LUKES, Zdenek, inz.

[redacted]

Measuring the frequency stability of a transistor oscillator at 100 kHz. Slaboproudy obzor 24 no.5:298-304 My '63.

1. Ustav radiotechniky a elektroniky, Ceskoslovenska akademie ved, Praha.

L 21589-66

ACC NR: AP6010929 SOURCE CODE: CZ/0014/65/000/010/0363/0367

AUTHOR: Lukes, Zdenek (Engineer)

40
B

ORG: none

TITLE: Methods and instruments for measurement of the radio-frequency four-terminal network parameters in transistors

SOURCE: Sdelovaci technika, no. 10, 1965, 363-367

TOPIC TAGS: transistor, electric network, electric measuring instrument

ABSTRACT: The article discusses methods of characterizing the radio-frequency and four-terminal properties of a transistor and presents a listing of the instruments and a general classification of the methods and instruments for measurement of those parameters, with a discussion of their principles. Orig. art. has: 7 figures, 13 formulas, and 3 tables. [JPRS]

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 011 / OTH REF: 021
SOV REF: 001

Card 1/1

L 1032-66

ACCESSION NR: AP5025944

CZ/0039/65/026/005/0266/0272

AUTHOR: Lukes, Zdenek (Engineer)

25

B

TITLE: Current amplification factor of a transistor and approximate methods of its calculation

SOURCE: Slaboproudy obzor, v. 26, no. 5, 1965, 266-272

TOPIC TAGS: transistor, calculation, electric current

ABSTRACT: [Author's Russian and English summaries, modified]: The article analyzes a method of approximate computation of the current amplification factor in a transistor, based on measuring the values α_0, f_α and f_1. The relation between the current amplification factor in the transistor and a common base circuit or common emitter circuit is derived on the basis of the transistor's equivalent circuit. On the basis of this, an analysis is made of the influence of the capacitance of the collector junction and of the base resistance on the course of the function $|\beta| = |g(f)|$. Orig. art. has: 4 figures, 47 formulas 3 graphs and 2 tables.

Card 1/2

L 1032-66

ACCESSION NR: AP5025944 0

ASSOCIATION: Ustav radiotechniky a elektroniky CSAV, Prague (Institute of Radio Engineering and Electronics, CSAV)

SUBMITTED: 14Nov64 ENCL: 00 SUB CODE: EC, MA

NR REF SOV: 000 OTHER: 014 JPRS

Card 2/2

HULA, M.; HUZL, F.; LUKESOVA, L., SYKORA, J.; SCUSTEK, Z.

A special type of skin allergy after beryllium bronze. Pracovni lek. 13 no.10:497-499 D '61.

1. Klinickopatologicke dermatologicke stredisko SFN v Plzni pri kozni klinice, prednosta prof. MUDr. Vlastimil Resl, a pri patologicko-anatomickem ustavu, prednosta prof. MUDr. Josef Vanek D. Sc., oddeleni chorob z povolani a prumyslove toxikologie SFN v Plzni, prednosta MUDr. Frantisek Huzl C. Sc., spektrograficka laborator Kovohute, n.p. Rokycany.

(BERYLLIUM toxicol) (ALLERGY etiol)

COUNTRY : Czechoslovakia H-21
CATEGORY :

ABS. JOUR. : RZhKhim., No. 22 1959 No. 80221

AUTHOR : Hypr, I. and Lukesova, M.
INST. : Not given
TITLE : A Rapid Orientational Procedure for the Determination of Fat in Meat Products

ORIG. PUB. : Prumysl Potravin, 9, No 4, 221-222 (1958)

ABSTRACT : The method consists in the extraction of the fat with trichloroethylene and the determination of the density of the solution obtained. The mean error of the method is ±0.3%. A procedure for carrying out the calibration of the densitometer is described.

D. Yakesh

CARD: 1/1

278

KLEPESHTA, Yozef[Klepešta, Josef]; LUKESH. Ladislav[Lukeš, Ladislav],
inzh., doktor rad. tekhn. nauk; MIKHNEVICH, Aleksandra
[translator]; BEMOVA, Dara, otv. red.

[Map of the moon] Karta Luny. Prague, TSentral'noe upr.
geodezii i kartografii, 1959. 41 p. (MIRA 17:8)

GIPR, I., inzh.; LUKESHOVA, M.

Rapid method for determining fat content in meat products.
Mias. ind. SSSR 29 no.5:53-54 '58. (MIRA 11:10)

1. Nauchno-issledovatel'skiy institut myasnoy i rybnoy promyshlennosti, Brno, Chekhoslovakiya.
(Meat--Analysis) (Oils and fats--Analysis)

LUKES, J.; LUKESOVA, M.

Choline metabolism of infants under normal and pathological conditions.
Rev. czech. med. 9 no.1:1-9 '63.

1. Paediatric Clinic, Medical Faculty, Charles University, Plzen.
Director: Doc. J. Lukes, M.D.
(CHOLINE) (VITAMIN B COMPLEX) (AMINES) (FOLIC ACID)
(CREATINE AND CREATININE) (ASCORBIC ACID) (AMINO ACIDS)
(VITAMIN K) (URINE) (VITAMIN D) (RESPIRATORY TRACT INFECTIONS)
(SEBORRHEA) (OTITIS MEDIA) (ERYTHRODERMA) (PYODERMA)
(DIAGNOSIS, LABORATORY) (HEART DEFECTS, CONGENITAL)
(METABOLISM) (ANEMIA, HYPOCHROMIC)

CZECHOSLOVAKIA

Lukesova, M.

GOLA, J., Dr.; BIEGER, V.; LUKESOVA, M.

Brno (for all)

Brno, *Veterinarstvi*, No 11, November 1966, pp 511-514

"Use of liquid spice concentrates in processing meat products."

PASTOROVA, Jana; BALAS, Vladimir; BIGANOVSKY, Mojmir; JUNGER, Ladislav;
LUKESOVA, Tamara; VLACH, Vladimir

Importance of open intracranial injuries with regard to mortality & loss of working ability. Rozhl. chir. 38 no.6:373-380 June 59

1. I. chirurgicka klinika v Praze, prednosta prof. dr. J. Pavrovsky
Neurologicka klinika v Praze, prednosta akademik prof. dr. K. Henner.
(BRAIN, wds. & inj.)
(DISABILITY EVALUATION)

TUHACEK, Milan; OUREDNIK, Alois; LUKESOVA, Tamara

Syndrome of chronic sublavio-carotid obliteration (pulseless disease). (A review and case reports). Cesk. neur. 23 no.1/2:112-118 Ja '60.

1. Neurologicka klinika akad. Hennera. Int. oddel. na Slupi 6, prim. dr. R. Muratova.
(AORTA dis.)
(ARTERITIS)

KVICALA, Vaclav; LUKESOVA, Tamara

The position of the ampulla Galeni in the normal phlebogram. Cesk. neur. 24 no.1:34-40 Ja '61.

1. Neurologicka klinika KU v Praze, prednosta akademik prof. K. Henner.

(CEREBRAL ANGIOGRAPHY)

LUKETIC,Gorazd,dr.; CERLEK,Nenad,dr.; KULCAR,Zivko,dr.

Blood groups and gastrointestinal diseases. Lijec. vjes. 81
no.11:827-830 '59.

1. Iz Internog i Kirurskog odjela Opce bolnice "Dra. M. Stojanovica"
i iz Centralnog Higijenskog zavoda u Zagrebu.
(GASTROINTESTINAL DISEASES blood)
(BLOOD GROUPS)

LUKETIC,Gorazd,dr.; BASIC,Marko,dr.; GOSPODNETIC,Ante,dr.

Contribution to clinical aspects and roentgenological diagnosis of syphilis of the stomach. Lijec. vjes. 82 no.2:105-118 '60.

1. Iz Internog odjela, Zavoda za radiologiuj i Odjela za kozne i spolne bolesti Opce bolnice "Dra M. Stojanovica" u Zagrebu.

(SYPHILIS diag.)
(STOMACH dis.)

LAZAREVIC, M.; LUKETIC, N.

Role of the bacteriological control in the preparation and sale of food products and the smear preparation technic. Higijena 13 no.2: 140-145 '61.

(FOOD INSPECTION)

LUKEVITS, Ye.

3
0

Chem

Liebermann reaction for the nitroso group. G. Vanags and E. Lukevic. J. Gen. Chem. U.S.S.R. 26, 1676-80 (1956) (English translation).—See C.A. 50, 14677a.

B. M. R.

2

BM MT

VANAG, G.J.; LUKEVICS, E.J.

Liebermann reaction for the nitroso group. Zhur.ob.khim.26 no.5: 1400-1401 My '56. (MLRA 9:9)

1.Latviyskiy gosudarstvennyy universitet.
(Liebermann reaction) (Nitroso group)

LUKEVITS

LATVIA/Chemical Technology - Processing of Natural Gases and Petroleum. Motor and Rocket Fuel. Lubricants. H.

Abs Jour : Ref Zhur - Khimiya, No 16, 1958, 55234

Author : Luka, Lukevits

Inst : Latv. University.

Title : Preparation of Thermally Stable Silicon Fluids for Lubrication.

Orig Pub : Nauchn. stud. raboty Latv. un-t, 1957, sb. 2, 20-26.

Abstract : Certain substances, possessing excellent lubrication properties and great thermal stability, were obtained from the hydrolysis of ethyl and isobutyl esters of orthosilicic acid (0.83 mole of water per mole of ester, boiled up to 14 hours). They could be used as lubricants in a specific foundry, and are used at the present time in the Riga diesel factory.

Card 1/1

62-58-3-20/30

AUTHORS: Shikhiyev, I. A. Kayutenko, L. A. , Lukevits, E.

TITLE: Investigations in the Domain of the Synthesis and Reactions of Unsaturated Organosilicon Compounds (Issledovaniya v oblasti sinteza i prevrashcheniy nepredel'nykh kremneorganicheskikh soyedineniy) Communication 9: The Synthesis of Mixed Organosilicon Glycols of the Diacetylene Series (Soobshcheniye 9: Sintez smeshannykh kremneorganicheskikh glikoley diatsetilenovogo ryada)

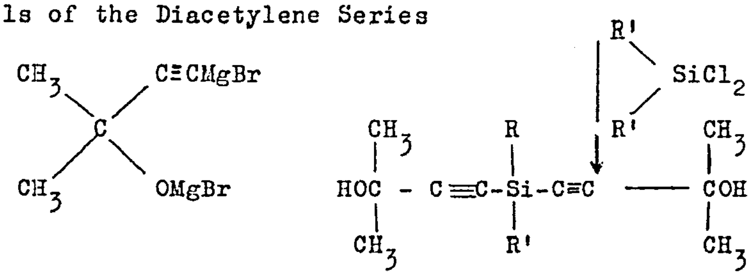
PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1958, Nr 3, pp. 363 -364 (USSR)

ABSTRACT: The present paper belongs to thos investigations dealing with the development of the chemistry of ternary acetylene alcohols containing silicon in their composition. The authors describe two reprentatives of the mixed diacetylene glycols which were synthesized according to the following scheme:

Card 1/3

62-58-3-20/30

Investigations in the Domain of the Synthesis and Reactions of Unsaturated Organosilicon Compounds. Communication 9: The Synthesis of Mixed Organosilicon Glycols of the Diacetylene Series



(R is equal to CH_3, R' = C_2H_5; C_3H_7)

According to this method another synthesis was also performed which led to the production of a corresponding organosilicon diacetylene glycol. See table. In a similar manner a method for the production of organosilicon alcohols was worked out. There are 1 table and 7 references, 7 of which are Soviet.

Card 2/3

62-58-3-20/30

Investigations in the Domain of the Synthesis and Reactions of Unsaturated Organosilicon Compounds. Communication 9: The Synthesis of Mixed Organosilicon Glycols of the Diacetylene Series

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR
(Institute for Organic Chemistry imeni N. D. Zelinskiy, AS USSR)

SUBMITTED: October 10, 1957

Card 3/3

AUTHORS: Vanag, G. Ya., Lukevits, E. Ya., 75-13-2-19/27

TITLE: Qualitative Reaction for m-Aminophenol and p- Amino-salicylic Acid (Kachestvennaya reaktsiya na m-aminofenol i p-aminosalitsilovuyu kislotu)

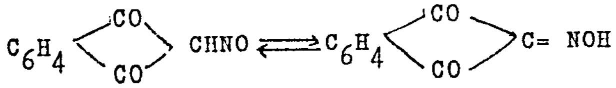
PERIODICAL: Zhurnal Analiticheskoy Khimii, 1958, Vol. 13, Nr 2 pp. 253-254 (USSR)

ABSTRACT: It was found by the authors, that green fluorescence occurs in the boiling of a solution of m- aminophenol in glacial acetic acid with 2-nitroso-indandone (1,3). If the concentration of the m-aminophenol is sufficiently high, the color of the solution changes to red. If the concentration of m-amino-phenol is very low, the fluorescence occurs only after cooling the solution. A small excess of nitroso-indandone (up to 3 mols per mol of m-aminophenol) favors the reaction, a great excess of the reagent somewhat reduces the sensitivity.

Card 1/4

75-13-2-19/27

Qualitative Reaction for m-Aminophenol and p- Aminosalicylic Acid



$$C_6H_4\left\langle{\begin{matrix}CO\\CO\end{matrix}}\right\rangle CHNO \rightleftharpoons C_6H_4\left\langle{\begin{matrix}CO\\CO\end{matrix}}\right\rangle C= NOH$$

The maximum dilution of m-aminophenol at which fluorescence still occurs amounts to 1: 40000. In ethyl alcohol, ether, benzene, dioxane, diluted acetic acid and even in glacial acetic acidcontaining a small amount of actic anhydride no fluorescence occurs. O- and p-aminophenol give no similar reaction and therefore have no disturbing influence up to a hundred fold excess as compared to m-aminophenol. At even greater amounts of o- and p- aminophenol the solution changes to bright red and no fluorescence occurs. Phenol, resorcin, aniline and many other aromatic and aliphatic primary, secondary and tertiary amines with nitroso -indandone give no fluorescence,therefore the reaction being specific for m- aminophenol. As is known, p-aminosalicylic acid (PAS) is easely decarboxylated on heating, forming m-aminophenol. It had to be expected therefore, that PAS gives a positive

Card 2/4

75-13-2-19/27

Qualitative Reaction for m- Aminophenol and p-Aminosalicylic Acid

reaction with nitroso-indandone. A splitting off of CO_2 actually occurs at a heating of PAS with nitroso-indandone glacial acetic and gradually the liquid begins to fluoresce with a green color. With small amounts of PAS heating must be prolonged, because the decomposition of PAS does not proceed instantaneously. The maximum dilution of p-aminosalicylic acid, at which a fluorescence still occurs, amounts to 1: 28000. The ratio of the sensitivity of the detection of m-aminophenol and of PAS (40000 : 28000) approximately corresponds to the ratio of the molecular weights (153:1o9). From this follows, that PAS under the conditions of the reaction almost quantitatively decomposes into m-aminophenol. The representation of 2-nitroso-indandone (1,3) in small amounts (reference 1) and in greater amounts (reference 2) and the performance of the detection reactions is accurately described.

Card 3/4

75-13-2-19/27

Qualitative Reaction for m-Aminophenol and p-Aminosalicylic Acid

There are 4 references, 1 of which is Soviet.

ASSOCIATION: Latviyskiy gosudarstvennyy universitet, Riga (Riga, Latvian State University)

SUBMITTED: November 5, 1956

1. Phenols--Chemical reactions 2. Aminosalicylic acid--Chemical reactions 3. Aminosalicylic acid--Temperature factors 4. Aminosalicylic acid--Decomposition

Card 4/4

5 (3) SOV/20-125-4-30/74

AUTHORS: Vanag, G. Ya., Member of the Academy of Sciences of the LatvSSR, Lukevits, E. Ya.

TITLE: Interaction Between 2-Bromo-2-Phenylindandione-1,3 and Grignard Reagents (Vzaimodeystviye 2-brom-2-fenilindandiona-1,3 s reagentami Grin'yara)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 4, pp 801-802 (USSR)

ABSTRACT: It was assumed (Ref 2) that in connection with the interaction between 2,4-dibromo-2,4-dimethyl pentanone-3 and methyl magnesium iodide (2,2,4-trimethyl pentanone-3is formed) (Ref 1) a bromine atom in α-position to the carbonyl group is replaced by MgJ. As later explained, in this reaction a derivative of the enol-form of ketone forms (Refs 3, 4). Also in the case of the halogen-substituted β-diketones halogen was found to be replaced by hydrogen under the action of the Grignard reagent (Ref 5). In the latter case a reaction scheme (Ref 6) was suggested (see scheme). If the α-halogen ketone is considerably enolized the halogen is not exchanged for hydrogen, but hydrogen of the enol group reacts with the Grignard reagent (e.g. see scheme; Ref 7). In the case of an interaction of the

Card 1/3

Interaction Between 2-Bromo-2-Phenylindandione-1,3 and Grignard Reagents SOV/20-125-4-30/74

substance mentioned first in the title (II) with trimethyl silyl methyl magnesium chloride the authors observed the formation of 2-phenylindandione-1,3 (III). In order to be able to check the scheme of reference 6 the authors carried out the reaction of (II) with ethyl magnesium iodide. When equivalent amounts of the reagents were taken it was possible to isolate (III) from the reaction mass. In the case of an excess quantity of ethyl magnesium iodide the second carbonyl group reacted also and 3-ethyl-2-phenylindanol-3-on-1 (IV) was obtained. The latter was transformed into 3-ethyl-2-phenylindenone-1 (V) (Ref 8). In connection with the investigation of the Grignard reagent it was found that phenol magnesium bromide and iodide give a bluish luminescence in the case of an oxidation in the air. The luminescence is soon over in order to occur again under friction. The luminescence of iodide is less intensive than that of bromide. In the case of methyl magnesium iodide and ethyl magnesium bromide no luminescence was observed. The usual data are given in the experimental part. There are 10 references, 3 of which are Soviet.

Card 2/3

Interaction Between 2-Bromo-2-Phenylindandione-1,3 and Grignard Reagents SOV/20-125-4-30/74

ASSOCIATION: Institut organicheskogo sinteza Akademii nauk Latviyskoy SSR (Institute of Organic Synthesis of the Academy of Sciences of the Latviya SSR)

SUBMITTED: November 12, 1958

Card 3/3

24115
S/197/61/000/004/003/004
B101/B229

5 3700 2209

AUTHORS: Lukevits, E., Giller, S.

TITLE: Syntheses in the series of furan-containing organosilicon compounds. Information I. Reduction of furyl-, phenyl-, and thienyl mercury chloride by means of triethyl silane

PERIODICAL: Izvestiya Akademii nauk Latviyskoy SSR, no. 4, 1961, 99-102

TEXT: The purpose of the present work was to investigate the interaction between organomercury furan derivatives and silanes to obtain furyl silanes. The tests showed that furyl mercury chloride neither reacts with SiF_4, $SiCl_4$ in benzene, nor with $(C_2H_5)_3SiCl$ dissolved in o-xylene. A reaction was not achieved, neither after 24 hr nor at 145°C. If, however, triethyl silane was used instead of halogen silane, furyl mercury chloride was reduced with separation of mercury. Triethyl silane showed the same reducing effect with thienyl mercury chloride and phenyl mercury chloride. The reaction is accelerated if it is achieved in a solvent (dioxane, alcohol, or pyridine). In anhydrous pyridine the rate of reduction increases in the

X

Card 1/4

24115

S/197/61/000/004/003/004
B101/B229

Syntheses in the series ...

order: phenyl mercury chloride < furyl mercury chloride < thienyl mercury chloride. If a reaction is achieved without a solvent, or in dioxane, triethyl silane changes to triethyl-chlorosilane. If ethanol is used as solvent, triethyl silane changes to triethyl ethoxy silane. In pyridine a complex is formed from triethyl chlorosilane and pyridine. After decomposition of the reaction mixture by means of water, and extraction by means of ether, the ether extract contains only triethyl silanol and the corresponding hydrocarbon: benzene (identified as m-dinitro benzene), thiophene (identified as thienyl mercury chloride), or furan (proved by qualitative reactions). From this the following reaction may be assumed: $RHgCl + (C_2H_5)_3SiH \longrightarrow RH + Hg + (C_2H_5)_3SiCl$; R = furyl-, thienyl-, or phenyl radical. Difuryl mercury, dissolved in pyridine, could not be reduced by triethyl silane. For the reaction of triethyl silane with phenyl mercury chloride, it is indicated: to 15.7 g phenyl mercury chloride, 4 g pyridine and 5.8 g triethyl silane were added, the solution was boiled for 4hr. After cooling off, 9.6 g Hg (=96%) were filtered off. The fraction distilled off at 80-81°C was nitrified. By crystallization from ethanol the m-dinitro benzene was obtained. At 146 - 148°C triethyl chlorosilane distilled over. If water was added to the solution filtered off from Hg,

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S/197/61/000/004/003/004
B101/B229

Syntheses in the series ...

extracted with ether, the triethyl silanol distilled over from the extract at 153 - 154°C. The reaction with other mercury compounds was carried out in the same way. The results are shown in Table 2:

Hg compounds,	mole	$(C_2H_5)_3SiH$, mole	solvents	duration of reaction, hr	obtained Hg, %
Phenyl mercury chloride	0.05	0.05	without	55	12.6
ditto	0.1	0.1	dioxane	36	80
furyl mercury chloride	0.05	0.05	ethanol	4	98
phenyl mercury chloride	0.1	0.1	pyridine	2	78.4
furyl mercury chloride	0.1	0.1	pyridine	2	86.25
thienyl mercury chloride	0.1	0.1	pyridine	2	98

A paper by Z. M. Manulkin (Ref.10: ZhOKh, 1946, 16, 235) is mentioned.

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24115

Syntheses in the series ...

S/197/61/000/004/003/004
B101/B229

There are 2 tables and 14 references: 5 Soviet-bloc and 9 non-Soviet-bloc. The most important reference to English-language publication reads as follows: R. Benkeser, D. Hoke, R. Hickner, J. Am. Chem. Soc., 1958, 80, 5294.

ASSOCIATION: Institut organicheskogo sinteza AN Latv. SSR (Institute of Organic Synthesis, AS Latviyskaya SSR)

SUBMITTED: January 13, 1961

Card 4/4

5 3700

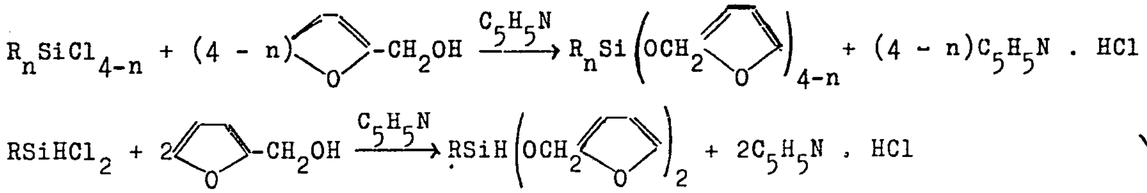
S/197/61/000/007/002/002
B117/B101

AUTHORS: Lukevits, E., Romadan, Yu., Giller, S.

TITLE: Syntheses in the series of furan-containing organosilicon compounds, synthesis of furfuryloxy silanes

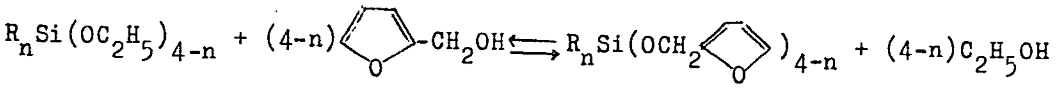
PERIODICAL: Izvestiya Akademii nauk Latveyskoy SSR, no. 7 (168), 1961, 59-61

TEXT: The authors employed three methods for producing furfuryloxy silanes. Most of these compounds were prepared by the interaction of alkylchlorosilanes R_nSiCl_{4-n} and alkyldichlorosilanes $RSiHCl_2$ with furfuryl alcohol in the presence of pyridine (method A):



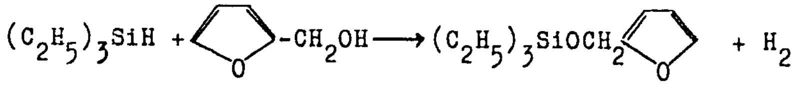
Card 1/7

The reactions were made in a three-necked flask with mechanical stirrer, dropping funnel, and reflux cooler with calcium chloride tube. In the case of $C_2H_5SiHCl_2$ not only ethyl difurfuryloxy silane but also ethyl trifurfuryloxy silane were isolated. This indicates that the reaction partially proceeds via the Si-H bond. Re-esterification of ethoxy silanes with furfuryl alcohol (method Б) is simpler from the experimental point of view:



In some cases, however, the reaction proceeds slowly and the separation of the main product is rendered difficult by the impurities of the partially substituted esters. The best results could be obtained when using sodium furfurylate as a catalyst. The reactions were made in a distilling flask with dephlegmator in oil bath. For the production of trialkyl furfuryloxy silanes dehydrocondensation of hydride silanes with alcohols in the presence of metallic sodium (Ref. 11: B. N. Dolgov, N. P. Kharitonov, M. G. Voronkov, ZhOKh, 24, 1178, (1954)) was successfully employed (method В).

In this case the highest yields were obtained:



Using these three methods the entire series of methyl furfuryloxy silanes and ethyl furfuryloxy silanes as well as methyl ethyl difurfuryloxy silane, ethyl dipropyl furfuryloxy silane, trifurfuryloxy silane and tetrafurfuryloxy silane were obtained (Table 1). Most of the furfuryloxy silanes are colorless liquids with a characteristic smell and turning yellow on standing. At temperatures of 145°C and higher, the furfuryloxy silanes distilled in the vacuum are yellowish. The furfuryloxy silanes are soluble in ether, ethanol, benzene, and toluene, and insoluble in water. On heating they are gradually polymerized while forming brown non-distillable, highly viscous substances. All frequencies characteristic of the disubstituted furans can be observed in the infrared spectrum (Table 2) There are 2 tables and 17 references: 8 Soviet-bloc and 9 non-Soviet-bloc. The three most important references to English-language publications read as follows: Ref. 15: A. Cross, S. Stevens, T. Watts. J. Appl. Chem., 7,

S/197/61/000/007/002/002
B117/B101

Syntheses in the series of ..

562 (1957); Ref. 16: N. Wright, M. Hunter. J. Amer. Chem. Soc., 69, 803 (1947); Ref. 17: A. Katritzky, I. Lagovski. J. Chem. Soc., 1959, 657.

ASSOCIATION: Institut organicheskogo sinteza AN Latv. SSR (Institute of Organic Synthesis AS Latviyskaya SSR)

SUBMITTED: May 6, 1961

Table 1: constants of furfuryloxy silanes.

Legend: 1) furfuryloxy silane; 2) synthesis method; 3) boiling temperature, °C; 4) pressure, mm Hg; 5) found; 6) calculated; 7) yield %.

Table 2: infrared absorption spectra of furfuryloxy silanes.

Legend: 1) compound; 2) valence vibrations of the furan ring; 3) pulsation of the ring; 4) deformation vibrations of the C-H bond; 5) planar; 6) extraplanar; 7) references; 8) vibrations of the Si-x bond; 9) deformation vibrations; 10) other frequencies.

Card 4/7

LUKEVITS, E.[Lukevics, E.]; GILLER, S.[Hillers, S.]

Interaction of triethylsilane with mercury salts. Izv.AN Latv. SSR no.4:95-98 '61. (MIRA 16:1)

1. Institut organicheskogo sinteza AN Latviyskoy SSR.

(Silane) (Mercury salts)

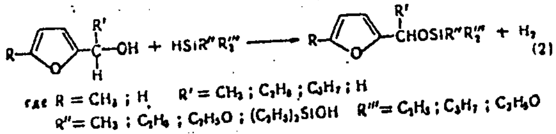
S/020/62/145/004/017/024
B110/B144

AUTHORS: Lukevits, E. Ya., Romadan, Yu. P., Giller, S. A., Academician AS LatSSR, and Voronkov, M. G.

TITLE: Organosilicon compounds of the furan series. Organosilicon derivatives of furyl carbinols and 5-substituted furfuryl alcohols

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 145, no. 4, 1962, 806 - 808

TEXT: Furfuryl oxysilanes were produced: (1) by reaction of trialkyl chlorosilanes with furyl alkyl and furyl aryl carbinols, (2) by reaction of silanes with furfuryl alcohol, 5-methyl furfuryl alcohol, and furyl alkyl carbinols



using 10^{-5} moles of H_2PtCl_6 per 1 mole of isopropyl alcohol as catalyst at

Card 1/2

80 - 100°C. Their composition and properties are indicated (Table). 5-nitro-furfuryl oxytrimethyl silane was obtained from ethereal solutions of 5-nitro-furfuryl alcohol, pyridine, and trimethyl chlorosilane. Silane reacts with H_2PtCl_6 in isopropyl alcohol to give furfuryl oxysilane. Dioxane containing 0.05 moles of H_2O hydrolyzes triethyl silane in the presence of H_2PtCl_6 to give triethyl silanol. Triethyl silane reacting with triethyl silanol in the presence of H_2PtCl_6 yields small amounts of hexaethyl disiloxane by anhydrocondensation. There is 1 table.

ASSOCIATION: Institut organicheskogo sinteza Akademii nauk LatvSSR (Institute of Organic Synthesis of the Academy of Sciences LatSSR)

SUBMITTED: March 12, 1962

Table. Furfuryl oxysilanes (R'-  - R'). Legend: (1) mode of production, (2) boiling point, °C, (3) pressure, mm Hg.

LUKEVITS, E.[Lukevics, E.]; GILLER, S.[Hillers, S.]

Synthesis in the series of furan-containing silicon organic compounds. Report No. 1: Reduction of furyl-, phenyl-, and thienyl-mercury chlorides by triethylsilane. Izv.AN Latv. SSR no.4:99-102 '61. (MIRA 16:1)

1. Institut organicheskogo sinteza AN Latviyskoy SSR.

(Silane) (Mercury chlorides)
(Reduction, Chemical)

LUKEVITS, Edmund Yanovich; VORONKOV, Mikhail Grigor'yevich;
SAVEL'YEVA, Ye., red.

[Addition reactiors of organosilicon, organogermanium, and organotin hydrides] Gidrosilirovanie, gidrogermilirovanie i gidrostannilirovanie. Riga, Izd-vo AN Latviiskoi SSR, 1964. 370 p. (MIRA 17:11)

L 45816-65 EWT(m)/EPF(c)/EWP(t)/EWP(b) Pr-4 IJP(c) JD
ACCESSION NR AM5003774 BOOK EXPLOITATION S/

Lukevits, Edmund YAnovich; Voronkov, Mikhail Grigor'yevich

Hydrosilification, hydrogermanification and hydrostannification (Gidrosililirovaniye, gidrogermilirovaniye i gidrostannilirovaniye), Riga, Izd-vo AN LatSSR, 1964, 370 p. illus., biblio., indices, tables, 1,600 copies printed. (At head of title: Akademiya nauk Latviyskoy SSR. Institut organicheskogo sinteza).

TOPIC TAGS: silicon hydride, germanium hydride, tin hydride, lead hydride, organosilicon compound, organosiloxane, chemistry

PURPOSE AND COVERAGE: This book is devoted to the synthesis reactions of organic and inorganic silicon, germanium, tin, and lead hydrides into compounds. The authors call these processes hydrosilification, hydrogermanification and hydrostannification. The book examines exhaustively and critically evaluates data of original research and patents published prior to the beginning of 1963 (the bibliography contains about 650 titles). The book considers the dependence of the indicated reactions upon conditions under which the reactions occur, their mechanism and practicality, and the nature of the catalysts that are used and the structure of the initial reagents. The book also

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L 45816-65
ACCESSION NR AM5003774

0

describes typical examples of synthesis. The book includes general tables of over 2500 reactions described in literature of hydrometallization of compounds by hydrides of elements of group IV C. The book is intended for a broad audience of organic chemists working in research institutes, higher educational institutions, and in industry and for students and graduate students in the appropriate specialties.

TABLE OF CONTENTS [abridged]:

Part 1. Hydrosilification reaction

Part 2. The hydrogermanification, hydrostannification and hydroplumbification reactions

Card 2/3

L 45616-65

ACCESSION NR AM500 74

Part 3. Examples preparative syntheses — 89

Part 4. Tables of he hydrosilification, hydrogermanification and hydro-stannification actions

Bibliography — 35

SUB CODE: OC

SUBMITTED: 21Jul6

OTHER: 442

NO REF SOV: 207

Card 3/3

L 46301-66 EWP(j)/EWT(m) RM/WW

ACC NR: AP6023577 SOURCE CODE: UR/0409/66/000/003/0328/0331

AUTHOR: Lukevits, E. Ya.; Voronkov, M. G.

10
B

ORG: Institute of Organic Synthesis, Academy of Sciences, Latvian SSR, Riga (Institut organicheskogo sinteza Akademii nauk Latviyskoy SSR)

TITLE: Organosilicon compounds of the furan series. Part 12. Furylorganylhydrosilanes

SOURCE: Khimiya geterotsiklicheskikh soyedineniy, no. 3, 1966, 328-331

TOPIC TAGS: organosilicon compound, furan compound, silane

ABSTRACT: The synthesis of dialkyl(2-furyl)- and dialkyl(5-methyl-2-furyl)hydrosilanes was carried out as follows:

$R = H, CH_3$; $R' = CH_3, C_2H_5$; $R'' = CH_3, C_2H_5, n\text{-}C_3H_7$

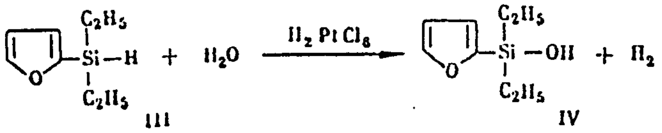
In the reaction of 2-furyllithium with trichlorosilane, the main product is tetra(2-furyl)silane (I), and tri(2-furyl)silane is formed in only a slight quantity. 2-Furylorganylhydrosilanes react readily with the participation of Si-H bonds, and the reactions are rapid and exothermic. Thus, 2-furyl- and 5-methyl-2-furylorganylhydrosi-

Card 1/3 UDC: 547.72+546.287

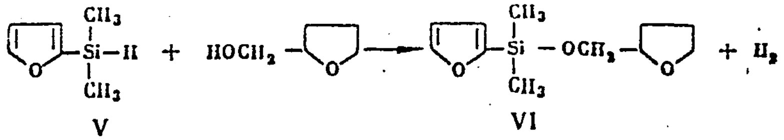
L 46301-66

ACC NR: AP6023577 0

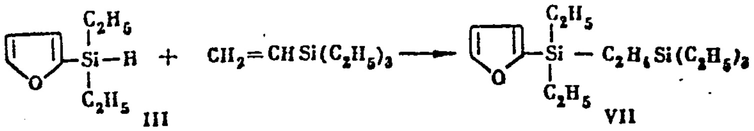
lanes in pyridine instantaneously reduce $HgCl_2$ to Hg metal. In the presence of H_2PtCl_6, they react vigorously with water dissolved in dioxane. The authors thus synthesized the first representative of 2-furylorganylsilanols, diethyl(2-furyl)silanol:



The dehydrocondensation of dimethyl(2-furyl)silane (V) with tetrahydrofurfuryl alcohol is just as rapid, and forms dimethyl(2-furyl)tetrahydrofurfuryloxysilane (VI):



Addition of III to triethylvinylsilane in the presence of H_2PtCl_6 also occurs readily:



Card 2/3

L 46301-66

ACC NR: AP6023577

0

The physical constants, yields, and data of analysis of all the new synthesized furylorganylsilanes are tabulated. Orig. art. has: 1 table.

SUB CODE: 07/ SUBM DATE: 03Apr65/ ORIG REF: 003

Card 3/3

LUK'GANOV, P. I. Cand Tech Sci

Dissertation: "On the Problem of the Efficient Design of a Reactor for Synthesis of Hydrocarbons from Carbon Monoxide and Hydrogen."

11/5/50

Moscow Inst of Chemical Machine Building

SO Vecheryaya Moskva
Sum 71

LUKHANOV, A-F.

PHASE I BOOK EXPLOITATION 998

Akademiya nauk SSSR. Institut gornogo dela.

Voprosy teorii razrusheniya gornykh porod deystviyem vzryva (Theoretical Problems in Crushing Rock by Blasting) Moscow, Izd-vo AN SSSR, 1958. 161 p. 2,500 copies printed.

Resp. Ed.: Mel'nikov, N.V., Corresponding Member, USSR Academy of Sciences; Ed. of Publishing House: Klimovitskiy, Ya.A.

PURPOSE: This collection of articles is of interest to mining specialists.

COVERAGE: The present collection of 9 articles by various authors presents the results of scientific research in the field of rock crushing in mining by means of blasting. The studies conducted are of both theoretical and practical nature. The articles examine the distribution of explosive energy and the propagation of spherical explosive waves in soil. Theoretical principles in determining the size of charges for certain types of mining operations are discussed and analysed. The articles are accompanied by diagrams, photographs, tables and bibliographic references.

Card 1/3

TABLE OF CONTENTS:

Theoretical Problems (Cont.) 998

AVAILABLE: Library of Congress

MM/sfm
1-12-59

Card 3/3

LUKHANINA, N.N.

Soviet literature on problems of medical parasitology and parasitic diseases published in 1961. Med.paraz.i paraz.bol. no.1:112-121 '62. (MIRA 15:5)

(BIBLIOGRAPHY—MEDICAL PARASITOLOGY)

LUKHIN, V.I.

AID P - 1180

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 2/27

Author : Lukhin, V. I., Eng.

Title : Expansion of inductive drying of the winding insulation of electrical machinery

Periodical : Energetik, 12, 3-5, D 1954

Abstract : The author discusses advantages and disadvantages of the inductive drying and attempts to determine the most economical method. He describes the method used in drying several windings at once on several electrical machines of various sizes and capacities. A further development of large-scale drying, according to the author, is advisable. Two drawings.

Institution : None

Submitted : No date

SOV/137-57-6-10459

Translation from: Referativnyy zhurnal, Metallurgiya, 1957, Nr 6, p 150 (USSR)

AUTHORS: Balakina, L.N., Krupitskiy, B.A., Lukhina, Ye.M.

TITLE: Investigation of the Wear Resistance of a Layer Hardened by Electric Spark Treatment (Issledovaniye iznosostoykosti sloya, uprochnennogo elektroiskrovoy obrabotkoy)

PERIODICAL: Tr. Leningr. voyen.-mekhan. in-t, 1955, Nr 3, pp 151-157

ABSTRACT: An investigation of the comparative wear resistance of 40-grade steel which was hardened by electric spark treatment (ET) with a hard T15K6 type alloy, nitrogenized, carburized, and quenched. ET was performed at a 200 μf capacity and a 5-6 amp intensity of the short-circuit current, and was followed by a smoothing operation at a 6 μf capacity and a 0.25 amp current intensity. The thickness of the hardening layer was 0.02-0.03 mm. The microhardness H_V of the specimens investigated was 1300 after ET, 1200 after nitrogenization (St 35KhMYuA grade steel), 930 after carburization followed by quenching (St 15 grade steel), and 595 after quenching and annealing at 200°C (St 40 grade steel). Rings hardened by ET

Card 1/2 exhibit a high wear resistance in contact with a hardened or

SOV/137-57-6-10459

Investigation of the Wear Resistance of a Layer (cont.)

nitrogenized surface. A rubbing pair in which both surfaces have been hardened by ET is undesirable because in that case a great wear of the block (shoe) surface is observed. It is noted that with a decrease of the difference in the hardness of the bearing surface and the ring, the wear resistance of the rubbing pair is decreased. The authors advance their opinion that in a number of cases the employment of a rubbing pair can be recommended in which the ring has been hardened by ET and the bearing surface has been quenched and annealed instead of receiving thermochemical treatment. For lightly loaded articles the authors recommend use of a friction pair in which the bearing surface has been hardened by ET and the ring is made of refined steel quenched and annealed at low temperature. It is pointed out that the substitution of electric-spark hardening for carburization and nitrogenizing permits a considerable reduction in the cost of thermochemical treatment.

E.S.

Card 2/2

BARANOV, S.M., doktor tekhn.nauk prof.; LUKHINA, Ye.M., kand.tekhn.nauk

Characteristics of phase transformations in various heats of chromium-nickel steel. Izv.vys.ucheb.zav.; chern.met. 2 no.6:75-80 Je '59. (MIRA 13:1)

1. Leningradskiy mekhanicheskiy institut. Rekomendovano kafedroy tekhnologii metallov Leningradskogo voyenno-mekhanicheskogo instituta.

(Chromium-nickel steel--Metallography)
(Phase rule and equilibrium)

L 11303-63 EWP(q)/EWT(m)/BDS AFFTC/ASD JD 54

ACCESSION NR: AP3000486 S/0129/63/000/005/0013/0017 53

AUTHOR: Baranov, S. M.; Lukhina, Ye. M.

TITLE: The mechanisms of phase, transformations in different melts of 40Kh A steel

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 5, 1963, 13-17

TOPIC TAGS: surface ingredients in melts, silicon-monoxide (SiO), transformation of austenite, elimination of ferrite

ABSTRACT: Experiments with chromium steels showed that melts with the same chemical compositions, but different melting processes, have as a rule different structures after the same isothermic treatment. The active surface ingredients delay the separation of ferrite and also delay the process of transforming the austenite into ferrite-cement. The intensity of the influence of the surface active ingredients, of which silicon-monoxide is almost always present, can be estimated by the proportion of the amount of ingredients and the rate of displacement which usually takes place at temperatures of 450C-650C. By changing the oxidation process, it is possible to regulate the hardenability extent of steel.

The observed regularities in the changes of the properties of various melts of 40 Kh steel can be explained by the presence of silicon monoxide, the contents

Card 1/2

L 11303-63
ACCESSION NR: AP3000486

of which in the metal can be fixed from an analysis of the physico-chemical condition of the melting process. Orig. art. has: 4 figures, 3 tables.

ASSOCIATION: Leningradskiy Mekhanicheskiy Institute (Lenigrad Institute of Mechanical Engineering)

SUBMITTED: 00 DATE ACQD: 03Jun63 ENCL: 00

SUB CODE: 00 NO REF SOV: 003 OTHER: 000

kes
Card 2/2

ACCESSION NR: AR3010447 S/0124/63/000/009/B054/B054

SOURCE: RZh. Mekhanika, Abs. 9B336

AUTHOR: Lukhmenskiy, A. V.

TITLE: Liquid fuel consumption during gas-fluid mixture feeding of precombustion chamber engines

CITED SOURCE: Sb. tr. Kafedry* teor. fiz. Kirg. un-t, vy*p. 1, 1962, 69-80

TOPIC TAGS: combustion engine, liquid-gaseous mixture engine, self-igniting engine

TRANSLATION: Results of an experimental investigation of the working cycle of an engine with compression ignition fed by a gas-fluid mixture are presented. Such a four-stroke engine is distinguished by an operating cycle in which during the intake and compression the chamber contains the gas-air mixture instead of pure air. Studies were carried out on a precombustion chamber engine with a 15.5 compression ratio using various ratios of the liquid and gaseous fuel. Generator gas served as the gaseous fuel. The author registered the engine characteristics from

Card 1/2

ACCESSION NR: AR3010447

the number of crankshaft turns. Experiments showed that the engine can operate on mixed fuel using a gas with a heat producing capacity of not less than 800 kcal/m3, and the author established the optimum adjustment of the fuel-supplying device. Yu. F. Dityakin.

DATE ACQ: 30Sep63 SUB CODE: FL ENCL: 00

Card 2/2

GORSKIY, Ya.Ya.; LUKHMINSKIY, B.Ye.

Reliability of apparatus for radiation well logging. Razved.i prom. geofiz. no.44:130-140 '62. (MIRA 15:7)
(Oil well logging, Radiation--Equipment and supplies)

LUKHNITSKIY, A., kand.tekhn.nauk

Basic trends in the development of the plastics industry in Armenia. Prom.Arm.,6 no.9:10-14 S '63. (MIRA 16:12)

1. Armniikhimproyekt.

LUKHOVITSKAYA, E.S. (Moskva)

Unit for processing logical conditions in the programming program No.2. Probl.kib. no.1:172-177 '58. (MIRA 12:4)
(Programming (Mathematics))

S/032/62/028/002/002/037
B101/B110

AUTHORS: Gol'dinov, A. L., Lukhovitskiy, V. I., and Svinina, N. A.

TITLE: Analysis of chloro-fluoro methanes by gas-liquid chromatography

PERIODICAL: Zavodskaya laboratoriya, v. 28, no. 2, 1962, 150 - 151

TEXT: A report is made on the test of Freon-22 for the content of Freon-12, Freon-21, and Freon-23 as impurities. A column of 320 cm length filled with diatomite that was soaked with dibutyl phthalate (100:25), inside diameter 0.7 cm, rate of N_2 (carrier gas) 40 ml/min at 18°C, was found to be optimum. The gas to be analyzed (~30 ml) was fed into the column by a dosing device. The difference between the refractive index of the pure carrier gas and that of the gas flowing through the column was measured every 30 sec by an ИТР-1 (ITR-1) interferometer. The analysis of the mixtures showed the retention times: Freon-23, 4 min; Freon-12, 6.5 min; Freon-22, 10 min, and Freon-21, 80 min (blurred peak). To shorten the time of analysis and raise the sensitivity to Freon-21, the N_2 rate was increased after 10 min to 67 ml/min, and the temperature to 40°C by means

Card 1/2

S/032/62/028/002/002/037
Analysis of chloro-fluoro methanes... B101/B110

of a ТС-15М (TS-15M) thermostat. Experiments with mixtures of Freon-12, Freon-21, or Freon-23 with N_2 produced an analysis error of about ± 20% for 0.020%, and of about ± 5% for 0.1 - 0.3% Freon content. There are 1 figure, 1 table, and 3 non-Soviet references. The three references to English-language publications read as follows: W. C. Percivall, Anal. Chem., 29, I, 20 (1958); H. H. Hausdorff, N. Brenner, Oil a. Gas. J., 4, 89 (1958); F. H. Pollard, C. I. Hardy, Anal. Chem. Acta, 16, 2, 135 (1957).

Card 2/2

DOL'DINOV, A.L.; ZVEREV, B.P.; IZRAILEVA, S.B.; LUKHOVITSKIY, V.I.;
SHABALIN, A.A.

Purification of mercury-containing waste waters. Khim.prom.
no.9:610-612 Ag '62. (MIRA 15:9)
(Sewage--Purification)
(Mercury)

SOV/75-13-5-14/24

AUTHORS: Gol'dinov, A. L., Lukhovitskiy, V. I., Gorovits, M. A., Roginskaya, B. S.

TITLE: Quantitative Determination of Fluorine by Formation of Hydroxy-trifluoroborates (Kolichestvennoye opredeleniye ftora s ispol'zovaniyem reaktsii obrazovaniya gidroksotriftorboratov)

PERIODICAL: Zhurnal analiticheskoy khimii, 1958, Vol 13, Nr 5, pp 583-585 (USSR)

ABSTRACT: The process of formation and hydrolysis of fluoroborate complexes has been thoroughly studied by Ryss and his coworkers (Ref 1). These authors proved that upon mixing of hydrofluoric acid with boric acid instantly hydroxy-trifluoroboric acid is formed: $3HF + H_3BO_3 = HBF_3OH + 2H_2O$ (1).
This compound is a strong acid which dissociates in the ions H^+ and BF_3OH^-. At the same time also tetrafluoroborates in the solution are formed : $HF + HBF_3OH = HBF_4 + H_2O$ (2).
This reaction proceeds much slower than reaction (1) and is catalized by H^+-ions. Ryss explains the impossibility of an

Card 1/4

SOV/75-13-5-14/24

Quantitative Determination of Fluorine by Formation of Hydroxytrifluoroborates

exact alkalimetric determination of HBF_4 by the formation of the ions BF_3OH^-. On the strength of the high reaction velocity of reaction (1) and of the, especially in low H^+-ion concentration, low velocity of reaction (2) the authors tried to elaborate a method for the quantitative determination of fluorides, which is based on the alkalimetric titration of borax, formed in the reaction

$$3NaF + 5H_3BO_3 = NaBF_3OH + Na_2B_4O_7 + 7H_2O \quad (3).$$

The preparation of solutions with known content of fluorine is described in detail. The quantitative determination of borax was performed by conductometric titration, the used installation is exactly described. It was shown that the end point of the titration is to be seen with sufficient distinctness; the obtained results, however, are in all cases too low by 2-5%. This fact can be explained by the hydrolysis of $NaBF_3OH$ under formation of boron fluoride complexes with low fluorine content. In order to prevent the hydrolysis in the subsequent determinations the solution was diluted with the same volume

Card 2/4

SOV/75-13-5-14/24

Quantitative Determination of Fluorine by Formation of Hydroxytrifluoroborates

of ethylalcohol. In this way, solutions with a content up to 0,1 g fluorine can be titrated with an accuracy of ± 0,3%. With lower fluorine content the error somewhat increases and reaches with a content of 0,02-0,04 g fluorine in the sample ± 0,8%. In order to investigate the influence of reaction (2), some of the samples were conductometrically analyzed not before 24 hours after the mixing. The results, however, do not exhibit any variation. The anions of strong acids (SO_4^{2-}, NO_3^-, Cl^-) in quantities up to 1 g-mol per 1g-mol fluorine increases the relative error of the determination up to 1%. With considerably increased amounts of the admixtures mentioned the error increases up to 4%. The anions of weak acids interfere with the determination, as well as all cations that precipitate at pH $\sim$7,5. The described method is well applicable for the determination of fluorine in the fluorides of cobalt, manganese and antimony. The results of these determinations and the exact analysis is described in the paper.

Card 3/4 There are 1 figure, 4 tables, and 3 references, 3 of which

GOL'DINOV, A.L.; LUKHOVITSKIY, V.I.; MAL'KOVA, G.Ya.

Determination of water. Zhur.anal.khim. 16 no.6:724-728 N-D '61.
(MIRA 14:12)

(Water--Composition)

GOL'DINOV, A.L.; LUKHOVITSKIY, V.I.; SRUBINSKAYA, G.Z.

Determination of water with the use of calcium hydride. Zhur.-
anal.khim. 17 no.4:532-534 Jl '62. (MIRA 15:8)
(Water) (Calcium hydride)

LUKHOVITSKIY, V.I.; CHIKIN, Yu.A.

Some electric phenomena observed during crystallization.
Elektrokhimiia 1 no.9:1110-1113 S '65. (MIRA 18:10)

1. Filial Fiziko-khimicheskogo instituta imeni L.Ya. Karpova,
Obninsk.

L 45041-65 EWG(j)/EWT(m)/EPF(c)/EWP(j)/EWA(h)/EWA(1) Pc-4/Pr-4/Peb DIAAP
RM

UR/0076/65/039/004/0984/0986 28

ACCESSION NR: AP5011471 27

AUTHOR: Lukhovitskiy, V. I.; Tsingister, V. A.; Lagucheva, R. M.; Karpov, V. L. B

TITLE: Inhibiting action of some solid additives on radiochemical processes

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 4, 1965, 984-986

TOPIC TAGS: radiolysis, 16 heptane, propyl iodide, KU-2 cation exchange resin, ferrous sulfate, free radical, hydrocarbon fuel

ABSTRACT: Samples of heptane containing propyl iodide (0.02—0.05 g equiv/ℓ I) and 0.25—0.3 g KU-2 ion-exchange resin in the $FeSO_4$ form were irradiated with γ-rays (from a Co source) to study the effect of Fe^{2+} on the radiation yield of free radicals in the radiolysis of heptane. The tabulated results showed that the presence of Fe^{2+} inhibits the formation of free radicals. The inhibiting action of Fe^{2+} decreased as Fe^{2+} oxidized to Fe^{3+}. This heterogeneous inhibition of the homogeneous radiolysis by solid additives containing a transition metal of the lowest valency can not be explained in terms of the existing theories of radiolysis. [No explanation is offered.] Orig. art. has: 1 table. [PS]

Card 1/2

L 45041-65

ACCESSION NR: AP5011471

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physical Chemistry Institute)

SUBMITTED: 17Jan64	ENCL: 00	SUB CODE: GC, FP
NO REF SOV: 000	OTHER: 000	ATD PRESS: 3255

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Card 2/2

L 33524-66 EWT(m)/EWP(j)/T IJP(c) RM

ACC NR: AP6015056 (A) SOURCE CODE: UR/0190/66/008/005/0913/0915

37

B

AUTHOR: Bruk, M. A.; Lukhovitskiy, V. I.

ORG: none

TITLE: Correlation between heats of fusion of vinyl monomers and their polymerization capacity in the solid state

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 5, 1966, 913-915

TOPIC TAGS: monomer, polymerization, solid state, ~~vinyl~~ monomer, heat of fusion, VINYL COMPOUND

ABSTRACT: The correlation has been established between the difference in the heats of fusion of vinyl monomers, their hydrogenated analogs, and the capacity of monomers to polymerize in the solid state. A table included in the original article shows the above correlation listing specific monomers, hydrogenated monomer analogs, heats of fusion for both, and their polymerization capacity in the crystalline state. Orig. art. has: 1 figure and 1 table. [NT]

SUB CODE: 11/ SUBM DATE: 24May65/ ORIG REF: 003/ OTH REF: 003

Card 1/1 82 UDC: 66.095.26

10.6100

S/854/61/000/102/003/004
B187/B104

AUTHORS: Aarend, E., Lepik, Yu., and Lukht, L.

TITLE: Large deflections of a flexible, elastoplastic circular disk freely supported at the edge

SOURCE: Tartu. Universitet. Uchenyye zapiski. no. 102. 1961. Trudy po matematike i mekhanike. no. 2. 377-384

JC

TEXT: A study is made of the strong deflection in the direction of the symmetry axis of an incompressible elastoplastic circular disk of radius a and thickness h with linear strengthening in the postcritical range. The edge of the plate is hinged and freely movable in the plane of the plate. The problem is solved with the aid of Lagrange's variational equation

$$\int_0^a \left[\left(1 - \frac{1}{2}\Omega_1\right)\delta P_\varepsilon - \frac{h}{2}\Omega_2\delta P_{\varepsilon\varkappa} + \frac{h^2}{12}\left(1 - \frac{3}{2}\Omega_3\right)\delta P_\varkappa - \frac{3q}{2Eh}\delta w\right] rdr = 0$$

with the following boundary conditions: for r = 0: $\varepsilon_1 = \varepsilon_2$, $\varkappa_1 = \varkappa_2$, u = 0. dw/dr = 0; the quotients u/r and $\frac{1}{2}$ dw/dr are bounded; for r = a:
Card 1/5

$w = 0$, $T_{\nu} = M_{\nu} = 0$. The solution is sought in the form

$$U^{*} = \rho(C_1 + C_2\rho^2 + C_3\rho^4); \quad w^{*} = w_o(1 - \frac{44}{11}\rho^2 + \frac{3}{11}\rho^4)$$

with the four coefficients w_o^{*}, C_1, C_2, C_3, interdependent because of the boundary conditions:

$$C_3 = -\frac{1}{11}(3C_1 + 7C_2 + (\frac{16}{11})^2 w_o^{*}).$$

Hence, three parameters are varied. The asterisk denotes the transformation into dimensionless quantities:

$$u^{*} = au/h^2, \ w^{*} = w/h, \ \rho = r/a, \ q^{*} = a^4q/Eh^4.$$

Yu. R. Lepik's method (O ravnovesii gibkikh plastnok za predelom uprugosti - Equilibrium of elastic disks beyond the elastic limit, Prikl. matem. i mekhanika, 1957, 21, 835-842) was used to solve the problem. The designations are also taken from this paper. The numerical computations were made for an ideal plastic material ($\lambda = 1$) at the Vychislitel'nyy tsentr Tartuskogo gos. universiteta (Computer Center of Tartu University) with the "Ural" electronic computer. The programming was

S/854/61/000/102/003/004
B187/B104

Large deflections of a flexible, ...

made by A. Laumets. Values calculated for comparison ($\mu = 2$; $\lambda = 1$) showed that the mechanical properties of the disk depend on the strengthening to only a small degree. The following initial values of the parameter $\mu = a^2 l_s / h^2$ characterizing the flexibility were taken into account: $\mu = 0.2$; 2; 5. The corresponding numerical values for

$$w_o^*, \quad C_1, \quad C_2, \quad Q = \frac{3}{2} \int_0^1 q^*(\varrho) \frac{w^*}{w_o^*} \varrho d\varrho, \quad T_o^* = \frac{a^2}{Eh^4} T_1(0), \quad M_o^* = \frac{9a^2}{Eh^4} M_1(0)$$

and the characterization of the deformation intensity e_i by $n = \frac{(li)max}{l_s}$ at the point of maximum load are listed in a table. The regions of plastic deformation for $\mu = 2$ in the disk cross section are shown in a schematical drawing (Fig. 1). The values found experimentally and those published by N. I. Rasskazov (K voprosu o rabote krugloy plastniki za predelom uprugosti - Operation of a circular disk beyond the elastic limit, Tr. Mosk. in-ta khim. mashinostroyenniya, 1957, 14, 55-79) and R. Haythornthwaite, E. Onat (The load-carrying capacity of initially flat

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circular steel plates under reserved loading, J. Aeronaut. Sci., 1955, 22, 867-869; The load-carrying capacity of circular plates at large deflection, J. Appl. Mech., 1956, 23, 49-67) are compared with the calculated values.

	w_o^*	Q	Q_{exp}	$(Q-Q_{exp})/Q_{exp}$
Rasskazov	0.5	0.124	0.109	13.8%
plate no. 6.	1	0.144	0.132	9.1%
$\lambda = 1$, $\mu = 0.212$	1.5	0.179	0.174	2.9%
$\varrho_1^* = 1$				
Rasskazov	0.5	0.347	0.28	23.9%
plate no. 3.	1	0.712	0.59	20.7%
$\lambda = 1$, $\mu = 1.46$	1.5	1.020	1.10	- 7.3%
$\varrho_1^* = 1$	2	1.318	1.43	- 7.8%
Haythornthwaite &	0.5	0.240	0.17	41.2%
Onat	1	0.303	0.26	16.5%
$\lambda = 1$, $\mu = 0.46$	1.4	0.355	0.34	4.4%
$\varrho_1^* = 0.1$	1.77	0.413	0.41	0.7%

Large deflections of a flexible, ...

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The deviations of the loading parameter Q decreasing with increasing w_0^* are explained by the presupposition of incompressibility. There are 1 figure and 2 tables.

ASSOCIATION: Kafedra teoreticheskoy mekhaniki (Department of Theoretical Mechanics)

SUBMITTED: March 30, 1960

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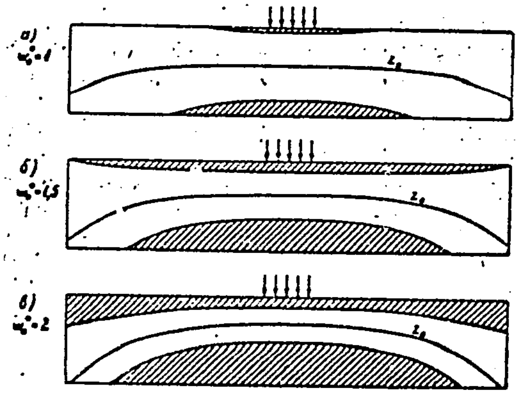

Fig. 1

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SOURCE: RZh. Avtomatika, telemekhanika i vy*chislitel'naya tekhnika, 1964, no. 1, Abs. 1B85

AUTHOR: Lukht, S.

TITLE: Standard program for solving the transport problem

CITED SOURCE: Tr. tsentra. Tartusk. un-t, vy*p. 3, 1963, 29-42

TOPIC TAGS: Standard computer program, automatic computer program technique, transport problem, automatic computer program, automatic program compilation, standard program compilation, automatic programming, queuing problem, demand supply problem

TRANSLATION: The proposed standard program is compiled by the method of solution addends and operates with a fixed decimal and with "stop on." Operations are carried out on numbers in partially filled cells. The scale is so selected that the scale number does not exceed 0.001. Only the internal memory is used in the program. The number of consumers n and suppliers m must satisfy the conditions $(m + 1)n + m \leq 560$ and $m \leq 24$ (m and n are decimal numbers). The program has

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ACCESSION NR: AR4014686

two parts: introductory and principal. The introductory part is used to form the parameters, introduce initial data, convert to the binary system, and compile the initial plan. In the meantime the following data are introduced into the memory: the number $m \times 2^{-17}$ into cell 3775 and $n \times 2^{-17}$ into 3776, where m and n are represented in the octal system, standard programs for converting $10 \to 2$ and $2 \to 10$ with the relation origin in 1246 and in 1354.

A. C.

SUB CODE: GE ENCL: 00 DATE ACQ: 19Feb64

Card 2/2

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Rotary boring and blasting method of shaft sinking. Shakht. stroi. no.10:14-15 O '59. (MIRA 13:2)

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