NESMEYANOV, Andrey Nikolayevich, doktor tekhn. nauk; MEL'NIKOVA, Zh.M., red.

[Isotopes in the service of man] Izotopy sluzhat liudiam. Moskva, Izd-vo "Znanie," 1965. 30 p. (Novoe v zhizni, nauke, tekhnike. IV Seriia: Tekhnika, no.5) (MIRA 18:2)

MAKAROVA, Lyubov' Gennadiyevna; NESMEYANOV, Aleksandr Nikolayevich; KOCHESHKOV, K.A., otv. red.; RODIONOV, A.N., red.

[Methods of organometallic chemistry; mercury] Metody elementoorganicheskoi khimii; rtut'. Moskva, Nauka, 1965. 438 p. (MIRA 18:7)

1. Chlen-korrespondent AN SSSR (for Kocheshkov).

MAKAROVA, Lyubov' Gennadiyevna; NESMEYANOV, A.N.

[Mercury] Rtut'. Moskva, Nauka, 1965. 438 p.
(MIRA 19:1)

OKHLOBYSTIN, Oleg Yur'yevich; NESMEYANOV, A.N., akademik, otv. red.

["Third" chemistry: metallo-organic compounds] "Tret'ia" khimiia; elementoorganicheskie soedineniia. Moskva, Nauka, 1965. 198 p. (MIRA 18:3)

L 20351-66 EWT(m)/EWP(j) RM

ACC NR: AP6012083 SOURCE CODE: UR/0062/65/000/003/0580/0580

AUTHOR: Nesmeyanov, A. N.; Kozlovskiy, A. G.; Gubin, F. P.; Perevalova, E. G. 46 B

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet); Institute of Organoelemental Compounds, AN SSSR (Institut elementoorganicheskikh soyedineniy)

TITLE: Protolysis of mercury derivatives of ferrocene

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

TOPIC TAGS: titrimetry, ferrocene, mercury compound, dioxane, chlorine compound

ABSTRACT: The Rate constants were determined for the protolysis of mercury derivatives of ferrocene — chloromercuroferrocene and diferrocene-mercury using hydrochloric acid in 90% (by volume) aqueous dioxane. The quantity of acid not entering into reaction was determined by potentiometric titration. The reaction rate in all cases is described by a second-order kinetic equation. The protolysis rate of diferrocene mercury is six times greater than the cleavage rate of di-p-anisylmercury under the same conditions.
Orig. art. has: 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 18Jan65 / ORIG REF: 002

Card 1/1 vmb UDC: 531.1+542.957

NESMEYANOV, A.N.; YUR'YEVA, L.P.; MATERIKOVA, R.B.; GETNARSKI, B.Ya.

Stability of some ferricinium salts. Izv. AN SSSR. Ser. khim. no.4: 731-733 '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

NESMEYANOV, A.N.; KURSANOV, D.N.; SETKINA, V.N.; KISLYAKOVA, N.V.; KOLOBOVA, N.Ye.; ANISIMOV, K.N.

Isotopic exchange of hydrogen atoms in cyclopentadienyl rhenium tricarbonyl. Izv. AN SSSR. Ser. khim. no.4:762 '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

NESMEYANOV, A.N.; PEREVALOVA, E.G.; YUR'YEVA, L.P.; GUBIN, S.P.

Redox potentials and absorption spectra in ultraviolet and visible regions in some homoannular disubstituted ferrocene derivatives. Izv. AN SSSR. Ser. khim. no.5:909-911 '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

NESMEYANOV, A.N.; CHAPOVSKIY, Yu.A.; MAKAROVA, L.G.

Arylation of π-$C_5H_5Fe(CO)_2Na$ by onium salts. Izv. AN SSSR. Ser. khim. no.7:1310-1311 '65. (MIRA 18:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

L 16984-66 EWT(m)/EWP(j)/T WW/JW/JWD/RM
ACC NR: AP6002101 SOURCE CODE: UR/0062/65/000/011/2061/2063

AUTHORS: Nesmeyanov, A. N.; Sazonova, V. A.; Drozd, V. N.; Rodionova, N. A.; Zudkova, G. I.

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

TITLE: Properties of α-ferrocenylcarbonic ions

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 11, 1965, 2061-2063

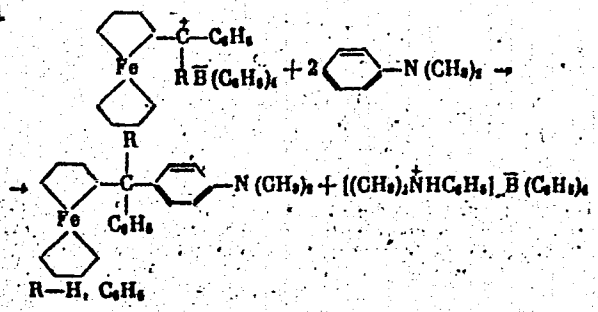
TOPIC TAGS: ferrocene, organic synthetic process, nuclear magnetic resonance

ABSTRACT: Reaction of tetraphenylborates of phenyl-(I) and diphenylferrocenylcarbonates (II) with dimethylaniline (III) was investigated. Preparation of I and II and some of their properties were described by the authors in a previous work (Dokl. AN SSSR, 160, No. 2, 1965). The reaction described here takes place at 5--20C within a few minutes and proceeds according to the equation

Card 1/2 UDC: 542.91+547.1'13+546.72

L 16984-66

ACC NR: AP6002101



The structures of the products were confirmed by NMR spectra. Preparation of p-dimethylaminophenylferrocenyl-, p-dimethylaminodiphenylferrocenyl-, and p-dimethylaminophenyldiferrocenylcarbinols is described. The authors express their gratitude to V. I. Sheychenko for working on the NMR spectra. Orig. art. has: 1 equation.

SUB CODE: 07/ SUBM DATE: 24Mar65/ ORIG REF: 001 OTH REF: 001

Card 2/2 MGS

L 35317-66 EWT(m)/EWP(j) RM

ACC NR: AP6026899 SOURCE CODE: UR/0062/65/000/012/2218/2220

AUTHOR: Kursanov, D. N.; Setkina, V. N.; Nefedova, M. N.; Nesmeyanov, A. N.

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

TITLE: Isotopic exchange of hydrogen in alkylferrocenes

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1965, 2218-2220

TOPIC TAGS: isotope, hydrogen, ferrocene, electron donor, acetic acid, benzene, chemical kinetics

ABSTRACT: The reaction of the isotopic exchange of hydrogen in acid media was used as a model for investigating the laws of eletrophilic substitution in aromatic systems. Ferrocene readily enters into this reaction and the acetyl groups introduced into the ferrocene molecules markedly reduce the exchange rate of the hydrogen atoms on the nucleus. By investigating the effect of electron-donor substitutes in ferrocene on its reactivity, the authors determined the rate constants of the isotopic exchange of hydrogen of methyl-, ethyl- and 1,1'-diethylferrocenes in a mixture of deuteroacetic and trifluoroacetic acids. It was shown that the introduction of alkyl groups enhances the reactivity of the ferrocene nucleus to a much smaller degree than that of the benzene nucleus. In alkylferrocenes all the hydrogen atoms of the ferrocene nucleus participate in the exchange, and the kinetics of isotopic exchange is not affected by the differences in the reactivity of the various positions. Orig. art. has: 4 tables. [JPRS: 36,455]

SUB CODE: 07 / SUBM DATE: 21Apr65 / ORIG REF: 003 / OTH REF: 001

Card 1/1 UDC: 542.957+546.72+546.11.2

0916 2657

L 35318-66 EWT(m)/EWP(j) RM

ACC NR: AP6026891 SOURCE CODE: UR/0062/65/000/012/2120/2124

AUTHOR: Nesmeyanov, A. N.; Perevalova, E. G.; Nikitina, T. V.; Kuznetsova, N. I. 32 B

ORG: Moscow State University im. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Behavior of m- and p- ferrocenylhydrazobenzenes under conditions of benzidine rearrangement

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1965, 2120-2124

TOPIC TAGS: benzidine, benzene, substituent, ferrocene, molecular structure, chemical reaction

ABSTRACT: This is a continuation of a previous investigation. The effect of ferrocenyl as a substituent on the benzidine rearrangement of hydrazobenzene was studied. It was established that ferrocenyl as a substituent on the benzene ring complicates benzidine rearrangement: m- and p-ferrocenylhydrazobenzenes under the conditions of benzidine rearrangement generally get disproportionated rather than rearranged, i.e. the end-product is ferrocenylamine and azoferrocene. Compounds of the benzidine type do not form. These findings indicate that the introduction of the ferrocenyl substituent — whether in the para or in the meta position — into the hydrazobenzene molecule impedes benzidine rearrangement to such an extent that disproportionation becomes the main trend of the reaction. [JPRS: 36,455]

SUB CODE: 07 / SUBM DATE: 29Jul63 / ORIG REF: 003 / OTH REF: 005

Card 1/1 UDC: 542.957+546.72

0916 2649

L 35324-66 EWT(m)/EWP(j) RM

ACC NR: AP6026892 SOURCE CODE: UR/0062/65/000/012/2124/2128

AUTHOR: Nesmeyanov, A. N.; Perevalova, E. G.; Nikitina, T. V.; Kuznetsova, N. I.

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

TITLE: Effect of hydrochloric acid on the azo derivatives of ferrocene

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1965, 2124-2128

TOPIC TAGS: hydrochloric acid, ferrocene, organic azo compound, chemical synthesis, nitrobenzene, chemical decomposition, condensation reaction, chemical reduction, amine

ABSTRACT: A study was made of the effect of conc. HCl on benzeneazoferrocene and m- and p-ferrocenylazobenzenes -- azo derivatives of ferrocene synthesized by condensation of nitrobenzene with ferrocenylamine and m- and p-ferrocenylanilines. It is shown that conc. HCl causes benzeneazoferrocene to decompose and form Fe-free substances; products of benzidine-type rearrangement have not been detected. Conc. HCl transforms m- and p-ferrocenylazobenzenes into ferrocenylaniline, aniline and substances isomeric to ferrocenylhydrazobenzene. In this case the ferrocenylazobenzenes are protonated and decompose, to form $FeCl_2$, which then reduces the second molecule of the protonated ferrocenylazobenzene to a hydrazo compound. The hydrazo compound is either further reduced to amines or gets disproportionated and rearranged.
[JPRS: 36,455]

SUB CODE: 07 / SUBM DATE: 29Jul63 / ORIG REF: 006 / OTH REF: 003

Card 1/1

UDC: 542.957+546.72

L 35316-66 EWT(m)/EWP(j) RM
ACC NR: AP6026898 SOURCE CODE: UR/0062/65/000/012/2196/2198

AUTHOR: Reshetova, M. D.; Yarysheva, L. M.; Perevalova, E. G.; Nesmeyanov, A. N.

ORG: Moscow State University im. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Synthesis of certain substituted ferrocenylcarbinols

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1965, 2196-2198

TOPIC TAGS: chemical synthesis, ferrocene, hydrolysis, methylation

ABSTRACT: This is a continuation of a previous investigation (PEREVALOVA), which deals with the synthesis of heteroannular chloro-, bromo- and cyano-(alpha-oxyethyl) ferrocenes and (alpha-oxypropyl) ferrocene by reducing the corresponding acylferrocenes with $LiAlH_4$. The compounds thus obtained were; 1,1'-chloracetylferrocene, 1,1'-chloro(alpha-oxyethyl)ferrocene, 1,1'-bromo(alpha-oxyethyl)ferrocene, 1,1'-cyano(alpha-oxyethyl)ferrocene, and 1,1'-carbomethoxy(alpha-oxyethyl)ferrocene. 1,1'-cyano(alpha-oxyethyl) ferrocene was converted to 1,1'-carbomethoxy(alpha-oxyethyl)ferrocene by alkaline hydrolysis and subsequent methylation with diazomethane.
[JPRS: 36,455]

SUB CODE: 07 / SUBM DATE: 05Apr65 / ORIG REF: 002 / OTH REF: 002

Card 1/1 UDC: 542.91+547.1'13

L 21783-66 EWT(m)/EWP(j) RM

ACC NR: AP6002867 (A) SOURCE CODE: UR/0286/65/000/024/0026/0027

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

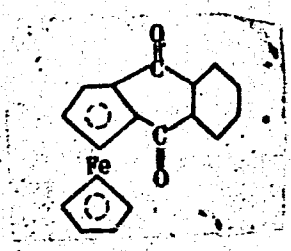
ORG: none

TITLE: A method for obtaining ferroceneanthraquinone. Class 12, No. 176923 [announced by Institute for Heteroorganic Compounds, AN SSSR (Institut elementoorganicheskikh soyedineniy 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 ferroceneanthraquinone in the form of



UDC: 547.673.419.6.07

Card 1/2

L 21783-66
ACC NR: AP6002867

To obtain a product useful for dyeing 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

L 10644-66 EWT(m)/T WE/RM

ACC NR: AP6002075 SOURCE CODE: UR/0204/65/005/006/0892/0896

AUTHOR: Nesmeyanov, A. N.; Zaytsev, V. A.; Anisimov, K. N.; Lerner, M. O.; Kolobova, N. Ye.; Poretskaya, A. P.; Magomedov, G. K.

ORG: Institute of Heterorganic Compounds AN SSSR (Institut elementoorganicheskikh soyedinenij AN SSSR)

TITLE: Antiknock effectiveness of certain organomanganese compounds

SOURCE: Neftekhimiya, v. 5, no. 6, 1965, 892-896

TOPIC TAGS: antiknock compound, organomanganese compound, fuel additive

ABSTRACT: The antiknock effectiveness of manganese carbonyl (MC) and of cyclopentadienyltricarbonylmanganese (CTM) derivatives was compared with that of CTM and tetraethyllead (TEL). The effectiveness of the individual organomanganese compounds in different concentrations was studied in various fuels by the standard motor method for determining the octane number. It was shown that for a given metal content in the fuel: 1) the antiknock effectiveness of MC in comparison with that of CTM and TEL is as follows: a) In automotive gasolines A-66 and A-72, lower; b) in a mixture of isooctane (60%) and heptane (40%), nearly the same; c) in the aviation gasoline B-95/130, lower. 2) The antiknock effectiveness of MC-CTM mixture in B-95/130 gasoline is equal to that of CTM. 3) The antiknock effectiveness of 2[2-(alkoxy)-5-hexen-3-ynyl]cyclopentadienyltricarbonylmanganeses depends on the alkoxy group and

Card 1/2 UDC: 547.514.72'171.1:665.521.23

L 10644-66

ACC NR: AP6002075

drops in the sequence $-OC_2H_5 > -OC_3H_7\text{-}n. > -OCH_2-CH=CH_2 > -OCH_3 > -OC_4H_9$. 2[2-(Ethoxy)-5-hexen-3-ynyl]cyclopentadienyltricarbonylmanganese improves the octane rating by two numbers as compared with CTM. 4) Introduction of acyl or benzayl groups into the CTM molecule lowers its antiknock effectiveness. Orig. art. has: 1 fig. and 6 tables. [BO]

SUB CODE: 21/ SUBM DATE: 12Nov64/ ORIG REF: 003/ OTH REF: 002/ ATD PRESS: 4169

Card 2/2

NESMEYANOV, A.N.; MAKAROVA, L.G.; POLOVYANYUK, I.V.

Production of organomercury compounds by the decomposition of double salts of aryl diazonium chlorice and mercuric chloride in water. Zhur. ob. khim. 35 no.4:681-683 Ap '65.
(MIRA 18:5)

KAZANKOVA, M.A.; [illegible], I.P., [illegible], A.N.

Reaction of α-mercurated carbaryl compounds with a ketene dimer. Zhur. org. khim. 35 no.8:1447-1451 Ag '65.

(MIRA 18:9)

NESMEYANOV, A.N., akademik; BELIKOV, V.M., kand. khim. nauk

Problem of food synthesis. Priroda 54 no.9:13-23 S '65.
(MIRA 18:9)

NESMEYANOV, A.N., akademik; MATERIKOVA, R.B.; KOCHETKOVA, N.S.; TSURGOZEN, L.A.

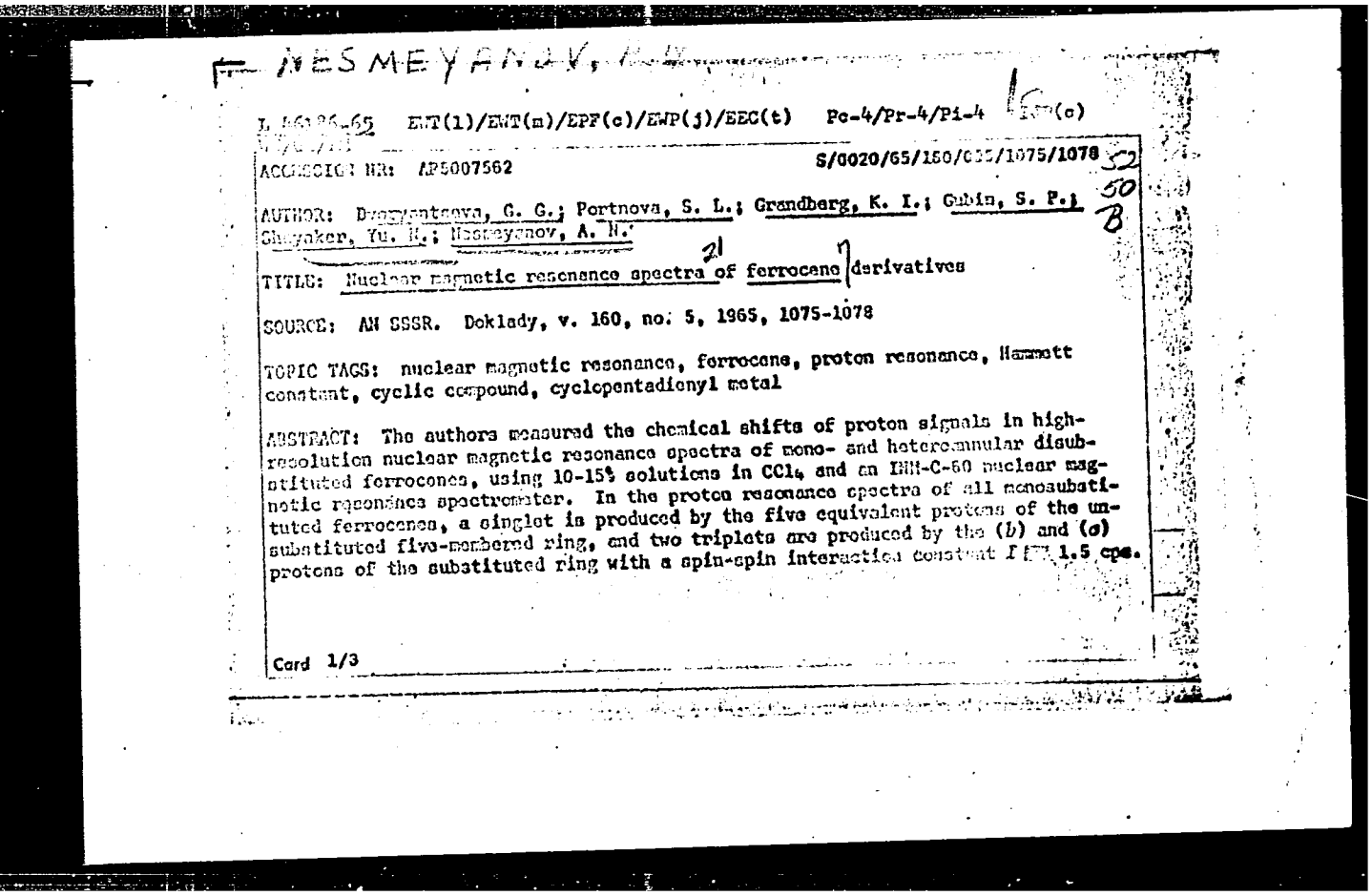
Salts of 1,1'-dialkylcobalticinium. Dokl. AN SSSR 160 no.1:137-138 Ja '65. (MIRA 18:2)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

NESMEYANOV, A.N., akademik; YAVORSKIY, B.M.; ZASLAVSKAYA, G.B.; KOCHETKOVA, N.S.

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

1. Institut elementoorganicheskikh soyedineniy AN SSSR.



NESMEYANOV, A. N.

L 46186-65 EWT(l)/EWT(m)/EPF(c)/EWP(j)/EEC(t) Pc-4/Pr-4/Pi-4 IJP(c)

ACCESSION NR: AP5007562 S/0020/65/160/005/1075/1078

AUTHOR: Dzhuzhentsova, G. G.; Portnova, S. L.; Grandberg, K. I.; Gubin, S. P.; Shuykin, Yu. N.; Nesmeyanov, A. N.

TITLE: Nuclear magnetic resonance spectra of ferrocene derivatives

SOURCE: AN SSSR. Doklady, v. 160, no. 5, 1965, 1075-1078

TOPIC TAGS: nuclear magnetic resonance, ferrocene, proton resonance, Hammett constant, cyclic compound, cyclopentadienyl metal

ABSTRACT: The authors measured the chemical shifts of proton signals in high-resolution nuclear magnetic resonance spectra of mono- and heteroannular disubstituted ferrocenes, using 10-15% solutions in CCl_4 and an RMI-C-60 nuclear magnetic resonance spectrometer. In the proton resonance spectra of all monosubstituted ferrocenes, a singlet is produced by the five equivalent protons of the unsubstituted five-membered ring, and two triplets are produced by the (b) and (a) protons of the substituted ring with a spin-spin interaction constant J [illegible] 1.5 cps.

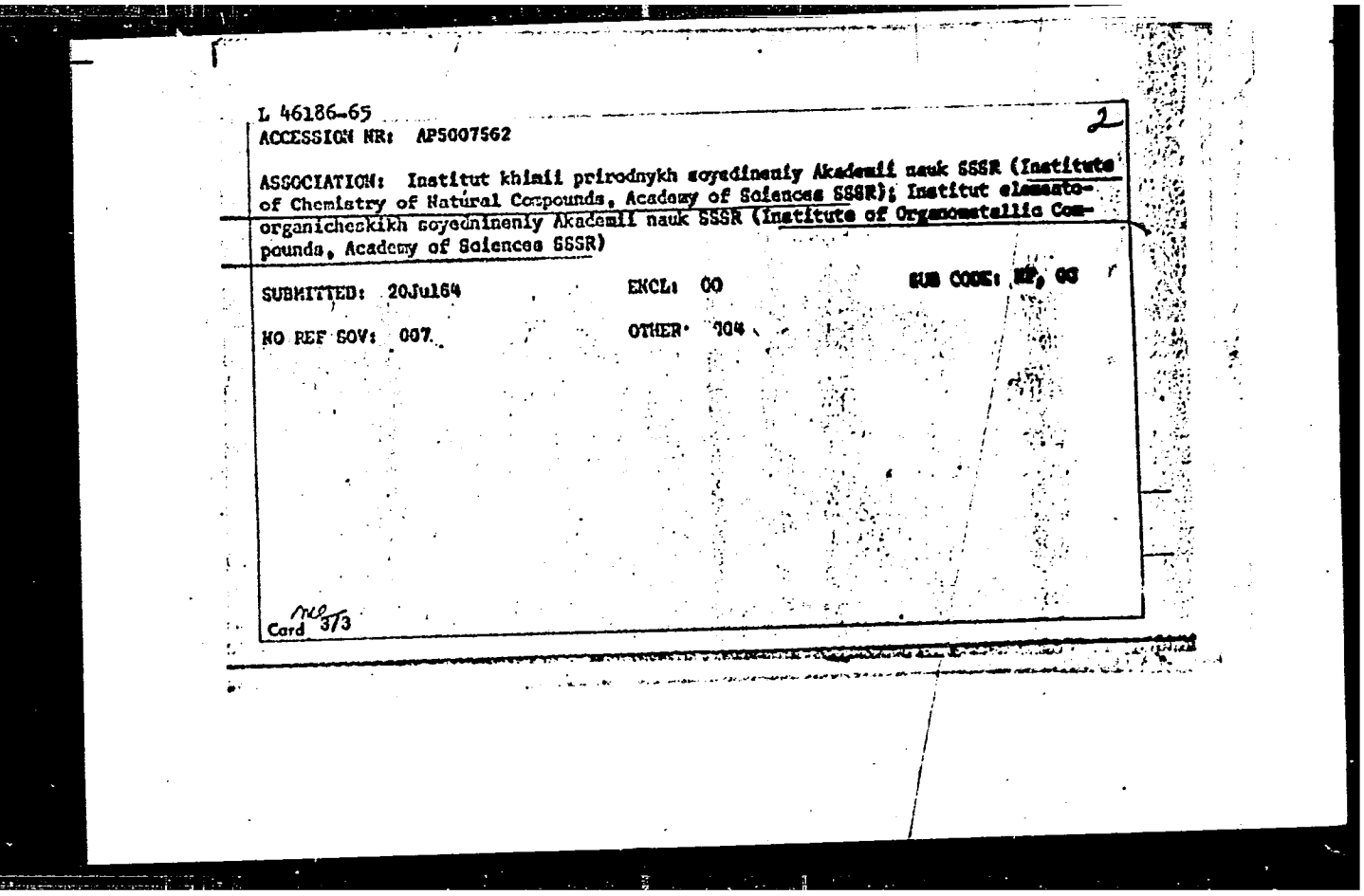
Card 1/3

L 46186-65

ACCESSION NR: AP5007562

It was found that the chemical shifts of protons of the unsubstituted ring are chiefly determined by the induction effect of the substituents. The observed values of the shifts δ_b and δ_a indicate a considerable effect of the conjugation of the substituent on the chemical shifts of protons of the substituted ring. Correlations are presented between the values of $\delta_a - \delta_a$ and the conjugation constants of the substituents, between the chemical shifts and the induction constants of the substituents, and between the chemical shifts of protons of the substituted rings and the Hammett constants σ_p of the substituents. The results of the study make it possible to draw a close analogy between the magnitude and character of the influence of the substituents on the (*a*), (*b*), and (*o*) hydrogen atoms of the ferrocenyl nucleus, and correspondingly on the meta, ortho, and para hydrogen atoms of the phenyl nucleus. Orig. art. has: 3 figures, 2 tables, and 3 formulas.

Card 2/3



L 46186-65
ACCESSION NR: AP5007562

ASSOCIATION: Institut khimii prirodnykh soyedinenly Akademii nauk SSSR (Institute of Chemistry of Natural Compounds, Academy of Sciences SSSR); Institut elementoorganicheskikh soyedinenly Akademii nauk SSSR (Institute of Organometallic Compounds, Academy of Sciences SSSR)

SUBMITTED: 20Jul64 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 007 OTHER: 004

Card 3/3

DVORYANTSEVA, G.G.; SHEYNKER, Yu.N.; NESMEYANOV, A.N., akademik; NOGINA, O.V.; LAZAREVA, N.A.; DUBOVITSKIY, V.A.

Infrared spectra of some cyclopentadienyl compounds of titanium. Dokl. AN SSSR 161 no.3:603-606 Mr '65. (MIRA 18:4)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i Institut khimii prirodnykh soyedineniy AN SSSR.

NESMEYANOV, A.N., akademik; ANISIMOV, K.N.; VALUYEVA, Z.P.

Reactions of chloromethylcyclopentadienylmanganesetricarbonyl with some nucleophilic reagents. Dokl. AN SSSR 162 no.1:112-115 My '65. (MIRA 18:5)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

NESMEYANOV, A.N., akademik; DUBOVITSKIY, V.A.; NOGINA, O.V.; BOCHKAREV, V.N.

Mass spectra of some monocyclopentadienyl derivatives of titanium. Dokl. AN SSSR 165 no.1:125-126 N '65. (MIRA 18:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i Institut khimii prirodnykh soyedineniy AN SSSR.

NESMEYANOV, A.N., akademik; BORISOV, A.Ye.; NOVIKOVA, N.V.

Geometric isomers of germanium alkenyl compounds. Dokl. AN SSSR 165 no.2:333-336 N '65. (MIRA 18:11)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

NESMEYANOV, A.N., akademik; SAZONOVA, V.A.; DROZD, V.N.

Introduction of aromatic and heterocyclic radicals to ferrocene. Reaction of bromoferrocene with organomagnesium compounds. Dokl. AN SSSR 165 no.3:575-577 N '65. (MIRA 18:11)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.

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 soyedineniy AN SSSR)

TITLE: Reactions of o-carboxybenzoylferrocene

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 S- and O-substituted and 3-ferrocenyl phthalides. An attempt to accomplish these reactions in the absence of H_3PO_4 was fruitless. Evidently, the first stage of the reaction is the formation of an alpha-ferrocenylmethyl cation, with subsequent attack of the cationoid 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

UDC: 547.1'13.07

Card 1/1

NESMEYANOV, A.N., akademik; KRITSKAYA, I.I.; FEDIN, E.I.

Synthesis and properties of π-allylcarbonyl complexes of iron.
Dokl. AN SSSR 164 no.5:1058-1061 O '65. (MIRA 18:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

MILLIONSHCHIKOV, M.D., akademik; ARUTYUNOV, K.B.; NESMEYANOV, A.N., akademik; TAL'ROZE, V.L., doktor khim.nauk; PAVLENKO, V.A.; KOTEL'NIKOV, V.A., akademik; PETROV, B.N., akademik; NOVIKOV, I.I.; MANDEL'SHTAM, S.L., doktor fiz.-matem.nauk; VAYNSHTEYN, B.K.; SHUMILOVSKIY, N.N., akademik

Problems in the manufacture of scientific instruments. Vest.AN SSSR 35 no.6:3-20 Je '65. (MIRA 18:8)

1. Glavnyy konstruktor Spetsial'nogo konstruktorskogo byuro analiticheskogo priborostroyeniya (for Pavlenko). 2. Chleny-korrespondenty SSSR (for Novikov, Vaynshteyn). 3. AN Kirgizskoy SSR (for Shumilovskiy).

NESMEYANOV, A.N., akademik; KURSANOV, D.N.; NEFEDOVA, M.N.; SETKINA, V.N.; PEREVALOVA, E.G.

Substitution of a proton for a halogen in ferrocene halides. Dokl. AN SSSR 161 no.6:1349-1351 Ap '65. (MIRA 18:5)

1. Institut elementoorganicheskogo sinteza AN SSSR. 2. Chlen-korrespondent AN SSSR (for Kursanov).

NESMEYANOV, A.N.; ANISIMOV, K.N.; KOLOBOVA, N.Ye.; ANTONOVA, A.B.

Reaction of manganese chloropentacarbonyl with trichlorogermane. Izv. AN SSSR. Ser. khim. no.7:1309 '65. (MIRA 18:7)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

(A) L 2794-66

ACCESSION NR: AP5023717 UR/0025/65/000/008/0014/0021

AUTHOR: Nesmeyanov, A. (Academician); Belikov, V. (Candidate of chemical sciences)

TITLE: Synthetic food, a new problem in chemistry

SOURCE: Nauka i zhizn', no. 8, 1965, 14-21

TOPIC TAGS: nutrition, food technology, chemical industry

ABSTRACT: The problems of synthetic food production are considered with regard to the human requirements of water, protein, carbohydrates, fats, salts, and vitamins. It is pointed out that synthetic methionine and yeast protein concentrates are being produced and used commercially for food production. The consistency and taste of artificial food is discussed. It is concluded that although little has been done in the area of synthetic food production, there is a great future for this industry. Orig. art. has: 6 tables.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: LS, GC

NO REF SOV: 000 OTHER: 000

BVK

Card 1/1

NESMEYANOV, A.N.; RYBINSKAYA, M.I.; RYBIN, L.V.

Reaction of aryl-β-nitrovinyl ketones with aniline. Izv. AN SSSR. Ser. khim. no.8:1382-1388 '65. (MIRA 18:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

NESMEYANOV, A.N.; MAGOMEDOV, G.K.; KOLOBOVA, N.Ye.; ANISIMOV, K.N.

Condensation of acetylcyclopentadienylmanganese tricarbonyl into 2-butenon-4yl-2,4-biscyclopentadienylmanganese tricarbonyl. Izv. AN SSSR. Ser. khim. no.8:1496-1497 '65. (MIRA 18:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

L 13911-66
ACC NR: AP5025244 (A) SOURCE CODE: UR/0026/65/000/009/0013/0023

AUTHORS: Nesmeyanov, A. N.(Academician); Belikov, V. M.(Candidate of chemical sciences)

ORG: Institute of Elemento-organic Compounds, AN SSSR, Moscow (Institut elementoorganicheskikh soyedineniy AN SSSR)

TITLE: Problems of foodstuff synthesis

SOURCE: Priroda, no. 9, 1965, 13-23

TOPIC TAGS: food technology, organic synthetic process, protein, amino acid, carbohydrate, vitamin

ABSTRACT: Following a brief review of the progress in synthetic organic chemistry during the last century and of its effect upon human activities (synthetic dyestuff, medicinals, synthetic rubber, fibers, leather) the authors bring up the question of the synthesis of foodstuffs. The discussion develops along the lines of requirements, present natural supply, and possible synthetic production of five components of human foodstuff: protein, carbohydrates, fats, vitamins, and mineral salts. Of these, the last two are already produced synthetically. The synthesis of proteins, the component most deficient in the diet of the world population, can be reduced to the preparation of eight noninterchangeable amino acids. This can be accomplished by a total chemical synthesis, microbiological synthesis, or a combination of the two. Methane or olefins may serve as starting materials for the first of these

Card 1/2 UDC: 54.114: 641.58

L 13911-66

ACC NR: AP5025244

methods. Reductive amination of α-ketoacid is especially attractive, as the last step in this process may be accomplished by microorganisms producing the desired L-isomer of the amino acid. One of the newest methods introduced by French scientists involves growing yeast on petroleum fractions. The protein thus produced may be used in human foodstuff. Fats and carbohydrates can be obtained so cheaply from agricultural products that there are no known competitive synthetic processes. Solutions to the problems of taste, palatability, and consistency of synthetic foodstuffs are offered. Advantages of the synthetic production of foodstuff are described. They include abundance of nourishment, independence from the forces of nature, and release of 34% of human labor now employed in agriculture for other activities. Orig. art. has: 4 tables and 2 figures.

SUB CODE: 06, 07/ SUBM DATE: none/ SOV REF: 001/ OTH REF: 002

Card 2/2

NESMEYANOV, A.N.; PEREVALOVA, E.G.; LEONT'YEVA, L.I.; USTYNYUK, Yu.A.

Ferrocenylmethylthiol and methyl(ferrocenylmethyl) sulfide.
Izv. AN SSSR. Ser. khim. no.9:1696-1697 '65. (MIRA 18:9)

1. Moskovskiy gosudarstvennyy universitet.

NESMEYANOV, A.N.; SAZONOVA, V.A.; ROMANENKO, V.I.; ZOL'NIKOVA, G.P.

Photolysis of 1,1'-ferrocenedicarboxylic acid. Izv. AN SSSR. Ser. khim. no.9:1694-1695 '65. (MIRA 18:9)

1. Moskovskiy gosudarstvennyy universitet.

NESMEYANOV, A.N.; DROZD, V.N.; SAZONOVA, V.A.

Acetylation of N-acylaminoferrocenes. Izv. AN SSSR. Ser. khim. no.7: 1205-1208 '65. (MIRA 18:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.

KURSANOV, D.N.; SETKINA, V.N.; NEFEDOVA, M.N.; NESMEYANOV, A.N.

Hydrogen isotope exchange in alkylferrocenes. Izv.AN SSSR.Ser.khim. no.12:2218-2220 '65. (MIRA 18:12)

1. Institut elementoorganicheskikh soyedineniy AN SSSR. Submitted April 21, 1965.

RESHETOVA, M.D.; YARYSHEVA, L.M.; PERSVALOVA, E.G.; NESMEYANOV, A.N.

Synthesis of some substituted ferrocenylcarbinols. Izv. AN SSSR. Ser. khim. no. 12:2196-2198 '65. (MIRA 18:12)

1. Moskovskiy gosudarstvennyy universitet im. Lomonosova.
Submitted April 5, 1965.

NESMEYANOV, A.N.; PEREVALOVA, E.G.; NIKITINA, T.V.; KUZNETSOVA, N.I.

Behavior of m- and p-ferrocenylhydrazobenzenes under conditions of benzidine rearrangement. Izv.AN SSSR.Ser.khim. no.12:2120-2124 '65.

Action of hydrochloric acid on azo derivatives of ferrocene. Izv.AN SSSR.Ser.khim. no.12:2124-2128 '65.

(MIRA 18:12)

1. Moskovskiy gosudarstvennyy universitet im. Lomonosova.
Submitted July 29, 1963.

NESMEYANOV, A.N.; PEREVALOVA, E.G.; LEONT'YEVA, L.I.; USTYNYUK, Yu.A.

Synthesis of 1,2-disubstituted ferrocenes. Izv. AN SSSR.Ser.khim. no.10:1882-1884 '65. (MIRA 18:10)

1. Moskovskiy gosudarstvennyy universitet.

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

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

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

L 27092-66 EWT(m)/EWP(j) RM

ACC NR: AP6017400 SOURCE CODE: UR/0062/65/000/007/1205/1208

AUTHOR: Nesmeyanov, A. N.; Drozd, V. N.; Sazonova, V. A. 37

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

TITLE: Acetylation of N-acylaminoferrocenes

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 7, 1965, 1205-1208

TOPIC TAGS: organoiron compound, organic imine compound, amine, ferrocene, acetic anhydride

ABSTRACT: In studying acetylation in the ring of N-ferrocenylphthalimide and N-acetylferrocenylamine, the authors found that the acylamino-group is an electron acceptor with respect to ferrocene and directs substitution mainly in the free cyclopentadienyl ring. Thus, in the acetylation of N-ferrocenylphthalimide with acetic anhydride in the presence of H_3PO_4, the main reaction product was 1'-(N-phthalimido)-1-acetylferrocene and a smaller amount of homoannular N-phthalimidoacetylferrocene (yields of 40 and 7% of theoretical, respectively). Acetylation of N-acetylferrocenylamine proceeds with the formation of large amounts of tarry substances; of the reaction products with 17% yield only 1'-acetamino'1'acetylferrocene was isolated. It was found that 1'-amino-1-acetylferrocene is obtained by the hydrolysis of 1'-(N-phthalimido)-1-acetylferrocene and 1'-acetaminoacetylferrocene and from the Curzius reaction, from 1'-acetylferrocene-1-carboxylic acid. Orig. art. has: 1 formula. [JPRS]

SUB CODE: 07 / SUBM DATE: 10Jun63 / ORIG REF: 004 / OTH REF: 004

UDC: 542.91+592.957+546.72

Card 1/1

L 26575-66 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AP6016974 SOURCE CODE: UR/0020/65/165/003/0575/0577

AUTHOR: Nesmeyanov, A. N. (Academician); Sazonova, V. A.; Drozd, V. N.

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

TITLE: Introduction of aromatic and heterocyclic radicals into ferrocene. Reaction of bromoferrocene with organomagnesium compounds

SOURCE: AN SSSR. Doklady, v. 165, no. 3, 1965, 575-577

TOPIC TAGS: ferrocene, organomagnesium compound, brominated organic compound, organic synthetic process, Grignard reagent, nuclear magnetic resonance, chromatography

ABSTRACT: In previous studies the authors synthesized hydroxyferrocene, 1,1'-dihydroxyferrocene, ferrocenylamine, diferrocenylamine, phenylferrocenylamine, diphenylferrocenylamine, ferrocenylazide (followed by conversion to diazo compounds of ferrocene), ferrocenylarylsulfones and other ferrocene derivatives through halo-derivatives of ferrocene. In this work the reaction of bromo-ferrocene with organomagnesium compounds was investigated. Phenyl-, alpha-thienyl-, and alpha-naphthylferrocenes were produced in 75-85% yield by the addition of an ether solution of Grignard reagent to a mixture of bromoferrocene, copper bromide, and copper, followed by distillation of the ether and heating of the reaction mixture under nitrogen at 130°. In the case of an alicyclic Grignard reagent, cyclohexyl magnesium chloride, the reduction of bromoferrocene to ferrocene became the basic reaction, and only cyclohexene was isolated from

Card 1/2 UDC: 547.257.2+547.254.6

L 26575-66

ACC NR: AP6016974

2

the reaction mixture. Pyrryl magnesium bromide reacted with bromoferrocene in the presence of Cu_2Br_2 / Cu to form a mixture of alpha- and beta-pyrryl-ferrocenes, which were separated chromatographically on alumina by elution with a mixture of heptane-benzene (4:1); alpha-pyrrylferrocene is eluted first. The reaction of indolyl magnesium bromide resulted in the formation of N- and beta-indolylferrocenes. The structures of the compounds obtained were demon-strated by nuclear magnetic resonance studies. The authors thank V. I. Sheychenko, of the Laboratory of Physicochemical Research, Institute of Chemistry of Natural Compounds, AN SSSR, where the measurements of the nuclear magnetic resonance spectra were carried out. [JPRS]

SUB CODE: 07, 20 / SUBM DATE: 28May65 / ORIG REF: 002 / OTH REF: 004

Card 2/2

L 27456-66 EWT(m)/EWP(j) RM

ACC NR: AP5027691 SOURCE CODE: UR/0062/65/000/010/1882/1884

AUTHOR: Nesmeyanov, A. N.; Perevalova, E. G.; Leont'yeva, L. I.; Ustynyuk, Yu. A.

ORG: Moscow State University im. M. V. Lomonosova (Moskovskiy gosudarstvennyy universitet)

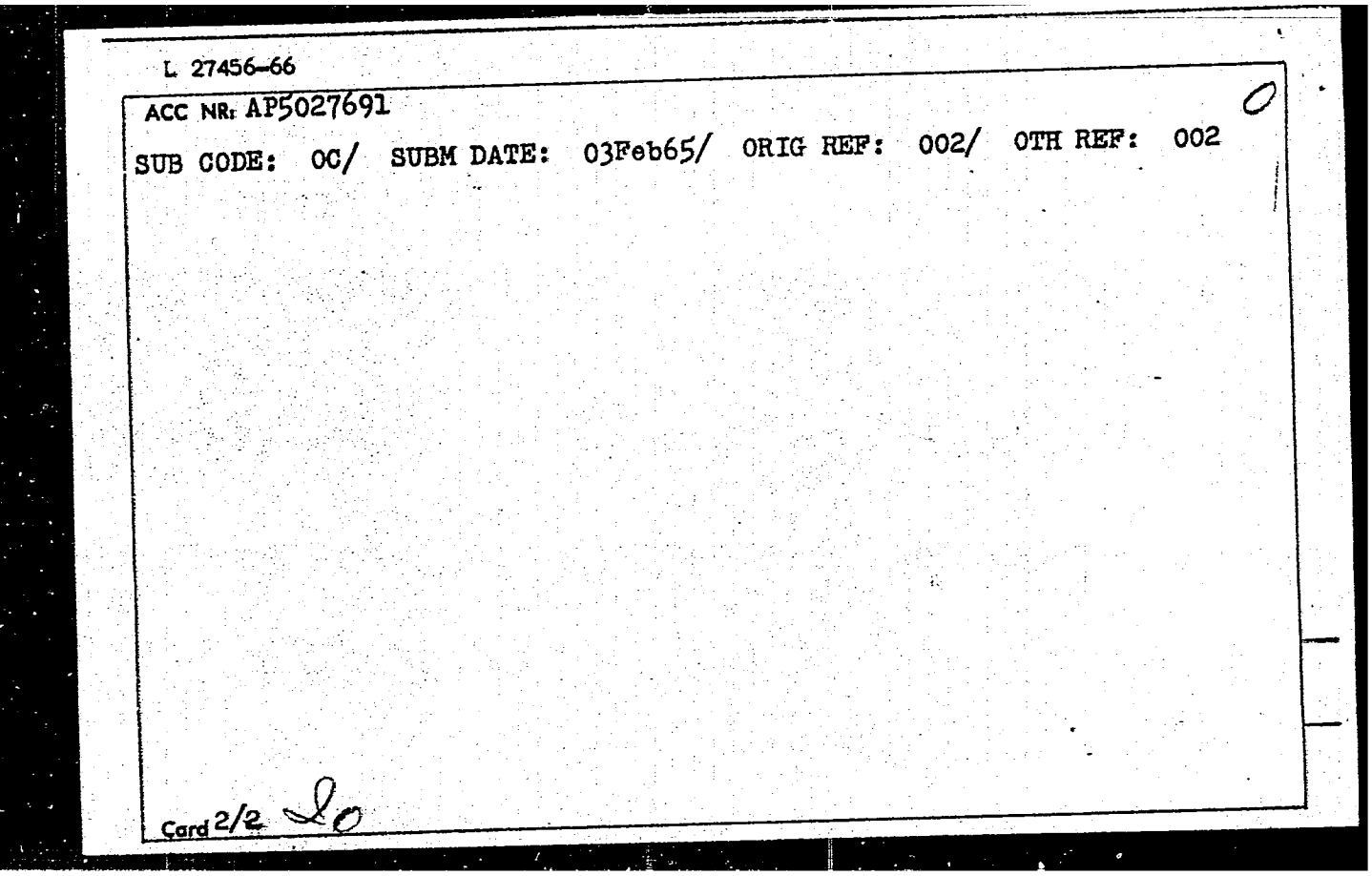
TITLE: Synthesis of 1,2-disubstituted ferrocenes

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 10, 1965, 1882-1884

TOPIC TAGS: ferrocene, chemical reaction, desulfurization, chemical reduction

ABSTRACT: The reduction of 1,2-(2'-thia-4'-ketotetramethylene)ferrocene (I) was investigated in order to find suitable methods for the synthesis of homoannular disubstituted ferrocenes. I was desulfurized with Raney nickel to form 1,2-methylethyl- and 1,2-methylacetylferrocene. Reduction of I with lithium aluminum hydride gave 1,2-(2'-thia-4'-hydroxytetramethylene)ferrocene (II). Reduction of I in the presence of aluminum chloride gave 1,2-(2'-thiatetramethylene)-ferrocene, a small amount of II, and methylferrocene, and in one instance, 1,2-(2'-thia-3',4'-dehydrotetramethylene)ferrocene. Orig. art. has: 2 equations.

Card 1/2 UDC: 542.91+547.35+546.72



L 27456-66

ACC NR: AP5027691 O

SUB CODE: OC/ SUBM DATE: 03Feb65/ ORIG REF: 002/ OTH REF: 002

Card 2/2 LO

L 36507-66 EWT(m)/EWP(j) RM

ACC NR: AP6017876 (A) SOURCE CODE: UR/0062/66/000/005/0832/0839

AUTHOR: Perevalova, E. G.; Grandberg, K. I.; Zharikova, N. A.; Gubin, S. P.; Nesmeyanov, A. N.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet); Institute of Organometallic Compounds, Academy of Sciences, SSSR (Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR)

TITLE: Electronic influence of ferrocenyl as a substituent

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 5, 1966, 832-839

TOPIC TAGS: ferrocene, dissociation constant, aniline, benzoic acid, phenol, substituent, amine

ABSTRACT: By determining values of Hammett's σ, the authors studied certain electronic effects of ferrocenyl as a substituent. Using acid-base potentiometric titration, they determined the dissociation constants of p-, m-, and o-ferrocenylbenzoic acids, a series of substituted benzoic acids and ferrocenecarboxylic acid in 70% dioxane, and the dissociation constants of p-ferrocenylphenol and a series of p-substituted phenols in 50% ethanol. The basicity constants of p-, m-, and o-ferrocenylanilines, a series of p-substituted anilines, and ferrocenylamine in 80% ethanol were also determined. The data obtained were treated by the least-squares method, ρ values were calculated for the reaction series studied, σ values were found for ferro-

UDC: 541 + 541.49 + 547.1'13:541.132

Card 1/2

L 36507-66

ACC NR: AP6017876

cenyl as a substituent in various positions of the phenyl ring, and the induction constant σ_I was determined. The data showed that in the series of ferrocenylbenzoic acids, the strongest is o-ferrocenylbenzoic acid; p- and m-ferrocenylbenzoic acids are comparable in strength and are respectively 1.5 and 1.6 times stronger than ferrocenecarboxylic acid, which therefore is the weakest acid. p-Ferrocenylphenol is a weaker acid than phenol (by a factor of 1.3). The opposite relationship is observed in ferrocenyl derivatives of aniline: o-ferrocenylaniline is the weakest base, 300 times weaker than ferrocenylamine. The strongest base, ferrocenylamine, is 42 times stronger than aniline and almost 28 times stronger than p-ferrocenylaniline. It is concluded that ferrocenyl has a strong positive inductive effect and a weak positive conjugation effect. Orig. art. has: 7 tables and 2 formulas.

SUB CODE: 07,20/SUBM DATE: 27Dec63/ ORIG REF: 009/ OTH REF: 014

Card 2/2 mlp

NESMEYANOV, A.N.; ANTSIMOV, K.N.; KOLOBOVA, N.Ye.; ANTONOVA, A.B.

Phenylgermanium derivatives of manganese carbonyl. Izv.AN SSSR. Ser.khim. no.1:160-162 '66. (MIRA 19:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR. Submitted May 14, 1965.

NESMEYANOV, A.N.; KOLOBOVA, N.Ye.; ANISIMOV, K.N.; KHANDOZHKO, V.N.

Phenylgermanium and phenyltin derivatives of rhenium carbonyl. Izv.AN SSSR. Ser.khim. no.1:163-164 '66.

(MIRA 19:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR. Submitted May 14, 1965.

NESMEYANOV, A.N.; TOLSTAYA, T.P.; ISAYEVA, L.S.

Phenyl-2-thienyl bromonium salts. Izv.AN SSSR. Ser.khim. no.1:166-168 '66. (MIRA 19:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i Moskovskiy gosudarstvennyy universitet. Submitted May 17, 1965.

L 35327-66 EWT(m)/EWP(j) RM

ACC NR: AP6026836 SOURCE CODE: UR/0020/66/166/002/0374/0377

AUTHOR: Nefedova, M.N.; Kursanov, D.N.(Corresponding member AN SSSR); Setkina, V.N.; Perevalova, E.G.; Nesmeyanov, A.N. (Academician)

ORG: none

TITLE: Effect of substituents on the rate of isotopic hydrogen exchange in ferrocene derivatives

SOURCE: AN SSSR. Doklady, v. 166, no. 2, 1966, 374-377

TOPIC TAGS: ferrocene, electron donor, dissociation constant, substituent, reaction rate

ABSTRACT: The authors determined the rate constants for acid isotopic exchange of hydrogen in six monosubstituted and four disubstituted ferrocenes. The relative rate constants K_{rel} were then calculated assuming unity for unsubstituted ferrocene. The substituents studied included both electro-donor and electron-accepter types. An analysis of the resultant data shows that the effect of the substituent on the reactinn rate in an aromatic compound may be described as a combination of induction and conjugation. The conjugation effect is much less important in this case than it is in electro-philic substitution in the benzene series. It was found that the substituent

UDC: 546.11.24542.957+546.72

Card 1/2

ACC NR: AP6026836

constants obtained from the dissociation constants for phenylacetic acids may be used as a quantitative index of the effect which the substituent has on the reaction rate. Curves for $\ln k/k_0$ for all substituents studied show a linear correlation with these constants. Heterocyclic disubstituted derivatives lie on this same line if doubled values of substituent constants are used, i.e., the substituents have an additive effect within the limits of experimental error. The authors thank S.L. Portnova and G.P. Syrova for taking the nuclear resonance spectra. The authors further thank V.A. Pal'm and N.P. Gambaryan for participating in the discussions of the results. Orig. art. has: 1 figure and 1 table [JPRS: 36, 455]

SUB CODE: 07 / SUBM DATE: 23Sep65 / ORIG REF: 013 / OTH REF: 010

L 31364-66 EWP(j)/EWT(m) IJP(c) RM

ACC NR: AP6021104 SOURCE CODE: UR/0062/66/000/002/0384/0384

61
B

AUTHOR: Gubin, S. P.; Shepilov, I. P.; Nesmeyanov, A. N.

ORG: Institute of Organoelemental Compounds, AN SSSR (Institut elementoorganicheskikh soyedineniy)

TITLE: Acetylation of ferrocene by the complex 2CH sub 3 CØØH.BF sub 3

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 2, 1966, 384

TOPIC TAGS: ferrocene, acetylene compound, reaction rate, activation energy, spectrophotometric analysis, catalysis, chemical reaction kinetics

ABSTRACT: The authors determined rates of acetylation of ferrocene by the complex $2CH_3COOH \cdot BF_3$ in glacial acetic acid under pseudo-first order conditions. The reaction was arrested by pouring the sample (1 ml) into 20 ml of absolute ethanol. The ferrocene and acetylferrocene concentrations in the solution were determined spectrophotometrically at 337 millimicrons on the SF-4A unit. The apparent energy of activation is 22.4 kcal/mole. When the catalyst concentration is increased, the reaction rate rises. The data obtained shows that ferrocene is 200-300 times more active than anisole in the acetylation reaction. [JPRS]

SUB CODE: 07 / SUBM DATE: 17Nov65 / OTH REF: 001

Card 1/1 UDC: 542.957 + 546.72 + 66.095.11

L 35385-66 EWT(m)/EWP(j) RM

ACC NR: AP6026817 SOURCE CODE: UR/0020/66/166/003/0607/0610

31

AUTHOR: Nesmeyanov, A. N. (Academician); Vol'kenau, N. A.; Bolesova, I. N. B

ORG: Institute of Organoelemental Compounds, AN SSSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

TITLE: Interaction of ferrocene with substituted aromatic compounds

SOURCE: AN SSSR. Doklady, v. 166, no. 3, 1966, 607-610

TOPIC TAGS: ferrocene, chemical reaction, molecular structure

ABSTRACT: This paper is a continuation of previous studies on exchange of the ligand group in ferrocene and its derivatives in the aromatic ring and the effect of substituents in the ferrocene nucleus on this reaction. Interaction of ferrocene with toluene, p-xylene, diphenyl, naphthalene, fluorene, aniline, acetanilide, chlorobenzene, bromobenzene, benzonitrile, acetophenone and thiophene was studied. Eight aromatic cyclopentadienyl iron salts were produced with substituents in the six-membered ring. Orig. art. has: 1 table. [JPRS: 36,455]

SUB CODE: 07 / SUBM DATE: 22Jul65 / ORIG REF: 002 / OTH REF: 003

Card 1/1 PB

UDC: 547
0916 2565

L 31360-66 EWP(j)/EWT(m) IJP(c) RM/WW

ACC NR: AP6021100 SOURCE CODE: UR/0062/66/000/002/0335/0337

50
B

AUTHOR: Nesmeyanov, A. N.; Perevalova, E. G.; Reshetova, M. D.

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

TITLE: Salts of N-(alpha-ferrocenylalkyl)pyridinium

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 2, 1966, 335-337

TOPIC TAGS: pyridine, alcohol, esterification, solubility, chemical synthesis, organic nitrile compound, organic amide, ferrocene

ABSTRACT: The reaction of alcohols with p-toluenesulfochloride in pyridine is the method by which esters of p-toluenesulfonic acid are obtained. However, in some cases p-toluenesulfonates of pyridinium are formed instead; for example, with 2,4-dinitroresorcine or 2,4-dinitronaphthol. The authors found that ferrocenylcarbinol and substituted ferrocenylcarbinols react in this way. In the reaction of oxymethyl-, alpha-oxyethyl-, oxybenzyl, and 1,1'-cyano-(alpha-oxyethyl)ferrocene with p-toluenesulfochloride in absolute pyridine the authors obtained p-toluenesulfonates of the corresponding pyridiums. Salts of N-(alpha-ferrocenylalkyl)pyridiniums are soluble in water (except (ferrocenylbenzyl)pyridinium), alcohol, acetonitrile, and certain polar solvents. Nitriles of ferrocenylacetic, ferrocenylpropionic, and ferrocenyl(phenyl)acetic acids were obtained. Nitriles of the first two acids were hydrolyzed to amides. The amides are stable upon standing in air, in contrast to the nitriles. Orig. art. has: 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 19May65 / ORIG REF: 002 / OTH REF: 002

Card 1/1 UDC: 542.1 + 547.1'3 + 546.72

L 27094-66 EWT(m)/EWP(j) RM

ACC NR: AP6017399 SOURCE CODE: UR/0062/65/000/007/1309/1309

AUTHOR: Nesmeyanov, A. N.; Anisimov, K. N.; Kolobova, N. Ye.; Antonova, A. B.

ORG: Institute of Organoelemental Compounds AN SSSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

TITLE: Reaction of manganese chloropentacarbonyl with trichlorogermanium

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 7, 1965, 1309

TOPIC TAGS: manganese compound, germanium compound, IR spectrum, absorption band

ABSTRACT: Bimetallic compounds of carbonyls of transition metals with group IV metals are obtained by reaction of the sodium salt of the metal carbonyl with the halogenide derivative of a group IV metal. The authors carried out a new reaction of manganese chloropentacarbonyl with trichlorogermanium for the series of metal carbonyls: $Cl_3GeH + ClMn(CO)_5 \rightarrow Cl_3GeMn(CO)_5 + HCl$. The reaction was carried out in tetrahydrofuran with gradual rise in temperature from 20 to 60°C during the course of one hour. The manganopentacarbonyltrichlorogermanium, obtained with a 40% yield, is a white crystalline compound with b. p. 168.5 - 169°C, insoluble in water, soluble in petroleum ether, benzene, and other organic solvents, sublimating in vacuum, and stable in air. The infrared spectrum of the compound contained intensive absorption bands in the region characteristic of carbonyl groups bound with metal, 2030 and 2130 cm^{-1}; bands were present in the region of 400 and 453 cm^{-1}, corresponding to Ge-Cl bonds in compounds with the $GeCl_3$ groupings. Orig. art. has: 1 formula. [JPRS]

L 26554-66 EWP(j)/EWT(m)/T IJP(c) RM

ACC NR: AP6017364 SOURCE CODE: UR/0062/66/000/003/0558/0559

AUTHOR: Nesmeyanov, A. N.; Perevalova, E. G.; Leont'yeva, L. I.; Ustynyuk, Yu. A.

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

TITLE: Reactions of triferrocenylchloromethane hydrochloride

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 3, 1966, 558-559

TOPIC TAGS: organoiron compound, chlorinated organic compound, organomagnesium compound, organosodium compound, organolithium compound, chemical reaction

ABSTRACT: Triferrocenylchloromethane hydrochloride reacts with nucleophilic reagents (organomagnesium and organosodium compounds, lithium aluminohydride, sodium methylate and sodium cyanide) to form the corresponding derivatives of triferrocenylmethane. [JPRS]

SUB CODE: 07 / SUBM DATE: 22Jul65 / ORIG REF: 002 / OTH REF: 001

Card 1/1 UDC: 542.91+541.49+546.72

L 26555-66 EWP(j)/EWT(m)/T IJP(c) RM

ACC NR: AP6017362 SOURCE CODE: UR/0062/66/000/003/0556/0558

AUTHOR: Nesmeyanov, A. N.; Perevalova, E. G.; Leont'yeva, L. I.; Ustynyuk, Yu. A.

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

TITLE: Triferrocenylchloromethane hydrochloride

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 3, 1966, 556-558

TOPIC TAGS: organic synthetic process, perchloric acid, perchlorate, hydrogen chloride, organoiron compound

ABSTRACT: The ionic triferrocenylmethylperchlorate and triferrocenylchloromethane hydrochloride were synthesized by reaction of triferrocenylcarbinol with perchloric acid in benzene and anhydrous HCl in ether, respectively.

$$(C_5H_5FeC_5H_4)_3COH \xrightarrow{HClO_4} (C_5H_5FeC_5H_4)_3CClO_4$$
$$(C_5H_5FeC_5H_4)_3COH \xrightarrow{HCl} (C_5H_5FeC_5H_4)_3CCl\cdot HCl$$

In polar solutions triferrocenylchloromethane hydrochloride decomposes to form ferrocenylfulvene. [JPRS]

SUB CODE: 07 / SUBM DATE: 22Jul65 / ORIG REF: 003 / OTH REF: 002

UDC: 542.91+541.49+546.72

Card 1/1

NESMEYANOV, A.N., akademik; VOL'KENAU, N.A.; BOLESOVA, I.N.

Interaction of ferrocene with substituted aromatic compounds. Dokl. AN SSSR 166 no.3:607-610 Ja '66. (MIRA 19:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR. Submitted July 22, 1965.

L 36986-66 EWP(j)/EWT(m) RM

ACC NR: AP6008509 SOURCE CODE: UR/0062/66/000/001/0160/0162

AUTHOR: Nesmeyanov, A. N./ Anisimov, K. N./ Kolobova, N. Ye./ Antonova, A. B.

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

TITLE: Phenylgermanium derivatives of manganese carbonyl

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 1, 1966, 160-162

TOPIC TAGS: manganese compound, phenyl compound, germanium compound, chemical synthesis, organogermanium compound

ABSTRACT: This investigation is devoted to the synthesis of phenylgermanium derivates of manganese carbonyl $(C_6H_5)_{4-n}GeBr_n - nNaMn(Co)_5 \rightarrow (C_6H_5)_{4n}Ge[Mn(CO)_5]_n + nNaBr$, where n = 1 or 2, and to a study of certain of their properties. As a result of the reactions of the sodium salt of manganese carbonyl with halogenated phenylgermanium derivatives, the authors synthesize the bimetallic compounds $(C_6H_5)_3GeMn(CO)_5$, $(C_6H_5)_2Ge[Mn(CO)_5]_2$, and $(C_6H_5)_2(CO)_5Mn\,GeGe[Mn(CO)_5](C_6H_5)_2$.

By substituting CO-groups into the bimetallic compounds for phosphines,

UDC: 542.91+547.1'3

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L 36986-66

ACC NR: AP6008509

arsines, and stibines, the authors obtain $(C_6H_5)_3GeMn(CO)_4P(C_6H_5)_3$, $(C_6H_5)_3GeMn(CO)_4As(C_6H_5)_3$, and $(C_6H_5)_3GeMn(CO)_4Sb(C_6H_5)_3$.

When halogens act on the phenylgermanium derivates of manganese carbonyl $(C_6H_5)_2BrGeMn(CO)_5$, $(C_6H_5)Br_2GeMn(CO)_5$, $Br_3GeMn(CO)_5$, and $Cl_3GeMn(CO)_5$ are obtained. The authors thank Yu. N. Sheynker and G. G. Dvoryantseva for measuring the infrared spectra.

SUB CODE: 07/ SUBM DATE: 14May65/ ORIG REF: 002/ OTH REF: 003

Card 2/2

L 36987-66 EWP(j)/EWT(m) RM

ACC NR: AP6008510 SOURCE CODE: UR/0062/66/000/001/0163/0164

42
40
B

AUTHOR: Nesmeyanov, A. N.; Kolobova, N. Ye.; Anisimov, K. N.; Khandozhko, V. N.

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

TITLE: Phenylgermanium and phenylstannic derivatives of rhenium carbonyl

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 1, 1966, 163-164

TOPIC TAGS: phenyl compound, germanium compound, tin compound, rhenium compound, organotin compound, chemical synthesis, organogermanium compound

ABSTRACT: In this work the authors accomplish the synthesis of compounds with a Ge-Re bond and investigate certain properties of these compounds. Compounds of the type $R_{4-n}Ge[Re(CO)_5]_n$ are produced by the reactions of the appropriate organogermanium halides with the sodium salt of rhenium pentacarbonyl $R_{4-n}GeX_n + nRaRe(CO)_5 \rightarrow R_{4-n}Ge[Re(CO)_5]_n + nNaX$, where $R = C_6H_5$; X = Br, Cl; n = 1, 2. From this reaction the authors obtained $Ph_3GeRe(CO)_5$ and $Ph_2Ge[Re(CO)_5]_2$ with yields of 87 and 60%, respectively, in the form of colorless crystals stable in air. Both compounds are readily dissolved in polar solvents and in hydrocarbons with heating. By using halides

UDC: 542.91+547.1'13

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L 36987-66

ACC NR: AP6008510

2

(Br_2), or halogen acids (HCl), the authors synthesized $Br_3GeRe(CO)_5$ and $Ph_2GeRe(CO)_5$. In the reaction of PPh_3, $AsPh_3$, S_bPh_3 with $Ph_3GeRe(CO)_5$ and $Ph_3SnRe(CO)_5$ the corresponding substitutes are obtained with the general formula $Ph_3M\text{-}Re(CO)_4L$, where M = Ge, Sn; L = PPH_3; $AsPh_3$; $SbPh_3$. The authors thank Yu. N. Sheynker and G. G. Dvoryantseva for measuring the infrared spectra.

SUB CODE: 07 / SUBM DATE: 14May65/ ORIG REF: 002 / OTH REF: 000

Card 2/2

L 31361-66 EWP(j)/EWT(m) IJP(c) RM

ACC NR: AP6021101 SOURCE CODE: UR/0062/66/000/002/0357/0357

50
B

AUTHOR: Nesmeyanov, A. N.; Romanenko, V. I.; Sazonova, V. A.

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

TITLE: Basicity constants of amines of ferrocene

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 2, 1966, 357

TOPIC TAGS: ferrocene, amine, solution acidity, potentiometer, titrimetry, distillation, buffer solution, chemical neutralization, alkyl radical/pH - M4c potentiometer

ABSTRACT: Basicity constants of ferrocenylamine, ethyl ferrocenylamine, diethylferrocenylamine, 1,1'-chloroferrocenylamine, and alpha-pyridylferrocene were determined by potentiometric titration in 80% (by weight) ethanol in 0.025 N HCl on a pH - M4c type potentiometer, with G 200B glass electrode. Solvents were prepared as follows: distilled water was twice redistilled over alkaline potassium permanganate in equipment protected with ascarite-filled tubes; purchased absolute alcohol was treated with sodium (6 grams of sodium per liter of alcohol) and distilled, and the first and last quarter portions were rejected. The titration method is conventional; placement of electrodes was in a biphthalate buffer (pH 4.01), temperature 22 ± 1°, and amine concentration 0.005 M. Basicity constants of the amines were determined for three degrees of neutralization (35, 50 and 65%); for each point, 6-9 measurements were made; the spread of pH values did not exceed 0.05. Comparison of basicity constants of N-alkylated ferrocene amines with those of aromatic and aliphatic amines shows that in the ferrocene series the effect of the alkyl group is the same as in the aliphatic series.

Orig. art. has: 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 02Jul65 / ORIG REF: 004 / OTH REF: 002

UDC: 541.124.7 + 547.233 + 546.72

Card 1/1

L 36506-66 EWT(m)/EWP(j) RM

ACC NR: AP6017882 (A) SOURCE CODE: UR/0062/66/000/005/0938/0940

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

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

TITLE: Cyclization of o-carboxybenzylferrocene

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

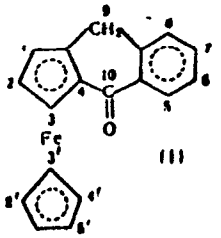
TOPIC TAGS: cyclization, iron compound, ferrocene

ABSTRACT: Cyclization of o-carboxybenzylferrocene 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

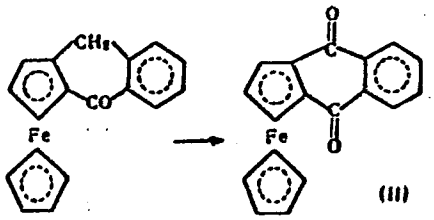
Card 1/3

L 36506-66
ACC NR: AP6017882



(II)

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-carboxybenzylferrocene under the influence of PCl_5 forms a cyclopentadienyl ring. The Fc-anthrone obtained readily oxidizes to Fc-anthraquinone (or phthaloylferrocene) on stirring its benzene solution with MnO_2:



(III)

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

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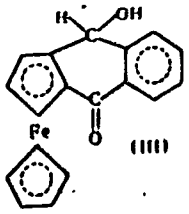
L 36506-66
ACC NR: AP6017882



(IIII)

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

Card 3/3

L 06516-66 EWT(m)/EWP(j) RM

ACC NR: AP6017884 SOURCE CODE: UR/0062/66/000/005/0944/0944

AUTHOR: Nesmeyanov, A. N.; Kursanov, D. N.; Setkina, V. N.; Kislyakova, N.V.; Kolobova, D. N.; Anisimov, K. N.

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

TITLE: Isotopic exchange of hydrogen atoms of manganese cyclopentadienyltricarbonyl and rhenium cyclopentadienyltricarbonyl in alkaline media

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 5, 1966, 944

TOPIC TAGS: hydrogen, manganese compound, rhenium compound, deuterium, isotope, isotopic exchange

ABSTRACT: The authors found that manganese cyclopentadienyltricarbonyl (MCT) and rhenium cyclopentadienyltricarbonyl (RCT) enter into the reaction of isotopic exchange of hydrogen under the influence of alkali catalysts. For example, all the hydrogen atoms of the cyclopentadienyl rings of MCT and RCT are exchanged for deuterium in the reaction with deuteroethanol in the presence of sodium alcoholate. The kinetics of this reaction were studied at 100°C at molar ratios MCT or RCT:C_2H_5OD:C_2H_5ONa = 1: 120:9.5. The rate constants of hydrogen exchange under these conditions are 3×10^{-6} sec^{-1} and 80×10^{-6} sec^{-1} for MCT and RCT respectively, i.e., the relative reactivity of the cyclopentadienyl rings of the rhenium derivative is almost 27 times that of

UDC: 547.1'3 + 541.127 + 539.183.2 + 661.183.123

Card 1/2

L 36516-66
ACC NR: AP6017884

the cyclopentadienyl derivative of manganese. The opposite relationship is observed in acid catalysis, and the exchange capacity of the hydrogen atoms in the cyclopentadienyl rings linked to manganese is higher than in the rhenium compounds. It is concluded that on passing from Mn (an element of period 4) to Re (period 6) of group VII of the periodic system, the reactivity of cyclopentadienyl ligands in acid media decreases, whereas in alkaline media the opposite is observed.

SUB CODE: 07/ SUBM DATE: 12Feb66/ ORIG REF: 002/ OTH REF: 001

Card 2/2 mlp

L 46260-66 EWT(m)/EWP(j) RM

ACC NR: AP6030570 (A,N) SOURCE CODE: UR/0413/66/000/016/0038/0038

INVENTOR: Nesmeyanov, A. N.; Vil'chevskaya, V. D.; Kochetkova, N. S.; Gorelikova, Yu. Yu.

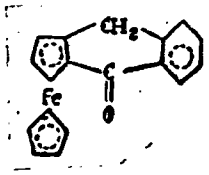
ORG: none

TITLE: Preparative method for (O-carboxybenzyl)ferrocene. Class 12, No. 184879

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 38

TOPIC TAGS: ferrocene derivative, ferrocene dye, synthesis, FERROCENE, DYE CHEMICAL, CHEMICAL SYNTHESIS

ABSTRACT: An Author Certificate has been issued for a method for preparing (O-carboxybenzyl)ferrocene derivatives, such as



suitable for the synthesis of ferrocene dyes. The method involves the reaction of (O-carboxybenzyl)ferrocene or its derivatives with PCl_3 in nitrogen at about 60C. [BO]

SUB CODE: 07/ SUBM DATE: 02Dec64/

Card 1/1 mjs UDC: 547.419.6'172.3.07

L 45724-66 EWT(m)/EWP(j) RM

ACC NR: AP6024396 SOURCE CODE: UR/0020/66/169/002/0351/0354

AUTHOR: Nesmeyanov, A. N. (Academician); Vil'chevskaya, V. D.; Makarova, A. I.

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

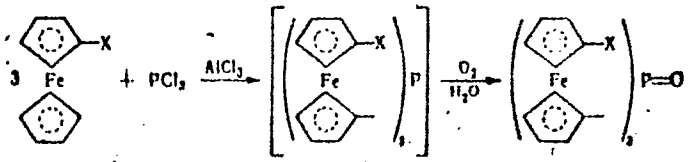
34
B

TITLE: Phosphorylation of ferrocene derivatives

SOURCE: AN SSSR. Doklady, v. 169, no. 2, 1966, 351-354

TOPIC TAGS: ferrocene, phosphorylation

ABSTRACT: The phosphorylation of ferrocene derivatives was carried out as follows:



where X is a substituent. The products were studied by thin-layer chromatography on alumina and by means of IR spectra. The following compounds were thus synthesized for the first time: (a) tris(o-carbomethoxybenzylferrocenylene)phosphine oxide (14% yield); (b) tris(tert-butylferrocenylene)phosphine oxide (53% yield); (c) tris(phenylferrocenylene)phosphine oxide (14% yield). Sulfonation of tris(tert-butylferrocenyl-

Card 1/2 UDC: 547.257.2

L 04262-67 EWT(1)/EWT(m)/EWP(j)/T/EWP(k)/EWP(l) IJP(c) WG/RTW/RM

ACC NR: AP6030020 SOURCE CODE: UR/0020/66/169/005/1083/1086

AUTHOR: Dyoryantseva, G. G.; Yur'yeva, L. P.; Portnova, S. L.; Sheynker, Yu. N.; Nesmeyanov, A. N. (Academician)

ORG: Institute of Chemistry of Natural Compounds, Academy of Sciences SSSR (Institut khimii prirodnykh soyedineniy Akademii nauk SSSR); Institute of Hetero-Organic Compounds, Academy of Sciences SSSR (Institut elementoorganicheskikh soedenineniy Akademii nauk SSSR)

TITLE: Proton magnetic resonance spectra of disubstituted ferrocenes

SOURCE: AN SSSR. Doklady, v. 169, no. 5, 1966, 1083-1086

TOPIC TAGS: proton resonance, ferrocene, analytic chemistry, spectrum analysis

ABSTRACT: The proton magnetic resonance spectra of 25 heteroannular disubstituted ferrocenes with various substituents in both rings were taken and the rule of additivity of chemical shifts of the ring protons was established. The structure of several homoannular isometric amids of methyl- and ethylphenyl-ferrocene carboxylic acids and nitriles of ethyl- and phenyl ferrocene carboxylic acids was defined on the basis of the PMR spectra. The PMR spectra were measured using 10% solutions in CCl_4 and $CDCl_3$ and a JNMC-60 spectrometer with an operating frequency of 60 megacycles. In all cases excellent agreement was observed between the experimentally determined chemical shifts

UDC: 538.113+547.13+546.72

Card 1/2

L 04262-67

ACC NR: AP6030020

for the ring protons and the chemical shifts calculated using the additivity rule.
Orig. art. has: 2 tables.

SUB CODE: 07/ SUBM DATE: 12Feb66/ ORIG REF: 004/ OTH REF: 003

Card 2/2 fv

ACC NR: AP7006028 SOURCE CODE: UR/0062/66/000/007/1292/1292

AUTHOR: Nesmeyanov, A. N.; Anisimov, K. N.; Kolobova, N. Ye.; Skripkin, V. V.

ORG: Institute of Heteroorganic Compounds, Academy of Sciences USSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

TITLE: Bi- and polymetallic compounds with a Fe-Sn bond and their derivatives

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 7, 1966, 1292

TOPIC TAGS: organotin compound, organoiron compound

ABSTRACT: The reaction of $SnCl_4$, $C_6H_5SnCl_3$, and $(C_6H_5)_2SnCl_2$ with $NaFe(CO)_2C_5H_5$ in tetrahydrofuran yielded $[pi\text{-}C_5H_5Fe(CO)_2]_4Sn$ (I), $[pi\text{-}C_5H_5Fe(CO)_2]_3SnC_6H_5$ (II), and $[pi\text{-}C_5H_5Fe(CO)_2]_2Sn(C_6H_5)_2$ (III). Hydrochlorination of (II) and (III) in carbon tetra-chloride yielded the known $[pi\text{-}C_5H_5Fe(CO)_2]_2SnCl_2$. The latter was used to prepare a series of compounds with various functional groups on the tin atom. These colored compounds were characterized. Most were obtained in high or quantitative yields. Orig. art. has: 1 table. [JPRS: 38,967]

SUB CODE: 07 / SUBM DATE: 05May66 / OTH REF: 001

Card 1/1 UDC: 547.13 + 546.72 + 546.81

092 70813

ACC NR: AP7012420 SOURCE CODE: UR/0062/66/000/011/1938/1943

AUTHOR: Nesmeyanov, A. N.; Perevalova, E. G. Tyurin, V. D.; Gubin, S. P.

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

TITLE: Metallation of alkylferrocenes

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 11, 1966, 1938-1943

TOPIC TAGS: ferrocene, lithium compound, ferrocenyllithium

SUB CODE: 07

ABSTRACT: The metallation of methyl-, ethyl-, and n-propylferrocene with excess n-butyllithium at room temperature was studied. Mixtures of mono- and dimetallated alkylferrocenes were obtained. The monometallated alkylferrocenes were found to possess a heteroannular structure. The mixture of mono- and dimetallated alkylferrocenes, after carboxylation, were converted to a mixture of mono- and dicarboxylic acids. Metallation of alkylferrocenes proceeded with greater difficulty than that of ferrocene itself. Approximately 2-2.5 times as much of the monometallated alkylferrocene was formed as of the dimetallated derivative. The metallated alkylferrocenes were also used for the synthesis of heteroannular nitroalkylferrocenes by the reaction with propyl nitrate. Nitromethyl-, nitroethyl-, and nitropropylferrocenes were obtained in low

Card 1/2 UDC: 542.91 + 547.1'3 + 546.72

0932 1356

ACC NR: AP7012420

yields. No dinitro-compounds were isolated. Orig. art. has: 3 formulas, 4 tables. [JPRS: 40,422]

2/2

ACC NR: AP7012421 SOURCE CODE: UR/0062/66/000/011 2017/2019

AUTHOR: Nesmeyanov, A. N.; Sazonova, V. A.; Zudkova, G. I. Isayeva, L. S.

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

TITLE: Alpha-ferrocenylcarbonium salts

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 11, 1966, 2017-2019

TOPIC TAGS: hydrolysis, dimethylamine, acetic acid, inorganic salt

SUB CODE: 07

ABSTRACT: The influence of the dimethylamino group, situated in the p-position of the benzene ring bonded to a carbonium carbon upon the stability and reactivity of alpha-ferrocenylphenylcarbonium salts was investigated. Three salts were synthesized from the corresponding carbinols and tetraphenylborosodium in glacial acetic acid. Such salts were more stable than the carbonium salts not containing the dimethylamino group. Hydrolysis of phenylferrocenyl- and diphenylferrocenylcarbonium tetraphenylborates is instantaneous, whereas the corresponding tetraphenylborates containing the dimethylamino group are recovered unchanged. Other reactions of the salts syntnesized were studied: alkylation of dimethylaniline in the p-position; reactions with piperidine,

Card 1/2 UDC: 542.91+547.1'13+542.957+546.72

0932 1358

ACC NR: AP7012421

forming p-dimethylaminophenylferrocenylmethyl- and p-dimethylaminodiphenyl-ferrocenylmethyl- substituted piperidines. Orig. art. has: 1 formula.
[JPRS: 40,422]

2/2

ACC NR: AP7011357

SOURCE CODE: UR/0062/66/000/010/1871/1871

AUTHOR: Nesmeyanov, A. N.; Chapovskiy, Yu. A.

ORG: Institute of Hetero-Organic Compounds, Academy of Sciences USSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

TITLE: Stable iron hydride $C_5H_5Fe/P(OC_6H_5)3/_2H$

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 10, 1966, 1871.

TOPIC TAGS: hydride, iron compound, UV irradiation, iodide, sodium amalgam

SUB CODE: 07

ABSTRACT: It is shown that ultraviolet irradiation of a mixture of $C_5H_5Fe(CO)_2I$ with triphenylphosphite results in exchange of both carbonyl ligands with the formation of $C_5H_5Fe[P(OC_6H_5)_3]_2I$. This iodide reacts with sodium amalgam to form the hydride $C_5H_5Fe[P(OC_6H_5)_3]_2H$. [JPRS: 40,351]

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UDC: 541.44+546.72

0931 1744

ACC NR: AP7012431 SOURCE CODE: UR/0062/66/000/008/1467/1469

AUTHOR: Nesmeyanov, A. N. Perevalova, E. G.; Yur'yeva, L. P.; Gosteyeva, G. N.

ORG: Institute of Heteroorganic Compounds, AN SSSR (Institut elementoorganicheskikh soyedinenly AN SSSR)

TITLE: Synthesis of nitriles of phenylferrocenecarboxylic acids

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 8, 1966, 1467-1469

TOPIC TAGS: organic nitrile compound, chemical separation, phenylferrocenecarboxylic acid

SUB CODE: 07

ABSTRACT: The authors describe an improvement on an earlier method for separating mixtures of amides of isomeric phenylferrocenecarboxylic acids, prepared by the hydrolysis of the reaction products of the cyanation of phenylferrocene. The individual amides of the isomeric phenylferrocenecarboxylic acids were converted to the corresponding nitriles. The nitrile of p-ferrocenylbenzoic acid was also prepared from the amide of p-ferrocenylbenzoic acid and used as a standard in gas chromatographic analysis of the mixture of nitriles of 1,2-, 1,3-, and 1,1'-phenylferrocenecarboxylic acids, obtained in the cyanation of phenylferrocene. Orig. art. has: 2 formulas and 1 table. [JPRS: 40,422]

Card 1/1 UDC: 542.91+542.957+621.785.666

0932 1377

ACC NR: AP7011356 SOURCE CODE: UR/0062/66/000/010/1870/1871

AUTHOR: Nesmeyanov, A. N.; Chapovskiy, Yu. A.; Ustynyuk, Yu. A.

ORG: Institute of Hetero-Organic Compounds, Academy of Sciences USSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

TITLE: Splitting of the Fe-C bond in the exchange reaction of the carbonyl ligand of $C_5H_5Fe(CO)[P(OC_6H_5)_3]C_6H_5$ for triphenylphosphite

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 10, 1966, 1870-1871

TOPIC TAGS: exchange reaction, carbon compound, nuclear magnetic resonance, mass spectroscopy, IR spectroscopy

SUB CODE:

ABSTRACT: The authors used nuclear magnetic resonance, infrared and mass spectroscopy for studying the product of interaction between $C_5H_5Fe(CO)[P(OC_6H_5)_3]C_6H_5$ and triphenylphosphite under ultraviolet radiation. The results show a single cyclopentadienyl and two triphenylphosphite ligands per iron atom with no carbonyl ligands. This, together with the diamagnetism of the resultant compound indicate the dimer structure $\{C_5H_5Fe[P(OC_6H_5)_3]_2\}_2$. However, data of x-ray analysis are needed for a final conclusion. [JPRS: 40,351]

Card 1/1 UDC: 541.57+542.957+547.2+547.241

0931 1737

ACC NR: AP7013158

SOURCE CODE: UR/0062/66/000/012 2209/2211

AUTHOR: Nesmeyanov, A. N.; Perevalova, E. G.; Tsiskaridze, T. T.

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

TITLE: Differocenoyl and 1,2-differocenylethylene

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1966, 2209-2211

TOPIC TAGS: ethane, ferrocene, oxidation reduction reaction

SUB CODE: 07

ABSTRACT: The oxidation of 1,2-diferrocenylethane with manganese dioxide was found to result in a mixture of differocenoyl and trans-1,2-diferrocenylethylene. The ratio of the diketone and unsaturated compound in the oxidation products depended upon the reaction conditions. 1,2-diferrocenylethylene predominated at room temperature, whereas differocenoyl predominated when the mixture was heated. The oxidation of 1,2-diferrocenylethane with MnO_2 is recommended as a simple method for synthesizing differocenoyl and 1,2-diferrocenylethylene. Differocenoyl is not oxidized by MnO_2. It forms derivatives with hydroxylamine and 2,4-dinitrophenylhydrazine and reacts with organomagnesium compounds such as n-propyl magnesium bromide with only one carbonyl group. Only in the reduction of differocenoyl with lithium aluminum hydride do both carbonyl

Card 1/2 UDC: 547.1'3:546.72

0933 0872

ACC NR: AP7013158

groups react, to yield 1,2-diferrocenylethanediol-1,2. Diferrocenoyl does not undergo a benzil-type rearrangement. The 1,2-diferrocenylethylene produced in the oxidation of 1,2-diferrocenylethane was found to be the transisomer. Oxidation of this compound under the conditions of oxidation of 1,2-diferrocenylethane yielded diferrocenoyl and ferrocene aldehyde. Orig. art. has: 5 formulas. [JPRS: 40,422]

Card 2/2

ACC NR: AP7013160 SOURCE CODE: UR/0062/66/000 012/2239/2240

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

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

TITLE: Aminomethylation of ethylferrocene

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

TOPIC TAGS: methylation, ferrocene

SUB CODE: 07

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

 UDC: 542.958.3 + 547.1'13 + 546.72

0933 0876

ACC NR: AP7013160

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

Card 2/2

ACC NR: AP7013161 SOURCE CODE: UR/0062/66/000/012/2246/2246

AUTHOR: Nesmeyanov, A. N.; Anisimov, K. N.; Kolobova, N. Ye.; Denisov, F. S.

ORG: Institute of Heterorganic Compounds, AN SSSR (Institut elementoorganicheskikh soyedineniy AN SSSR)

TITLE: Synthesis of pi-Cyclopentadienyldicarbonylirontrichlorogermane and pi-Cyclopentadienyldicarbonylirondichlorogermane

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 12, 1966, 2246

TOPIC TAGS: germanium compound, chlorinated organic compound, organic chemical synthesis

SUB CODE: 07

ABSTRACT: pi-Cyclopentadienyldicarbonylirontrichlorogermane (I) was synthesized by the reaction of pi-cyclopentadienyldicarbonyliron chloride with $HGeCl_3$. Compound (I), an air-stable crystalline substance, was also produced in a mixture with pi-Cyclopentadienyldicarbonylirondichlorogermane (II) in low yield by the action of trichlorogermane upon dimer pi-cyclopentadienylirondicarbonyl. The compound (II) was also produced in 85% yield by the reaction of a complex of dioxane and germanium dichloride on dimer pi-cyclopentadienylirondicarbonyl.

 UDC: 542.91 + 547.1'3

0733 0818

ACC NR: AP7013161

Compound (II) is an orange crystalline substance, stable in air. Both (I) and (II) were characterized, and their infrared and nuclear magnetic resonance spectra were taken. Orig. art. has: 1 formula. [JPRS: 40,422]

Card 2/2

NESMEYANOV, A.N., Doc Chem Sci -- (diss) "Measuring the steam pressure of solids and their binary alloys by the method of radioactive indicators." Mos 1958, 27 pp. (Mos Order of Lenin and Order of Labor Red Banner State Univ im M.V. Lomonosov. Chem Faculty. Chair of Inorganic Chemistry. Laboratory of Radiochemistry) 130 copies. Bibliography at end of text (22 titles). (KL, 39-58, 107)

NESMEYANOV, AN.

PHASE X TREASURE ISLAND BIBLIOGRAPHICAL REPORT AID 681 - X
(Supersedes AID 681 - I)

Call No.: AF645591

BOOK
Authors: NESMEYANOV, An. N., LAPITSKIY, A. V., and RUDENKO, N. P.
Full Title: PRODUCTION OF RADIOISOTOPES
Transliterated Title: Polucheniye radioaktivnykh izotopov

PUBLISHING DATA
Originating Agency: None
Publishing House: State Scientific and Technical Publishing House of Chemical Literature
Date: 1954 No.pp.: 193 No. of copies: 10,000
Editorial Staff: None

PURPOSE AND EVALUATION: This book is designed for research workers interested in nuclear chemistry and physics and in the application of the method of tagged atoms. The material is organized clearly and concisely and is brought up to date. The text is amply illustrated with formulas, diagrams, and tables. Of great value is the extensive bibliography (2089 references). This volume may be favorably compared with books on the production of isotopes published in the U.S.

TEXT DATA
Coverage: Mendeleyev's periodic system and the difficulties arising in the classification of elements with the atomic

1/3

Polucheniye radioaktivnykh izotopov AID 681 - X

numbers 93-99 are discussed in the introduction. The book consists of two parts. Part I, based on monographs and papers published during 1932-1952, gives a brief survey of the theoretical principles which served as a basis for the development of methods of production and isolation of radioelements. The sources of natural and artificial radioelements are indicated. Chapter V is devoted to the description of simple methods of production of isotopes which may be used as tagged atoms. The yields are compiled in a table. Part II consists of a table of isotopes where data on the production and properties of isotopes are compiled from papers published in Soviet and non-Soviet periodicals over the period of 1934-1954. An explicit and clear explanation precedes the table. Chapter VII consists of decay schemes for radioisotopes, including a general scheme explaining all symbols. The highlights of the book are the clarity and simplicity of the theoretical presentations and the table of isotopes encompassing the latest data, so that this volume may serve as a guide for research workers active in this specialized field.

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No. of References: 2089 (80 Russian: 1935-1953)
Facilities: Some Russian scientists are mentioned

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