPANYANTS, A.U.; KNUNYANTS, I.L., akademik

Additive relations for chemical shifts in magnetic resonance spectra on F nuclei of fluophosphates and fluophosphonates. Dokl. AN SSSR 156 no. 3:637-640 '64. (MIRA 17:5)

1. Minstitut khimicheskoy fiziki AN SSSR i Voyennaya akademiya khimicheskoy zashchity.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ZURABYAN, S.E.; KEHLAS, S.S.; KNUNYANTS, I.L.

Carcinolytic peptides of directed action. Report No.6: Diethylenediaminophosphoryl derivatives of amines, amino acids, and peptides. Izv. AN SSSR Ser. khim. no.11:2036-2042 N '62 (MIRA 18:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L., akademik; SOKOL'SKIY, G.A.; BELAVENTSEV, M.A.

Structure and reactivity of fluorine-containing β-sultones.
Dokl. AN SSSR 159 no.1:135-137 N '64. (MIRA 17:12)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

LIN'KOVA, M.G.; KULESHOVA, N.D.; KNUNYANTS, I.L.

Thiolactones. Usp. khim. 33 no.10:1153-1183 O '64. (MIRA 17:11)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ACCESSION NR: AP5002836

Dodecafluoropinacone was obtained by

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

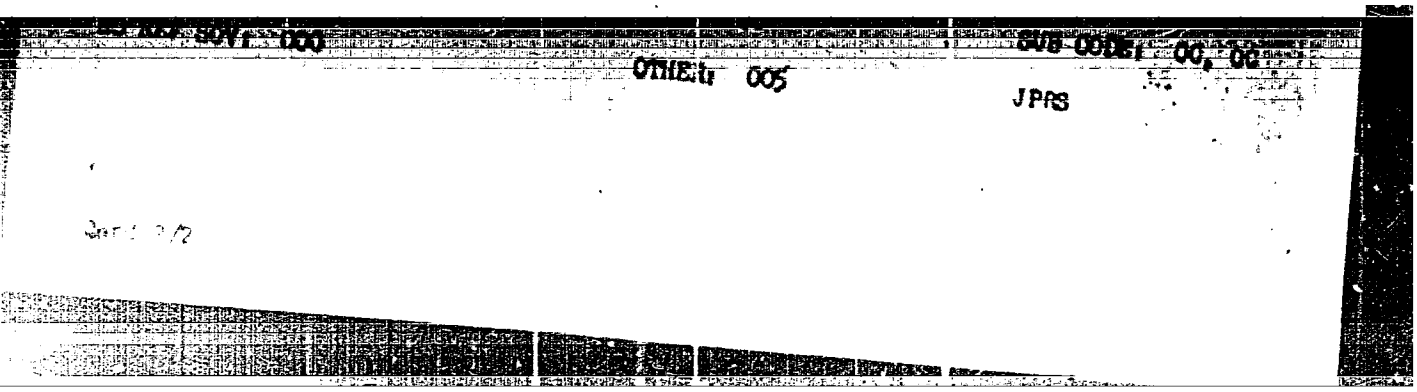
[illegible] obtained by boiling 55 grams of the acid obtained by saponifying phosphorane with concentrated sulfuric [illegible] ml of water. Sulfuric acid was added [illegible]

[illegible] with a boiling point of 59-59 [illegible] (61%) [illegible] it congealed into colorless crystals with a melting [illegible] art. Can 11 formulas.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemento-Organic Compounds, Academy [illegible]

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0



APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

Izvestiya. Seriya khimicheskaya, no. 8, 1964, 1425-1429

TOPIC TAGS: perfluoroisobutylene, nitration, nitrogen tetroxide, nitroperfluorobutylnitrite, perfluoroisob...

...isobutylene was heated with an ... at 170-180°C ... and a fraction boiling ...

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

[illegible] hydrolysis of the 30-100C fraction gave [illegible] ic acid (X) in 27% yield based on initial [illegible] and its conversion products

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; GERMAN, L.S.; ROZHKOV, I.N.

Aliphatic fluoronitro compounds. Report No.3: Fluorine-containing nitro alcohols and ethers. Izv.AN SSSR.Ser.khim. no.9:1630-1634 S '64. (MIRA 17:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

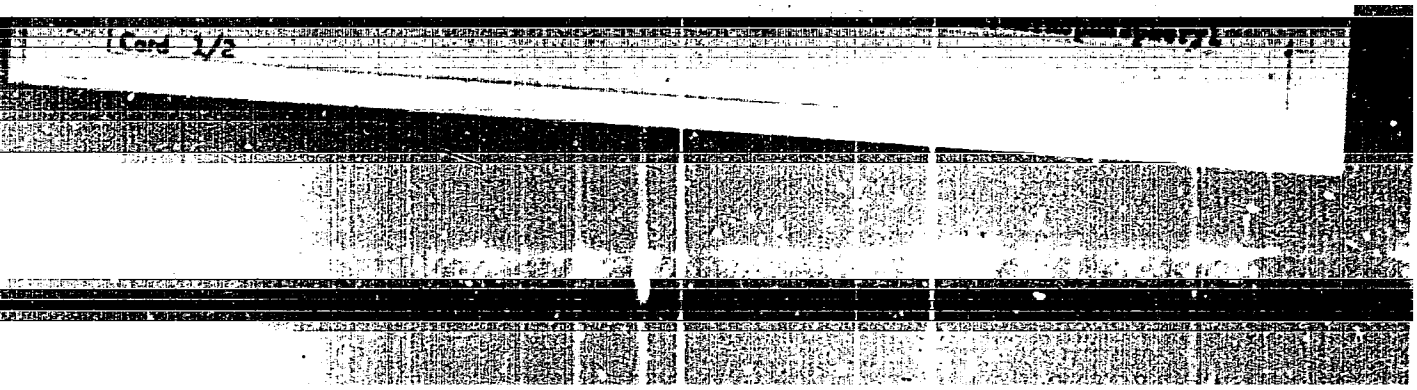
"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

organic phosphorus compound, amine, amino acid, biochemistry

Abstract: A series of new derivatives of amines [illegible] acids [illegible]

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0



APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ACCESSION NR: AP5015799

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

GEORGIYEV, G.P., doktor biol. nauk; KISELEV, L.L., kand. biol. nauk; KNUNYANTS, I.L., akademik; ENGEL'GARDT, V.A., akademik; CHERNOV, A.G.; NIKOLAYEV, V.R., red.

[Problems of molecular biology. Problemy molekuliarnoi biologii. Moskva, Znanie, 1965. 63 p. (Novoe v zhizni, nauke, tekhnike. VIII Seriia: Biologiia i meditsina, no.10) (MIRA 18:6)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KHRIAKYAN, S.P.; SHOKINA, V.V.; KNUNYANTS, I.L.

Fluorinated mono- and diepoxy compounds. Izv. AN SSSR Ser. khim. no.1:72-75 '65. (MIRA 18:2)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ZEYFMAN, Yu.V.; GAMBARYAN, N.P.; KNUNYANTS, I.L.

Imines of perfluoro ketones. Izv. AN SSSR. Ser. khim. no.3:450-456 '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

GAMBARYAN, N.P.; KNUNYANTS, I.L.

Hexafluoroacetone as an acceptor of hydride ions. Izv. AN SSSR. Ser. khim. No.4:722-723 '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; KRASUSKAYA, M.P.; GAMBARYAN, N.P.

Nucleophilic addition of hydrogen halides to perfluoroisobutylene. Izv. AN SSSR. Ser. khim. no.4:723-726 '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

GAMBARYAN, N.P.; ROKHLIN, Ye.M.; ZEYFMAN, Yu.V.; KNUNYANTS, I.L.

Bis (trifloromethyl) ketene anil. Izv. AN SSS. Ser. khim. no.4: 749-750 '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

MINASYAN, R.B.; ROKHLIN, Ye.N.; GAMBARYAN, N.P.; ZEYFMAN, Yu.V.; KNUNYANTS, I.L.

Bis (trifluoromethyl) cyclodiazomethane. Izv. AN SSSR. Ser. khim. no.4:761 '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; PERVOVA, Ye.Ya.

Alkylation of perfluoroalkyl iodides by diazomethane. Izv. AN SSSR. Ser. khim. no.5:894-895 '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

DAGIENE, M.I. [Dagiene, M.]; RASTEIKIENE, L.P. [Rasteikiene, L.]; KIL'DISHEVA, O.V.; KNUNYANTS, I.L.

Nα-acyl derivatives of histidine bearing di-(2-chloroethyl) amino group. Izv. AN SSSR. Ser. khim. no.5:917-919 '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i Institut khimii i khimicheskoy tekhnologii AN Litovskoy SSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; KULESHOVA, N.D.; LIN'KOVA, M.G.

β-Propiothiolactone. Izv. AN SSSR. Ser. khim. no.6:1081-1082 '65. (MIRA 18:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L.; DYATKIN, B.L.; MOCHALINA, Ye.P.

Perfluoro tert-butylamine. Izv. AN SSSR. Ser. khim. no.6:1091-1093 '65. (MIRA 18:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

DYATKIN, B.L.; BEKKER, R.A.; KRUNYANTS, I.L.

Nitrosation of alkyl perfluorovinyl ethers. Izv. AN SSSR. Ser. khim. no.6:1121 '65. (MIRA 18:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ZEYFMAN, Yu.V.; GAMBARYAN, N.P.; KNUNYANTS, I.L.

Semicarbazone of hexafluoroacetone. Zhur. VKHO 10 no.2:235-236 '65. (MIRA 18:6)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

KNUNYANTS, I.L., akademik; LOSHADKIN, N.A.

Mutations and heredity. Priroda 54 no.9:2-12 S '65.

(MIRA 18:9)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ROKHLIN, Ye.M.; ZEYFMAN, Yu.V.; CHEBURKOV, Yu.A.; GAMBARYAN, N.P.; KNUNYANTS, I.L., akademik

Reaction of hexafluoroacetone with triethyl phosphite. Dokl. AN SSSR 151 no.6:1356-1358 Ap '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

YA[illegible] [illegible]; [illegible], V.N.; ALIYEV, [illegible]; KIL'[illegible], O.Y.; LIN'KOVA, M.G.; KHUNYANTS, I.L., akademik

Cystaphos (monosodium salt of β-aminoethylthiophosphoric acid) as a means for increasing the effectiveness of the chemotherapy of tumors. Dokl. AN SSSR 162 no.2:476-479 My '65. (MIRA 18:5)

1. Institut gigiyeny truda i professional'nykh zabolevaniy AMN SSSR; Gosudarstvennyy [illegible] institut im. P.A.Gertsena i Institut elementoorganicheskikh soyedineniy AN SSSR.

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ACC NR: AP7010719

SOURCE CODE: UR/0062/66/000/012/2247/2248

AUTHOR: Mochalina, Ye. P.; Dyatkin, B. L.; Knunyants, I. L.

ORG: Institute of heteroorganic compounds, Academy of Sciences USSR (Institut elementoorganicheskikh soyediniy AN SSSR)

TITLE: Fluorine-containing phosphazo-compounds

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1966, 2247-2248

TOPIC TAGS: organic nitrogen compound, organic phosphorus compound, fluorinated organic compound

SUB CODE: 07

ABSTRACT: It was found that fluorine-containing phosphazo-compounds may be prepared by reaction triphenylphosphine and triethylphosphite with tertiary perfluoronitrosoalkanes, in 75 and 68% yield, respectively. The reaction products were characterized. The first case of the formation of phosphazo compounds from perfluoronitrosoalkanes and derivatives of trivalent phosphorus was reported in 1965 at the laboratory of the authors. Orig. art. has: 2 formulas. [JPRS: 40,351]

Card 1/1

UDC: 547.221 + 661.718

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ACC NR: AP6032278

SOURCE CODE: UR/0020/66/170/002/0337/0339

AUTHOR: Knunyants, I. L. (Academician); Dyatkin, B. L.; Bekker, R. A.

ORG: Institute of Heteroorganic Chemistry, Academy of Sciences, SSSR (Institut elementoorganicheskoy khimii Akademii nauk SSSR)

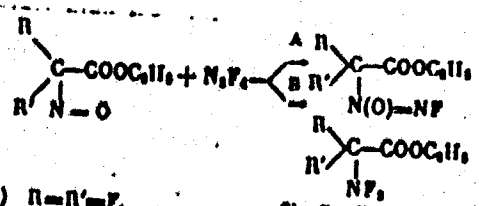
TITLE: Reactions of tetrafluorohydrazine with alpha-nitrosoperfluorocarboxylic acid esters

SOURCE: AN SSSR, Doklady, v. 170, no. 2, 1966, 337-339

TOPIC TAGS: tetrafluorohydrazine reaction, nitrosoperfluorocarboxylic acid ester, ester, chemical reaction, organic nitroso compound, hydrazine compound, fluorohydrin, carboxylic acid

ABSTRACT: In an autoclave at 70—80°C, N_2F_4 reacts with ethyl esters of nitrosodifluoroacetic acid, nitrosofluorochloroacetic acid, and α-nitrosoperfluoropropionic acid according to the reaction

A:



1) R=R'=F, 2) R=F, R'=Cl, 3) R=F, R'=CF_3, 4) R=R'=CF_3.

Card 1/2

UDC: 547.221.231.235

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ACC NR: AP6032278

to form the corresponding esters shown in the table.

[WA-50; CBE No. 12]

Table 1.

Compound	yield, %	bp	n_D^{20}	d_4^{20}	MR_D found	MR_D calculated	found, % O	found, % H	found, % F	found, % N	calculated, % O	calculated, % H	calculated, % F	calculated, % N
CF_2—$COOC_2H_5$ | N(O)=NF	33	50/30	1,3636	1,3755	30,77	30,11	26,16	2,09	31,20	14,88	26,84	2,71	30,63	15,6
CFCl—$COOC_2H_5$ | N(O)=NF	34	54/12	1,4003	1,4061	35,50	35,58	23,55	2,53	19,14	13,75	23,72	2,40	18,81	13,8
CF_3CF—$COOC_2H_5$ | N(O)=NF	35	61/33	1,3510	1,4351	35,67	36,18	25,55	2,00	40,17	11,05	25,43	2,13	40,24	11,8
CF_3 CF_3 >C—$COOC_2H_5$ | N(O)=NF	45	50/20	1,3490	1,3842	40,37	40,81	25,30	1,00	47,12	9,82	25,18	1,76	48,48	9,3
CF_3 CF_3 >C—$COOC_2H_5$ | NF_2	51	65/100	1,3330	1,4000	37,03	37,18	26,20	1,07	55,34	5,23	26,19	1,83	56,26	5,8

SUB CODE: 07/ SUBM DATE: 10Mar66/ ORIG REF: 006/ OTH REF: 004/

Card 2/2

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

L 06514-67 EWT(m)/EWP(j) RM

ACC NR: AP7000478 SOURCE CODE: UR/0079/66/036/006/1105/1113

LOSHADKIN, N. A., MARKOV, S. M., POLEKHIN, A. M., KEYMYSHEVA, A. A., MAKLYAYEV, F. L., KNUNYANTS, I. L.

"Nucleophilic Substitution at the Tetrahedral Phosphorus Atom. III. Relationship between the Structure and Reactivity of Phosphorus-Containing Compounds. Role of the Vacant 3d-Orbitals of the Phosphorus Atom"

Moscow, Zhurnal Obshchey Khimii, Vol 36, No 6, 1966, pp 1105-1113

Abstract: A study of the alkaline hydrolysis of nitrophenol esters and halides of phosphorus acids indicated that the free energy change is less sensitive to changes in the influence of substituents bonded to the phosphorus atom than the activation energy and steric factor. The effects of changes in the structure of the substituent were investigated: effect of replacement of the oxygen atom in the P=O group by a sulfur atom; effect of the structure of alkyl groups bonded to the phosphorus atom; effect of replacement of an alkyl group bonded to the phosphorus atom by an alkoxy group; effect of structure of the alkoxy group. The standard deviations of the rate constant of hydrolysis, activation energy, and steric factor calculated indicated a significant difference of these quantities, depending upon the structure of the organophosphorus compound. The introduction of substituents capable of participating in p_{pi}-d_{pi} conjugation (RO group) next to the phosphorus atom leads to a relatively

Card 1/2

UDC: 547.18:541.63 + 543.878

0923 1190

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

L 06514-67

ACC NR: AP7000478

small, but significant increase in the energy and entropy of activation. The presence of a compensation dependence of the change in the activation energy and entropy of alkaline hydrolysis of nitrophenyl esters and fluorides of phosphorus acids was demonstrated. Orig. art. has: 3 figures and 3 tables. [JPRS: 37,023]

ORG: none

TOPIC TAGS: activation energy, organic phosphorus compound, hydrolysis

SUB CODE: 07 / SUBM DATE: 27Jul64 / ORIG REF: 017 / OTH REF: 019

Card 2/2 LJ

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ACC NR: AP6024023 SOURCE CODE: UR/0062/66/000/006/1115/1116

AUTHOR: Knunyants, I. L.; Puzerauskas, A. P.; Kil'disheva, O. V.; Pervova, Ye. Ya.

ORG: Institute of Heteroorganic Compounds, Academy of Sciences, SSSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR)

TITLE: Symmetrical diethyl di-p-nitrophenyl 1,2-ethylenediphosphonate

SOURCE: AN SSSR, Izv. Ser khim, no. 6, 1966, 1115-1116

TOPIC TAGS: antitumorigenic compound, alkylnitrophenyl diphosphonate, ORGANIC SYNTHETIC PROCESS, ETHYLENE, DIPHENYL COMPOUND, CYCLIC GROUP

ABSTRACT:

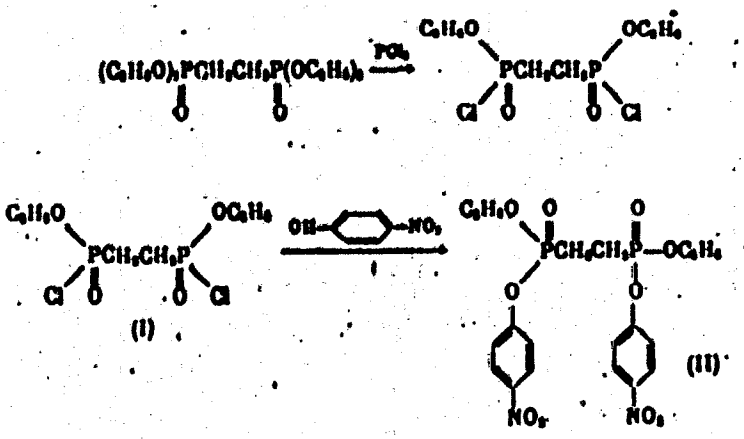
Previous studies showed that some bisethyleneimines possess antitumorigenic properties; in this connection, preparation of symmetrical diethyl di-p-nitrophenyl 1,2-ethylenediphosphonate (II) was studied. At 68—70°C, tetraethyl 1,2-ethylenediphosphonate reacts with PCl_5 to form chloride I, which reacts with p-nitrophenol in the presence of triethylamine at -10°C to yield (72%) II, mp 96—104°C.

Card 1/3 UDC: 542.95+661.718.1

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ACC NR: AP6024023



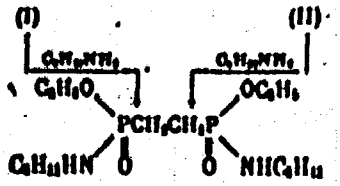
II is a bifunctional phosphorylating agent. The reaction of I and II with cyclohexyamine yields symmetrical diethyl dicyclohexylamido-1,2-ethylenediphosphonate, mp 211—214°C.

Card 2/3

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ACC NR: AP6024023



[W.A. 50; CBE No. 10]

SUB CODE: 07/ SUBM DATE: 28Jan66/ ORIG REF: 001/

Card 3/3

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ACC NR: AP7006027

SOURCE CODE: UR/0062/66/000/007/1265/1267

AUTHOR: Cheburkov, Yu. A.; Mukhamadaliyev, N.; Mirzabekyants, N. S.; Knunyants, I. L.
ORG: Institute of Heteroorganic Compounds, Academy of Sciences USSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

TITLE: Reactions of perfluorodimethylketene with alcohols, amines, and acids

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 7, 1966, 1265-1267

TOPIC TAGS: fluorinated organic compound, amine, alcohol, glycerin

ABSTRACT: The reactions of perflourodimethylketene with alcohols, amines, and acids were studied. These reactions are common both to perfluorodimethylketene and to nonfluorinated ketenes and lead to the production of various derivatives of hexafluoroisobutyric acid. The reaction with alcohols yielded esters. In the case of glycerin, at room temperature ketene alkylated only two hydroxy groups, either vicinal or terminal. Complete acylation was achieved only by heating the glycerin with excess perfluorodimethylketene in a sealed tube. The reactions of ketene with ammonia and amines yielded amides of hexafluoroisobutyric acid. In these reactions an excess of amines must be avoided to prevent mineralization of the fluorine atoms by splitting off hydrogen fluoride. Perfluorodimethylketne reacted readily with hydrogen chloride or bromide and with organic acids, yielding acid halides, anhydrides, and mixed anhydrides. The structures of the the new compounds were confirmed by infrared and nuclear magnetic resonance spectra. Orig. art. has: 4 formulas and 1 table. [JPRS: 38,967]

SUB CODE: 07 / SUBM DATE: 14Dec65 / ORIG REF: 009

Card 1/1

UDC: 542.91 + 547.233 + 547.26 + 541.452 + 546.16

09R708/2

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ACC NR: AP7000736 SOURCE CODE: UR/0062/66/000/006/1110/1111

KNUNYANTS, I. L., KRASUSKAYA, M. P., DEL'TSOVA, D. P., Institute of Heteroorganic Compounds, Academy of Sciences USSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

"Perfluorodiisocyanates"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya, No 6, 1966, pp 1110-1111

Abstract: Perfluorodiisocyanates $OCN(CF_2)_nNCO$ (n = 3, 4, 8) were produced by reactions of perfluorodicarboxylic acid hydrazides with nitrous acid or perfluorocarboxylic acid chlorides with sodium azide, followed by rearrangement of these acid azides formed under the conditions of the Curtius reaction. Perfluoropolymethylenediisocyanates react vigorously with alcohols, to give the corresponding perfluoropolymethylenediurethans. Orig. art. has: 2 formulas. [JPRS: 37,023]

TOPIC TAGS: organic cyanate compound, fluorinated organic compound, azide

SUB CODE: 07 / SUBM DATE: 10Dec65 / ORIG REF: 001 / OTH REF: 002

Card 1/1 UDC: 542.91 + 547.239 + 546.1

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ACC NR: AP7004582 SOURCE CODE: UR/0020/66/168/006/1319/1322

AUTHOR: Dyatkin, B. L.; Bekker, R. A.; Knunyants, I. L. (Academician)
ORG: Institute of Heteroorganic Compounds, AN SSSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

TITLE: Interaction of nitryl fluoride with alkylperfluorovinyl ethers. Synthesis of esters of alpha-nitroperfluorocarboxylic acids

SOURCE: AN SSSR. Doklady, v. 168, no. 6, 1966, 1319-1322
TOPIC TAGS: fluorinated organic compound, vinyl compound, ether

ABSTRACT: Two alternative reaction schemes are described for the reaction of alkylperfluorovinyl ethers with nitryl fluoride: addition of FNO_2 at the double bond according to the polarity of the reagents (scheme 1), and production of alkoxyperfluoronitrosoalkanes (scheme 2). Alkyltrifluorovinyl ethers react chiefly according to scheme 2, the formed nitroso-compound reacting with excess vinyl ether to oxazetidines. Alkyl-beta-chlorodifluorovinyl ethers and alkylperfluoropropenyl ethers react chiefly according to scheme 1. Ethylperfluoroisobutenyl ether reacts with nitryl fluoride in a stainless steel autoclave, yielding only a nitroso-ether; in an autoclave entirely lined with teflon, nitrofluorination accompanies the formation of the nitroso-compound. The reactions of nitryl chloride with alkylperfluorovinyl ethers were compared with those of nitryl fluoride. Nitryl chloride was found to behave similar to nitryl fluoride with respect to alkyltrifluorovinyl ethers; with alkyl-beta-chlorodifluoro-vinyl and alkylperfluoropropenyl ethers, exclusively chlorination products were obtained. Alkoxyperfluoronitroalkanes were also produced by oxidation

Card 1/2 UDC: 547.26'221.222.231.232

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ACC NR: AP7004582

of the corresponding alkoxyperfluoronitrosoalkanes with nitrogen dioxide. Alkoxyperfluoronitroalkanes were readily converted to esters of alpha-nitroperfluorocarboxylic acids by reaction with anhydrous aluminum chloride, followed by treatment with ethanol. Esters of alpha-nitroperfluoropropionic acid were also formed by oxidation of esters of alpha-nitrosoperfluoropropionic acid by nitrogen dioxide. Properties of the ethyl ester of alpha-nitroperfluoropropionic acid were studied: it reacts with hydrogen chloride, yielding alpha-chloroper-fluoronitrosoethane; under the action of ammonia, it decomposes to alpha-hydroperfluoronitroethane and ethyl carbamate. Orig. art. has: 2 formulas and 1 table. [JPRS: 38,967]

SUB CODE: 07 / SUBM DATE: 02Dec65 / ORIG REF: 010 / OTH REF: 003

Card 2/2

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0

ACC NR: AP6027957 SOURCE CODE: UR/0020/66/169/003/0594/0597

AUTHOR: Knunyants, I. L. (Academician); Shokina, V. V.; Tyuleneva, V. V.

ORG: Institute of Heteroorganic Compounds, Academy of Sciences, SSSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR)

TITLE: Reactions of perfluoro olefins with nucleophillic reagents. Trifluoropyruvic acid and its derivatives.

SOURCE: AN SSSR. Doklady, v. 169, no. 3, 1966, 594-597

TOPIC TAGS: perfluoroethylene oxide hydrolysis, trifluoropyruvic acid derivatives; ETHYLENE OXIDE, OLEFIN, HYDROLYSIS, AMMONOLYSIS

ABSTRACT: In the presence of H_2O and silica gel at 100°C, perfluoroethylene oxide (I) is easily hydrolyzed to form IV, a stable compound with mp 125—126°C, boils at 156—158°C with decomposition.

Hydrolysis of I in the presence of acetone yields the adduct V (mp 111—112°C):

Alcholysis of I yields the ester III, which is saponified with sulfuric acid in the presence of silica gel at 140°C to yield esters VIa and VIb:

VIa was also obtained by methylation of IV with diazomethane and saponification of the methylation product.

Card 1/2 UDC: 547.484

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000723330003-0"