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112-57-7-14798

ranslation from: Referativnyy zhurnal, Elektrotekhnika, 1957, Nr 7, p 146 (USSR)

UTHOR: Povarov, G. N.

ITLE: On the Synthesis of Symmetrical Contact Circuits
(K sintezu simmetricheskikh kontaktnykh skhem)

ERIODICAL: Sb. rabot po avtomatike i telemekhan. AN SSSR, 1956, pp 268-277

BSTRACT: Presented is a method of synthesis of symmetrical contact (l,k)-poles based on the connection of K contact lattices realizing k elementary symmetrical functions of n-m variables with a universal contact multipole of symmetrical functions of m variables. The synthesis method described in the article is a variation of the universal-multipole method suggested by C. E. Shannon (BSTJ, 1949, Vol 28, Nr 1, p 59) for synthesis of 2-pole contact circuits and applied later by E. N. Gilbert (BSTJ, 1951, Vol 30, Nr 3, p 668) for the synthesis of contact multipoles. A number of definitions are suggested which serve to formulate the theorems proved in the work and lying at the basis of the synthesis method. It is proved that the number of contacts in a symmetrical (l,k)-pole built according to the above method does not exceed

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the Synthesis of Symmetrical Contact Circuits 112-57-7-14798

$\Psi(m) = k(n-m)^2 + k(n-m) + 2^{m+3} - 6m - 8$, and certain evaluations are presented for the minimum natural number M which has $\Delta\Psi(m) \equiv \Psi(m+1) - \Psi(m) > 0$. By way of illustrating the method, the following example is presented: A circuit realizing the function $S_{1,3,4}(x_1; \cdots x)$, according to the methods of universal multipoles, would comprise 31 contacts, while the circuit for the same function derived by the method of symmetrical lattice would have 35 contacts. The circuits realizing the functions of the same type as the symmetrical can be obtained from the circuits realizing the corresponding symmetrical functions by means of substituting closed contacts of some receiving elements for open contacts, and vice versa. A preliminary report on the results of this work was published in DAN SSSR (see Referativnyy zhurnal, Matematika, 1955, Nr 4012, p 458). Six illustrations. Bibliography: 9 items.

V. I. Sh.

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112-57-7-14799

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1957, Nr 7, p 146 (USSR)

AUTHOR: Povarov, G. N.

TITLE: Some Matrix Methods for Analyzing Relay-Contact Circuits (O nekotorykh matrichnykh metodakh analiza releyno-kontaktnykh skhem)

PERIODICAL: Sb. rabot po avtomatike i telemekhan. AN SSSR, Moscow, 1956, pp 278-285

ABSTRACT: A new method is presented for algebraization of the process of tracing the current paths in contact-and-valve circuits. To formulate the method, new "numeroid" and "quasiminor" concepts are introduced. A numeroid is a set A for whose elements two associative and commutative operations, $x+y$ and xy, are determined; of them, the second operation is distributive with respect to the first; there are sole elements 0 and $\mathbb{1}$ in A, such that $x+0 = 0+x = x$ and $x\cdot\mathbb{1} = \mathbb{1}\cdot x = x$. A quasiminor $\left| a_{ij\to\ell k} \right|_{k\ell}$ of a square matrix $\left\| a_{ij} \right\|$ over the numeroid is a sum $\sum_{i_1, i_2 \ldots i_r} a_{kr_1} a_{i_1 i_2} \ldots a_{i_r \ell}$ where summation is

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Some Matrix Methods for Analyzing Relay-Contact Circuits

made over all permutations which could be formed from the rows of the matrix $\| a_{ij \to kk \to \ell\ell} \|$, if $k \neq \ell$ and the element a_{kk} if $k = \ell$. The symbol $\| a_{ij \to k\ell} \|$ means a matrix obtained from the matrix $\| a_{ij} \|$ by striking out k-th row and ℓ-th column; the following theorems are proved: (1) if $k \neq \ell$, then $| a_{ij \to \ell k} |_{k\ell} = \sum_{m \neq k} a_{km} A^{(\ell)}_{km}$ where $A^{(\ell)}_{km} = 1$ with $m = \ell$ and $A^{(\ell)}_{km} = | a_{ij \to k\ell \to km} |_{m\ell}$ at $m \neq \ell$; (2) the number of all paths from the node k to node ℓ where $k \neq \ell$ is equal to $\| a_{ij \to \ell k} \|_{k\ell}$ where a_{ij} is the number of direct paths from node i to node j; (3) admittance between the nodes k and ℓ is equal to $| f_{ij \to \ell k} |_{k\ell}$, where f_{ij} is the direct admittance between the nodes i and j. Theorem 3 provides a method of analyzing contact-and-valve circuits similar to the method of analyzing such circuits by means of calculating Boolean minors as described by B. I. Aranovich (Avtomatika i telemekhanika, 1949, Nr 6)

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Some Matrix Methods for Analyzing Relay-Contact Circuits 112-57-7-14799

and A. G. Lunts (Izvestiya AN SSSR, seriya mat., 1952, Vol 16, Nr 5). For circuit analysis on the basis of nonoperative conditions, the second-type quasi-minors are used that are dual to the above quasiminors and that coincide with the Boolean quasiminors introduced in a paper published earlier by the same author (Avtomatika i telemekhanika, 1954, Nr 4).

V. I. Sh.

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POVAROV, G.N. [Povarov, H.M.]; ROGINSKIY, V.N. [Rogins'kyi, V.M.]

Graphic method for the synthesis of multiterminal contact networks [with summary in English]. Avtomatyka no.3:84-91 '58. (MIRA 11:12)

1. Laboratoriya po razrabotke nauchnykh problem provodnoy svyazi AN SSSR. (Electric networks--Graphic methods)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

PEVAROV, G.N.

28(1) PHASE I BOOK EXPLOITATION SOV/1606

Akademiya nauk SSSR. Institut avtomatiki i telemekhaniki

Avtomatika i telemekhanika; sbornik (Automation and Telemechanics; Collection of Articles) Moscow, Izd-vo AN SSSR, 1958. 144 p. 5,000 copies printed.

Resp. Ed.: Ya.Z. Tsypkin; Ed. of Publishing House: V.A. Kotov; Tech. Ed.: I.N. Guseva.

PURPOSE: The book may be useful to engineers working with automatic and remote control.

COVERAGE: This is a collection of 15 articles which were presented at the fourth and fifth scientific and technical conferences of young members of the Institute of Automation and Telemechanics of the USSR Academy of Sciences. The fourth conference was held in 1955 and the fifth in 1956. The material contained in the articles is based on research work done by young members of the Institute.

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Automation and Telemechanics (Cont.) SOV/1606

The articles discuss automatic and remote control devices and the automated drive. No personalities are mentioned. References appear at the end of each article.

TABLE OF CONTENTS:

Abdullayev, D.A. Some Problems in Engineering Remote Control Systems With Scattered Control Stations 109
The author discusses methods for the engineering and optimum utilization of remote control systems and their components when control stations are scattered over large areas. There are 7 references, 6 of which are Soviet, and 1 English.

Kashirin, V.A. Optimum Time of Quantizing a Signal When Disturbances are Present 118
The author derives an expression for errors due to limitation of the signal spectrum during time quantization and

Card 7/8

discusses methods of selecting the optimum time of quantization during the transmission of a signal of unlimited frequency spectrum in communications channels with disturbances. There are 3 references, all Soviet.

Ostianu, V.M. Synthesis of Cascade-connected Relay Circuits With Step Switches 122
The author presents a mathematical discussion of synthesis of multi-terminal switching circuits having step switches and illustrates it by a specific example. There are 8 references, 7 of which are Soviet, and 1 English.

Pevarov, G.N. Cascade Method in the Synthesis of Symmetrical Relay Circuits 127
The author discusses the graphical method for the synthesis of symmetrical and quasi-symmetrical multi-terminal relay circuits. There are 9 references, 7 of which are Soviet, 1 English, and 1 Czech.

Silayev, V.N. Remote Control Device for Outlying Equipment 133
The author discusses the most economical methods of utilizing remote control equipment. Special attention is given to operation of individual devices for remote control of systems located at considerable distances from one another. There are 3 references, all Soviet.

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POVAROV, G. N.

TRANSLATION

★ Povarov, G. N. To the study of symmetric Boolean ~~functions from~~ the relay switching circuit theory viewpoint. Translated by Morris D. Friedman, 572 California St., Newtonville 60, Mass., 1956. 5 pp. Translated from Dokl. Akad. Nauk SSSR (N.S.) 104 (1955), 183–185. The original Russian article was reviewed in MR 18, 860.

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SLONIMER, B.M.; POVAROV, K.I.; MAKOVITSKIY, B.K., inzh., nauchnyy red.; GORDEYEV, P.A., red.izd-va; SHERSTNEVA, N.V., tekhn. red.

[Installation and use of glass piping in the national economy] Stekliannye truboprovody v narodnom khoziaistve, ikh montazh i ekspluatatsiia. Moskva, Gos. izd-vo lit-ry po stroit., arkhit. i stroit. materialam, 1961. 179 p. (MIRA 15:2)
(Pipe, Glass)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, L. S.

USSR/ Chemistry

Card : 1/1

Authors : Topchief, A. V., Academician, Nametkin, N. S. and Povarov, L. S.

Title : Si-containing analogue of 2,2,4-trimethylpentane and some of its derivatives

Periodical : Dokl. AN SSSR, 97, Ed. 1, 99 - 102, July 1954

Abstract : The derivation and certain physico-chemical properties of pentamethyldisilanemethane, which is an analogue of 2,2,4-trimethylpentane, and some of its derivatives (pentamethylethoxydisilanemethane, pentamethyloxydisilanemethane, dimer of pentamethyloxydisilanemethane), are described. The physico-chemical properties of a linear tetramer obtained, with a siloxane carbon chain and described in literature as a Si-organic analogue, are tabulated. Eight references: 5 USSR, 3 USA. Tables.

Institution : ....

Submitted : April 13, 1954

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, L.S.

USSR/ Chemistry - Synthesis

Card 1/1 Pub. 22 - 17/40

Authors : Nametkin, N.S.; Topchiev, A.V., Academician.; and Povarov, L.S.

Title : Synthesis of compounds with siloxane-carbon chain from methylene chloride-silicon reaction products

Periodical : Dok. AN SSSR 99/3, 403-406, Nov 21, 1954

Abstract : The synthesis of linear and cyclic tetramers, with ethyl radicals in the Si-atoms, is described. Pentachlorodisilanemethane and hexachlorodisilanemethane were the basic products from which the linear and cyclic tetramers were derived. The hydrogen displacement (S-H bond) in the pentaethyldisilanemethane by the ethoxy- and Hydroxy-groups occurs under more stable conditions than in pentamethyldidilanemethane. A method for the derivation of silicon-organic compounds, with siloxane-carbon chain and different organic radicals, is briefly described. The physico-chemical properties of the synthesised tetramers are tabulated. Four references: 3-USA and 1-USSR (1947-1954). Table.

Institution: Academy of Sciences USSR, Petroleum Institute

Submitted: September 21, 1954

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[illegible], L. [illegible].

[illegible]ROV, L. [illegible]. - "The [illegible] silicone-[illegible], [illegible] silicone-[illegible] radical." [illegible], [illegible]. Acad Sci [illegible], Inst of Petro [illegible]. (Dissertation [illegible] of Chemical Sciences.)

So: Knizhnaya Letopis', No [illegible], 2[illegible] November [illegible], Moscow.

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

Povarov, L.S.

Dehydrogenation of ethylbenzene on zinc chromate. S. R. Serdienko and L. S. Povarov. *Trudy Inst. Nefti, Akad. Nauk S.S.S.R.* 6, 30-6 (1957). $ZnCrO_4$ on ZnO can be used to dehydrogenate EtPh. Dehydrogenation at low space velocity leads to greatly increased secondary reaction of styrene, the rate of which increases faster with rising temp. than dehydrogenation resulting in much coke (about 10% in 3 hrs.) deposition on the catalyst. However, the catalyst retains activity for more than 20 hrs. above 600° and can be reactivated by a stream of air at 500° for 2-3 hrs. The catalyst withstands heating to 700° without loss of activity. Energy of activation for catalytic dehydrogenation of EtPh was calcd. as 26,530 cal./mole; energy of activation for pyrolysis of EtPh as 48,100 cal./mole.

B. Z. Kanich

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

NAMETKIN,N.S.; TOPCHIYEV,A.V., akademik; POVAROV,L.S.

Synthesis of linear tetramers with a siloxane-carbon chain by means of propyl and butyl radicals. Dokl. AN SSSR 103 no.3:435-437 Jl'55. (MLRA 8:11)

1. Institut nefti Akademii nauk SSSR.
(Siloxanes)

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POVAROV, L.S.

E-2

USSR/Organic Chemistry. Synthetic Organic Chemistry.

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19255.

Author : Topchiyev A. V., Nametkin N. S., Povarov L. S.

Inst :

Title : Synthesis of Silicon Organic Compounds of the Type Bis (tetraalkyldisilanemethane) Cyclodioxide.

Orig Pub: Dokl. AN SSSR, 1956, 109, No 2, 332-335.

Abstract: The symmetrical structure of tetrachlordisilanemethane (I), formed at the reaction of CH_2Cl_2 with Si by obtaining from it $[(CH_3)_2 - SiR]_2CH_2$ (II) (R=OH) and bis-(tetramethyldisilicomethane)-cyclodioxide (III) is proven. To CH MgI (from 2.8 mole CH_3J in 500 cc ether) is added 0.33 mole I in 150 cc ether, heated to boiling 4 hours, yield $(HSiR_2)CH_2$(IV) (R=CH3) 82.5%, b.p. 103°/752 mm. By the interaction of 10 g. IV (R= CH_3) with C_2H_5ONa (from 2.3 g. Na and 50 cc C_2H_5OH) is obtained II (R=$O(C_2H_5)_2$(V), yield

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POVAROV, L. S.

Synthesis of compounds with [illegible] links. N. [illegible] [illegible] (1956), cf. C.A. 49 [illegible] [illegible] nally at 60–80° to [illegible] $SiCH_2SiR_3H$ yielded [illegible] 8% $Me_3SiCH_2SiMe_2Br$, b_{760} 170°, d_{20} 1.0840, n^{20}_D 1.4547; 90.4% $Et_3SiCH_2SiEt_2Br$, b_3 112°, 1.0757, 1.4826; [illegible] $Pr_3SiCH_2SiPr_2Br$, b_1 131–2°, 1.002[illegible], 1.4752; 91.6% $Bu_3SiCH_2SiBu_2Br$, $b_{1.6}$ 179–80°, 0.8667, 1.4748. These in Et_2O or MePh were treated with NH_3, secondary derivs. being prepd. in refluxing MePh, yielding the following amine derivs.: 54.5% $(Me_3SiCH_2SiMe_2)_2NH$, b_2 93°, 0.8352, 1.4478; 61.8% $Et_3SiCH_2SiEt_2NH_2$, b_3 105°, 0.8578, 1.4633; 60% $(Et_3SiCH_2SiEt_2)_2NH$, b_3 188°, 0.8860, 1.4809; 72.8% $Pr_3SiCH_2SiPr_2NH_2$, b_3 133°, 0.8480, 1.4610; 50% $(Pr_3SiCH_2SiPr_2)_2NH$, $b_{2.5}$ 214–16°, 0.8641, 1.4725; 80.7% $Bu_3SiCH_2SiBu_2NH_2$, b_3 174°, 0.8435, 1.4638; 50% $(Bu_3SiCH_2SiBu_2)_2NH$, $b_{2.5}$ 256–7°, 0.8622, 1.4731. The secondary derivs. are best prepd. from the primary amine derivs. and the mono-Br derivs. by refluxing in MePh followed by passage of NH_3 10 hrs.

G. M. Kosolapoff

Inst. Petroleum, AS USSR

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POVAROV, L. S.

BEYLINA, TS.O., inzhener; BLAGONADEZHDIN, V.Ye., inzhener; BOGUSLAVSKIY, P.Ye., kandidat tekhnicheskikh nauk; VORONKOV, I.M., professor, GITINA, L.Ya., inzhener; GROMAN, N.B., inzhener; GOROKHOV, N.V., doktor tekhnicheskikh nauk [deceased]; DENISYUK, I.N., kandidat tekhnicheskikh nauk; DOVZHIK, S.A., kandidat tekhnicheskikh nauk; DUKEL'SKIY, M.P., professor, doktor khimicheskikh nauk [deceased]; DYKHOVICHNYY, A.I., professor; ZHITKOV, D.G., professor, doktor tekhnicheskikh nauk; KOZLOVSKIY, N.S., inzhener; LAKHTIN, Yu.M., doktor tekhnicheskikh nauk; LEVENSON, L.B., professor, doktor tekhnicheskikh nauk [deceased]; LEVIN, B.Z., inzhener; LIPKAN, V.F., inzhener; MARTYNOV, M.V., kandidat tekhnicheskikh nauk; MOLEVA, T.I., inzhener; NOVIKOV, F.S., kandidat tekhnicheskikh nauk; OSETSKIY, V.M., kandidat tekhnicheskikh nauk; OSTROUMOV, G.A.; PONOMARENKO, Yu.F., kandidat tekhnicheskikh nauk; RAKOVSKIY, V.S., kandidat tekhnicheskikh nauk; REGIRER, Z.L., inzhener; SOKOLOV, A.N., inzhener; SOSUNOV, G.I., kandidat tekhnicheskikh nauk; STEPANOV, V.N., professor; SHEMAKHANOV, M.M., kandidat tekhnicheskikh nauk; EL'KIND, I.A., inzhener; YANUSHEVICH, L.V., kandidat tekhnicheskikh nauk; BOKSHITSKIY, Ya.M., inzhener, redaktor; BULATOV, S.B., inzhener, redaktor; GASHINSKIY, A.G., inzhener, redaktor; GRIGRO'YEV, V.S., inzhener, redaktor; YEGURNOV, G.P., kandidat tekhnicheskikh nauk, redaktor; ZHARKOV, D.V., dotsent, redaktor; ZAKHAROV, Yu.G., kandidat tekhnicheskikh nauk, redaktor; KAMINSKIY, V.S., kandidat tekhnicheskikh nauk, redaktor; KOMARKOV, Ye.F., professor, redaktor; KOSTYLEV, B.N., inzhener, redaktor; POVAROV, L.S., kandidat tekhnicheskikh nauk, redaktor; ULINICH, F.R., redaktor; KLORIK'YAN, S.Kh., otvetstvennyy redaktor; GLADILIN, L.V., redaktor;

(Continued on next card)

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HEYLINA, TS.O. --- (continued) Card 2.

RUPPENEYT, K.V., redaktor; TERPIGOREV, A.M., glavnyy redaktor; BARABANOV, F.A., redaktor; BARANOV, A.I., redaktor; BUCHNEV, V.E., redaktor; GRAFOV, L.Ye., redaktor; DOKUKIN, A.V., redaktor; ZADEMID-KO, A.N., redaktor; ZASYAD'KO, A.F., redaktor; KRASNIKOVSKIY, G.V. redaktor; LETOV, N.A., redaktor; DISHIN, G.L., redaktor; MAN'KOV-SKIY, G.I., redaktor; MEL'NIKOV, N.V., redaktor; ONIKA, D.G., redaktor; OSTROVSKIY, S.B., redaktor; POKROVSKIY, N.M., redaktor; POLSTYANOY, G.N., redaktor; SKOCHINSKIY, A.A., redaktor; SONIN, S.D., redaktor; SPIVAKOVSKIY, A.O., redaktor; STANCHENKO, I.K., redaktor; SUDOPLATOV, A.P., redaktor; TOPCHIYEV, A.V., redaktor; TROYANSKIY, S.V., redaktor; SHEVYAKOV, L.D., redaktor; BYKHOV-SKAYA, S.N., redaktor izdatel'stva; ZAZUL'SKAYA, V.F., tekhnicheskiy redaktor; PROZOROVSKAYA, V.L., tekhnicheskiy redaktor.

[Mining; an encuclopedic handbook] Gornoe delo; entsiklopedicheskii spravochnik. Glav.red. A.M. Terpigorev. Chleny glav.red. F.A. Barabanov i dr. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po ugol'noi promysh]. Vol.1. [General engineering] Obshchie inzhenernye svedeniia. Redkollegiia toma S.Kh.Klorik'ian i dr. 1957. 760 p.
(Mining engineering) (MLRA 10:10)

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POVAROV, L.S.; GRIGOS, V.I.; KARAKHANOV, R.A.; MIKHAYLOV, B.M.

Reactions of dihydropyran and 2-methyldihydrofuran with some Schiff bases. Izv.AN SSSR. Ser.khim. no.1:179-181 Ja '64. (MIRA 17:4)

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

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MIKHAYLOV, B.M.; POVAROV, L.S.

Synthesis of ionylidene acetaldehydes based on enol ethers of ionones. Izv. AN.SSSR.Ser.khim. no. 5:9[illegible]-[illegible] [illegible] '64. (MIRA [illegible])

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

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KRENTSEL', Boris Abramovich; TOPCHIYEV, A.V., akademik, otv. red.[deceased]; POVAROV, L.S., red.

[Chlorination of paraffin hydrocarbons] Khlorirovanie parafinovykh uglevodorodov. Moskva, Nauka, 1964. 157 p. (MIRA 17:8)

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Distr: 4E4j/4E2c(j)/
4E3d

Condensation of benzaldehyde acetal with vinyl ethyl ether. B. M. Mikhailov and L. S. Povarov (N. D. Zelinskii Inst. Org. Chem., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1957, 1239-44; cf. U.S. 2,165,962, *C.A.* 33, 8210[4]. To 149 g. $PhCH(OEt)_2$ was added 0.28 g. Et_2O-BF_3 and the soln. treated at 49° with 50 g. $EtOCH:CH_2$; after stirring 15 min., the mixt. was neutralized with dry Na_2CO_3, stirred 3 hrs., filtered, and distd. yielding 71.9% (*1,3,5-triethoxypropyl*)*benzene* (I), b_7 130-1°, b_1 97-8°, d_{10} 0.9642, n_D^{10} 1.4724, and 4% (*1,3,5,5-tetraethoxyamyl*)*benzene* (II), b_7 167-9°, 0.9659, 1.4704. I with more $EtOCH:CH_2$ as above gave 50% II and much higher-boiling material which yielded (*1,3,5,7,7-pentaethoxyheptyl*)*benzene*, b_2 156-8°, 0.9682, 1.4682, and (*1,3,5,7,9,9-hexaethoxynonyl*)*benzene*, b_2 180-2°, 0.9658, 1.4670. Boiling I with 2% HCl gave a distillate of EtOH and 88% (*1-ethoxy-3-oxopropyl*)*benzene*, b_2 80-1°, 1.0210, 1.5087. Similar hydrolysis of II gave 75% (*1,3-diethoxy-5-oxoamyl*)*benzene*, b_4 111-12°, 1.0060, 1.4950. G. M. Kosolapoff

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NAMETKIN, N.S.; TOPCHIYEV, A.V., akademik; POVAROV, L.S.

Formation of compounds with silthiano-carbon links. Dokl. AN SSSR 117 no.2:245-248 N '57. (MIRA 11:3)
(Silicon organic compounds) (Sulfur organic compounds)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

LOSEV, Ivan Platonovich; FEDOTOVA, Ol'ga Yakovlevna; POYAROV, L.S., red.; SHPAK, Ye.G., tekhn.red.

[Laboratory practice in high polymer compounds] Praktikum po khimii vysokopolimernykh soedinenii. Moskva, Gos.nauchno-tekhn.izd-vo khim.lit-ry, 1959. 176 p. (MIRA 13:2)
(Polymers--Handbooks, manuals, etc.)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

5(3) SOV/62-59-2-20/40

AUTHORS: Mikhaylov, B. M., Povarov, L. S.

TITLE: Polyenic Compounds (Poliyenovyye soyedineniya). Communication 3. New Method of Synthesis of Diarylpolyenic Hydrocarbons (Soobshcheniye 3. Novyy metod sinteza diarilpoliyenovykh uglevodorodov)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk, 1959, Nr 2, pp 314-319 (USSR)

ABSTRACT: This paper presents a new general method for the synthesis of diphenylpolyenic hydrocarbons. This method is based on the utilization of condensation products of the acetal-benzaldehyde with vinyl ether. On the action of benzyl magnesium chloride on phenyl polyethoxy-alkane

$$C_6H_5 \left[\begin{array}{l} CH\text{-}CH_2\text{-} \\ | \\ OC_2H_5 \end{array} \right]_n -CH(OC_2H_5)_2$$

diphenyl polyethoxy-alkanes are formed

$$C_6H_5 \left[\begin{array}{l} CH\text{-}CH_2 \\ | \\ OC_2H_5 \end{array} \right]_{n+1} -C_6H_5$$

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

SOV/62-59-2-20/40

Polyenic Compounds. Communication 3. New Method of Synthesis of Diarylpolyenic Hydrocarbons

The latter are transformed under the influence of aqueous alcoholic hydrogen bromide solution into the diphenylpolyenic hydrocarbons. When benzyl-magnesium chloride is acting on phenyl ethoxy-aldehydes $C_6H_5\left[\begin{array}{l}CH-CH_2\\ |\\ OC_2H_5\end{array}\right]_n-CHO$

diphenyl oxy-polyethoxy-alkanes are formed

$$C_6H_5\left[\begin{array}{l}CH-CH_2\\ |\\ OC_2H_5\end{array}\right]_n\begin{array}{l}-CH-CH_2-C_6H_5\\ |\\ OH\end{array}$$

These are transformed into diphenylpolyenic hydrocarbons under the influence of aqueous alcoholic hydrogen bromide solution. There are 6 references, 1 of which is Soviet.

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

Card 2/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

5'(3)

AUTHORS: Mikhaylov, B. M., Povarov, L. S. SOV/62-59-5-12/40

TITLE: Polyene Compounds (Poliyenovyye soyedineniya). Communication 5. Synthesis of Asymmetrical Diarylpolyene Hydrocarbons (Soobshcheniye 5. Sintez nesimmetrichnykh diarilpoliyenovykh uglevodorodov)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 5, pp 839-842 (USSR)

ABSTRACT: In a previous paper the authors reported on the synthesis of arylated polyene hydrocarbons (Ref 1) which could be [illegible] out by means of condensation products of benzaldehyde acetal with vinylethyl ether. Symmetrical polyenes of the type $C_6H_5(CH=CH)_nC_6H_5$ were obtained. In addition, a method [illegible] obtaining asymmetrical polyenes was worked out. The asymmetrical polyenes, already synthesized according to publications, are mentioned (Refs 3-5, 6, 7, 8). In this [illegible] the synthesis of a number of phenyl-p-tolylpolyene hydrocarbons are described, which were obtained by condensation of ethoxyacetals with the magnesium derivatives of α-chloro-p-xylene by mixing the reagents, heating the

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

Polyene Compounds. Communication 5. Synthesis of Asymmetrical Diarylpolyene Hydrocarbons SOV/62-59-5-12/40

reaction mixture and subsequent expulsion of ether at a temperature of 110-120°, and further dealcoholization of the intermediate product obtained by an aqueous alcoholic solution of hydrogen bromide; yield: 40-66%. The following substances were synthesized: 1,3-diethoxy-1-phenyl-4-p-tolylbutane; 1-phenyl-1-p-tolylbutadiene-1,3; 1,3,5-triethoxy-1-phenyl-6-p-tolylhexane; 1-phenyl-6-p-tolylhexatriene-1,3,5; and 1-phenyl-8-p-tolyloctatetraene-1,3,5,7. At first the phenyl-p-tolylpolyethoxyalkanes $C_6H_5-[CH(OC_2H_5)-CH_2]_{n+1}-C_6H_4-CH_3-p$ were synthesized. After the effect of the aqueous alcoholic hydrogen bromide solution, compounds of the general form $C_6H_5-(CH=CH)_{n+1}-C_6H_4-CH_3-p$ were obtained. There are 8 references, 2 of which are Soviet.

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

Card 2/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

Polyene Compounds. Communication 5. Synthesis of Asymmetrical Diarylpolyene Hydrocarbons SOV/20-[illegible]-1-12/[illegible]

SUBMITTED: August 10, 1957

Card 3/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

5 (3)

AUTHORS: Mikhaylov, B. M., Povarov, L. S. SOV/79-29-6-66/72

TITLE: Polyene-Compounds (Poliyenovyye soyedineniya). VIII. Reactions of Some Acetals With Unsaturated Ethers (VIII. Reaktsii nekotorykh atsetaley s nepredel'nymi efirami)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 6, pp 2079 - 2083 (USSR)

ABSTRACT: It was recently discovered, that acetals can react with ethers, which have conjugated double bonds, and form products, which are bound to the diene in position 1,4 (Refs 1-6). These reactions have been used in the present study for the synthesis of some derivatives of aldehydes of the terpene series. It was proved, that citral acetal (I) reacts smoothly in presence of zinc (II) chloride with the compound (II), forming acetal (III) and acetal (IV) according to scheme 1. The compound (III) is a derivative of farnesol, and (IV) a derivative of di-terpene aldehyde. The reaction of the α, β-unsaturated ethers with acetals was used for the synthesis of acetal (VIII). The acetal (VI) has been condensed in presence of zinc (II) chloride with (V), forming (VII). This compound has been converted by condensation with vinyl ethyl ether into acetal of the 3,5 di-ethoxy-

Card 1/2

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

Polyene - Compounds. VIII. Reactions of Some Acetals With Unsaturated Ethers SOV/79-29-6-66/72

3,7-di-methyloctane-6-ol-7 (VIII). This final product is the acetal of di-ethoxy citronellal (scheme 2). The authors obtained the initial product (II) by the effect of catalytic quantities of the n-toluol sulphonic acid in quinoline upon butane (IX). This method could also be used for the synthesis of the 1-ethoxy butadiene-1,3 from 1,1,3-tri-ethoxy butane. The compounds (X) and (XI) were obtained by condensation of the compound (IX) with vinyl ethyl ether (scheme 3). There are 7 references, 5 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry of the Academy of Sciences, USSR)

SUBMITTED: July 22, 1958

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, L.S.; MIKHAYLOV, B.M.

Reaction of imines with vinyl ethyl ether in acetic acid. Izv. AN SSSR. Ser. khim. no.10:1910 O '64. (MIRA 17:12)

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

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

L 59597-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RPL RM
ACCESSION NR: AP5017964 UR/0062/65/000/006/1102/1104
547.831+547.024

28
25
B

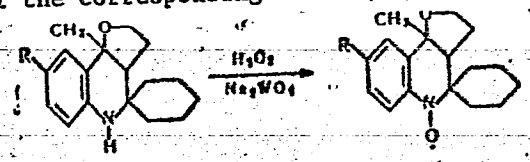
AUTHOR: Shapiro, A. B.; Rozantsev, E. G.; Povarov, L. S.; Grigos, V. I.

TITLE: Paramagnetic derivatives in the hydrogenated quinoline series

SOURCE: AN SSSR. Izvestiya. Seriya khimicheskaya, no. 6, 1965, 1102-1104

TOPIC TAGS: quinoline derivative, free radical, electron spin resonance, ESR spectrum

ABSTRACT: The following stable radical from the hydrogenated quinoline series was obtained for the first time: 6-methoxy-4-methyl-2-spirocyclohexyl-3,4; 3',2'-tetrahydrofuran-1,2,3,4-tetrahydroquinolin-1-oxyl (IV). It was synthesized by catalytic oxidation of the corresponding amine (II):



(I) R = H
(II) R = OCH₃

(III) R = H
(IV) R = OCH₃

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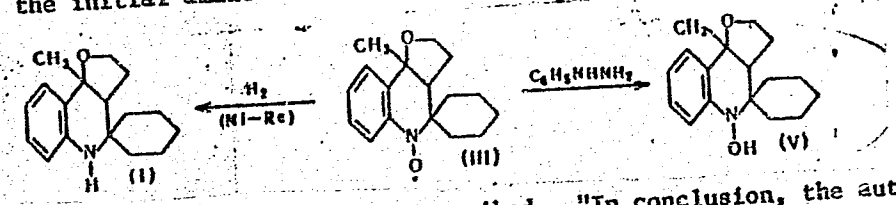
L 59597-65

ACCESSION NR: AP5017964

3

The hyperfine structure of the ESR spectrum of this radical consists of 6 lines. Such a decrease in the number of lines upon replacement of hydrogen in the para-position by a methoxy group agrees with modern concepts of the interaction of an unpaired electron with protons of the benzene ring. Radical (III) was reduced to the initial amine and to the corresponding hydroxylamine (V):



The synthetic procedure employed is described. "In conclusion, the authors express their appreciation to A. A. Medzhidov for participating in the evaluation of the spectroscopic part of this work." Orig. art. has: 2 figures and 2 formulas.

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

Card 2/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

L 59597-65
ACCESSION NR: AP5017964

SUBMITTED: 30Sep64 ENCL: 00 SUB CODE: OC, NP

NO REF SOV: 006 OTHER: 000

Card 3/3

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

GRIGOS, V.I.; POVAROV, L.S.; MIKHAYLOV, B.M.

Reactions of Shiff bases with vinyl alkyl ethers. Izv.AN SSSR. Ser.khim. no.12:2163-2172 '65. (MIRA 18:12)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR. Submitted July 7, 1965.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

[illegible]; [illegible]; [illegible]

Synthesis of quinolin [illegible] xylin acids. [illegible] no.1:[illegible]-145 [illegible].

1. Institut organicheskoy [illegible] Submitted May 5, 1955.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

[illegible]

[illegible] Usp. Khim. 34 no.9:[illegible]-[illegible] 1965. (MIRA 18:10)

[illegible] organicheskoy khimii imeni Zelinskogo AN SSSR.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, L S.; GRIGOS, V.I.; [illegible]; [illegible], B.M.

Reactions of anils with vinylbutyl sulfide. Izv. AN SSSR.Ser.Khim. no.10:1891-1893 '65. (MIRA 18:10)

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

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

SHAPIRO, A.B.; ROZANTSEV, E.G.; POVAROV, L.S.; GRIGOS, V.I.

New stable free radical 4-methyl-2-spirocyclohexyl-3,4; 3',2'-tetrahydrofurano-1,2,3,4-tetrahydroquinoline-oxyl. Izv.AN SSSR. Ser.khim. no.9:1725 S '64. (MIRA 17:10)

1. Institut khimicheskoy fiziki AN SSSR.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

MIKHAYLOV, B.M.; POVAROV, L.S.; GRIGOS, V.I.; KARAKHANOV, R.A.

Reactions of dihydrosylvan with Schiff bases. Izv.AN SSSR.Ser.Khim. no.9:1693-1695 S '64. (MIRA 17:10)

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

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

MIKHAYLOV, B.M.; POVAROV, L.S.

Reactions of acetals with β-bromovinyl alkyl ethers. Izv. AN SSSR Ser. khim. no.2:282-285 '65. (MIRA 18:2)

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

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, L.S.; GRIGOS, V.I.; KARAKHANOV, R.A.; MIKHAYLOV, B.M.

Reactions of halogen-containing Schiff's bases with unsaturated ethers. Izv. AN SSSR Ser. khim. no.2:365-367 '65. (MIRA 18:2)

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

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, L.S.; MIKHAYLOV, B.M.

Reaction of aromatic amines with vinyl alkyl ethers. Izv. AN SSSR Ser. khim. no.12:2221-2222 D '64 (MIRA 18:1)

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

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, L.S.; GRIGOS, V.I.; MIKHAYLOV, B.M.

Reactions of benzylideneaniline with some unsaturated compounds.
Izv. AN SSSR. Ser. khim. no.11:2039-2041 N '63. (MIRA 17:1)

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

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

TORGOV, I.V., doktor khim.nauk; POVAROV, L.S., kand.khim.nauk

"Diene synthesis" by A.S.Onishchenko. Reviewed by I.V.Torgov, L.S.Povarov. Vest. AN SSSR 33 no.9:101-102 S '63. (MIRA 16:9)
(Chemistry, Organic--Synthesis) (Onishchenko, A.S.)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, L.S.; MIKHAYLOV, B.M.

Reaction of a new type diene condensation. Izv.AN SSSR Otd.khim.nauk no.5:955-956 My '63. (MIRA 16:8)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(No subject headings)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, L.S.; MIKHAYLOV, B.M.

Di(ethoxyethyl)acetal of benzaldehyde and its reaction with vinyl ethyl ether. Izv. AN SSSR. Ser.khim. no.7:1342-1343 Jl '63. (MIRA 16:9)

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

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, L.S.; MIKHAYLOV, B.M.

Reaction of γ-ethoxyacetals with aromatic amines. Izv. AN SSSR. Ser. khim. no.7:1352 Jl '63. (MIRA 16:9)

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

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

MIKHAYLOV, B.M.; POVAROV, L.S.

Condensation of ketals of α and β -ionones with vinyl ethyl ether. Izv. AN SSSR. Otd.khim.nauk no.6:1144 Je '63. (MIRA 16:7)

1. Institut organicheskoy khimii imeni Zelinskogo AN SSSR.
(Ionone) (Ethers)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

ONISHCHENKO, Andrey Sergeyevich; KUCHEROV, V.F., doktor khim.nauk, otv. red.; POVAROV, L.S., red.; GOLUB', S.P., tekhn. red.

[Diene synthesis] Dienovyi sintez. Moskva, Izd-vo AN SSSR, 1963. 649 p. (MIRA 16:10)
(Chemistry, Organic--Synthesis)
(Unsaturated compounds)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

MIKHAYLOV, B.M.; POVAROV, L.S.

Polyene compounds. Part 15: Reaction of 2-phenyl-1,3-dioxolane with vinyl ethyl ether. Zhur.ob.khim. 32 no.2:446-452 F '62. (MIRA 15:2)

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

(Dioxolane)
(Ethers)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

42653

S/832/62/000/000/006/015
D244/D307

5.3100

AUTHORS: Topchiyev, A.V., Nametkin, N.S. and Povarov, L.S.

TITLE: Synthesis of organic silicon compounds with silazano-carbon and silthiano-carbon linkages

SOURCE: Issledovaniya v oblasti kremniyorganicheskikh soyedineniy; sintez i fiziko-khimicheskiye svoystva. Sbornik statey. Inst. neftekhim. sint. AN SSSR. Moscow. Izd-vo AN SSSR, 1962, 130 - 145

TEXT: Reactions leading to the formation of compounds containing $-\overset{|}{\underset{|}{Si}}-N-\overset{|}{\underset{|}{Si}}-$ and $-\overset{|}{\underset{|}{Si}}-S-\overset{|}{\underset{|}{Si}}-$ groups were investigated. The compounds were synthesized from pentaalkylbromo- derivatives of disilylmethane by reaction with gaseous NH_3 in absolute ether or toluene. The compounds with silazano links are not always produced by this reaction, but

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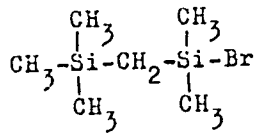
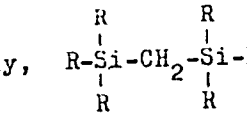
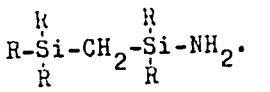
"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342



gives bis-(pentamethyldisilylmethane) amine, in 94.5% yield. Similarly,



where $R = C_2H_5$, C_3H_7, or C_4H_9, gives



The combination of the latter with the corresponding alkylbromodisilylmethane, by heating for 15 hours in the presence of NH_3, gave bis-(alkyldisilylmethane)amine compounds, in 50 - 60% yields. All the silazano compounds are colorless liquids, soluble in various organic liquids and insoluble in water. The silthiano compounds were obtained by reacting pentaalkylbromo- derivatives of disilylmethane with H_2S, in the presence of pyridine or NH_3. Pentamethylthiodisilylmethane and bis-(pentamethyldisilylmethane)-sulphide were obtained with 36.4 and 41.9% yields

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

42652

S/832/62/000/000/005/015
D244/D307

AUTHORS: Nametkin, N.S., Topchiyev, A.V. and Povarov, L.S.

TITLE: Synthesis of organic silicon compounds containing siloxano-carbon linkages

SOURCE: Issledovaniya v oblasti kremniyorganicheskikh soyedineniy; sintez i fiziko-khimicheskiye svoystva. Sbornik statey. Inst. neftekhim. sint. AN SSSR. Moscow, Izd-vo AN SSSR, 1962, 105 - 129

TEXT: Penta- and tetrachlorodisilylmethane were used to produce compounds with siloxy-carbon links according to the scheme:

$$XCl_2Si\text{-}CH_2\text{-}SiCl_2X \xrightarrow{RMgX} R\text{-}\overset{\overset{R}{|}}{\underset{\underset{R}{|}}{Si}}\text{-}CH_2\text{-}\overset{\overset{R}{|}}{\underset{\underset{R}{|}}{Si}}\text{-}X \quad \text{and} \quad X\text{-}\overset{\overset{R}{|}}{\underset{\underset{R}{|}}{Si}}\text{-}CH_2\text{-}\overset{\overset{R}{|}}{\underset{\underset{R}{|}}{Si}}\text{-}X.$$

Card 1/3

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S/832/62/000/000/005/015
D244/D307

Synthesis of organic silicon ...

Hydrolysis of the two products gives 1) $R\text{-}Si(R)_2\text{-}CH_2\text{-}Si(R)_2\text{-}O\text{-}Si(R)_2\text{-}CH_2\text{-}Si(R)_2\text{-}R$;

2) $\left[-Si(R)_2\text{-}CH_2\text{-}Si(R)_2\text{-}O- \right]_n$; and 3) $R\text{-}Si(R)_2\text{-}\left[-CH_2\text{-}Si(R)_2\text{-}O\text{-}Si(R)_2- \right]_n -Si(R)_2\text{-}R$

where R is a hydrocarbon radical, X = Cl or H and $n \geq 2$. The hydrolysis of pentadisilylmethane conducted at room temperature in alcoholic alkali gave pentamethyloxydisilylmethane, with 56% yield. The corresponding tetramethyl compound was obtained with the yield of 62.5% by hydrolysing methyldiethoxydisilylmethane. Beginning with pentaethyloxydisilylmethane, the pentaalkyl- derivatives of disilylmethane are stable compounds which are not condensed by HCl. Their oxydisilylmethane- derivatives are prepared by the action of PCl_5 on alkyldisilylmethane and subsequent hydrolysis. For the siloxy compounds the resistance to condensation

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Synthesis of organic silicon ... S/832/62/000/000/005/015
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increases with the size of alkyl groups. Linear and cyclic compounds with siloxy-carbon links were obtained by condensing the alkyloxy derivatives of disilylmethane in the oresence of HCl, HBr or acetic acid. All the compounds prepared, containing siloxy-carbon links, with exception of bis-(tetramethyldisilylmethane) and cyclo-dioxide which was a solid, are colorless oily liquids (b.p. range from 78° to 259°C), soluble in hydrocarbons, ether and partially soluble in ethyl alcohol and acetic acid. For both cyclic and linear compounds the viscosity and its temperature coefficient increase with the increasing size of organic groups. There are 1 figure and 6 tables.

Card 3/3

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TOPCHIYEV, Aleksandr Vasil'yevich; ZAVGORODNIY, Semen Vasil'yevich; KRYUCHKOVA, Valentina Georgiyevna; POVAROV, L.S., red.; GOLUB', S.I., tekhn. red.

[Alkylation of organic compounds by olefins]Reaktsiia alkilirovaniia organicheskikh soedinenii olefinami. Moskva, Izd-vo Akad. nauk SSSR, 1962. 323 p. (MIRA 15:9)
(Chemistry, Organic--Synthesis)
(Alkylation) (Olefins)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, L.S., red.; POLENOVA, T.P., tekhn. red.; ASTAF'YEVA, G.A., tekhn. red.

[Research in the field of organosilicon compounds; synthesis and physicochemical properties] Issledovaniia v oblasti kremniiorganicheskikh soedinenii (sintez i fiziko-khimicheskie svoistva); sbornik statei. Moskva, Izd-vo Akad. nauk SSSR, 1962. 252 p. (MIRA 15:7)

1. Akademiya nauk SSSR. Institut neftekhimicheskogo sinteza.
(Silicon organic compounds)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

MALINOVSKIY, Mikhail Sergeyevich; POVAROV, L.S., red.; ZAZUL'SKAYA, V.F., tekhn. red.

[Olefin oxides and their derivatives] Okisi olefinov i ikh proizvodnye. Moskva, Gos. nauchno-tekhn.izd-vo khim. lit-ry, 1961. 552 p. (MIRA 15:2)
(Olefins) (Epoxy compounds)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, L.S.; MIKHAYLOV, B.M.

Polyene compounds. Part 14: Synthesis of monoarylated polyene hydrocarbons. Zhur. ob. khim. 31 no.1:167-170 Ja '61. (MIRA 14:1)

1. Institut organicheskoy khimii Akademii nauk SSSR.
(Heptatriene) (Nonatetraene)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

S/079/61/031/001/015/025
B001/B066

AUTHORS: Povarov, L. S. and Mikhaylov, B. M.

TITLE: Polyene Compounds. XIV. Synthesis of Monoarylated Polyene Hydrocarbons

PERIODICAL: Zhurnal obshchey khimii, 1961, Vol. 31, No. 1, pp. 167 - 170

TEXT: The authors synthesized the following monoarylated, luminescent polyene hydrocarbons which have so far not been described: 2,6-dimethyl-1-phenyl heptatriene-1,3,5 (I), 8-methyl-1-phenyl nonatetraene-1,3,5,7 (II), and 4,8-dimethyl-1-phenyl nonatetraene-1,3,5,7 (III). They were obtained by a method described in Ref. 3, which utilized the condensation products of the acetal of methyl croton aldehyde with isopropenyl ethyl ether and ethoxy dienes (Refs. 4, 5). 4-ethoxy-6-methyl hepten-5-one-2 (IV) resulted from the ketal of 4-ethoxy-6-methyl hepten-5-one-2 (Ref. 4) on hydrolysis. On condensation with benzyl magnesium chloride, (IV) gave 4-ethoxy-2,6-dimethyl-1-phenyl hepten-5-ol-2 (V) which was converted to 2,6-dimethyl-1-phenyl heptatriene-1,3,5 (I) by boiling with HBr in aqueous alcoholic solution. The corresponding aldehydes (VI) and (VII) were obtained in the

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Polyene Compounds. XIV. Synthesis of Mono-arylated Polyene Hydrocarbons

S/079/61/031/001/015/025
B001/B066

same way from the acetals of 5-ethoxy-7-methyl-octadien-2,6-al-1 and 5-ethoxy-3,7-dimethyl-octadien-2,6-al-1 (Ref. 5). 6-ethoxy-8-methyl-1-phenyl nonadien-3,7-ol-2 (VIII), and, respectively, 6-ethoxy-4,8-dimethyl-1-phenyl nonadien-3,7-ol-2 (IX) were separated on condensation with benzyl magnesium chloride; they were converted to hydrocarbons (II) and (III) by splitting off water and alcohol. In the crystalline state, compound (I) shows in ultraviolet light a pale-violet luminescence which does not appear in solution. Polyenes (II) and (III) show a bright blue luminescence, when dissolved, and do not luminesce at all in the solid state. The labile compounds (I) - (III) are oxidized even by atmospheric oxygen. Heating in dissolved state transforms them into oily products which renders their purification by crystallization difficult. There are 6 references: 4 Soviet, 1 US, and 1 British.

ASSOCIATION: Institut organicheskoy khimii Akademii nauk SSSR (Institute of Organic Chemistry of the Academy of Sciences USSR)

SUBMITTED: March 27, 1960

Card 2/2

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

MIKHAYLOV, B.M.; POVAROV, L.S.

Reactions of 1,3-dioxolanes with α,β-unsaturated ethers. Izv. AN SSSR Otd. khim. nauk no.10:1903-1904 O '60. (MIRA 13:10)

1. Institut organicheskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR.

(Dioxolane)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

TYLKINA, M.A.; POVAROVA, K.B.; SAVITSKIY, Ye.M.

Phase diagram of the system vanadium - rhenium. Zhur. neorg. khim. 5 no.8:1907-1910 Ag '60. (MIRA 13:9)

1. Institut metallurgii im. A.A. Baykova Akademii nauk SSSR.
(Vanadium) (Rhenium)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

Povarova, K.B.

SAVITSKIY, Ye.M.; TYLKINA, M.A.; POVAROVA, K.B.

Rhenium recrystallization diagram. Dokl. AN SSSR 119 no.2:274-277 Mr '58. (MIRA 11:5)

1. Institut metallurgii im. A.A. Baykova AN SSSR. Predstavleno akademikom I.P. Bardinym.
(Rhenium) (Metal crystals)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, N K

9(4) p 3 PHASE I BOOK EXPLOITATION SOV/1778

Nauchno-tekhnicheskoye obshchestvo priborostroitel'noy promyshlennosti. Moskovskoye pravleniye

Tranzistornaya elektronika v priborostroyenii; sbornik trudov konferentsii (Transistor Electronics in the Instrument-making Industry; Collection of Conference Transactions) Moscow, Oborongiz, 1959. 289 p. 1,400 copies printed.

Ed.: N.I. Chistyakov, Doctor of Technical Sciences, Professor; Ed. of Publishing House: S.D. Khametova; Tech Ed.: V.P. Rozhin; Managing Ed.: A.S. Zaymovskaya, Engineer.

PURPOSE: The book is intended for scientific and engineering personnel of the instrument-making and radio industries engaged in the development of electronic and radio equipment.

COVERAGE: The authors of this collection of articles discuss the theory, principle of operation, calculation and application of electronic circuits using transistors. They also

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describe transistor application in measuring circuits, computers, radio and automatic and remote control circuits. The book is based on transactions of the Scientific and Engineering Conference organized by NTO in Moscow in December 1956. The conference discussed 54 papers on thermistors, photocells, thermocouples, cooling elements, nonlinear capacitors, crystal diodes, and transistors. A considerable number of these papers have been included in the present book. No personalities are mentioned. References appear at the end of each article.

TABLE OF CONTENTS:

Foreword 3

O.G. Yagodin, Candidate of Technical Sciences. Determination of Point-contact Transistor Parameters Under Dynamic Conditions 5

The author discusses the operation and characteristics of transistors and describes methods of obtaining their parameters. Particular attention is given to the operation of a transistor amplifier with regenerative

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feedback. Operation of circuits used for experimentally determining transistor parameters is also discussed. There are 4 references of which 2 are Soviet, and 2 English

N.K. Povarov, Candidate of Technical Sciences. Electronic Devices Fed by Current Generators 25

The author describes the static and dynamic characteristics of nonlinear elements and discusses their equivalent circuits. He also describes the operation and characteristics of vacuum phototubes, vacuum-tube amplifiers, transistors, cascade amplifiers, and oscillators connected to a current generator. There are 8 references of which 7 are Soviet and 1 English.

V. Ya. Sutyagin, Engineer. Average-current Transistor Amplifiers 39

The author discusses the operation and characteristics

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

of average-current transistor amplifiers. He derives formulas for calculation of amplifier performance under the following conditions: 1. collector and base circuits supplied with d-c; 2. collector circuit supplied with d-c and the base circuit with a-c; 3. collector circuit supplied with a-c and the base circuit with d-c; 4. collector and base circuits both supplied with a-c. He also discusses transistor application in phase-sensitive circuits, inverter circuits and servomechanism systems and describes the temperature stability of transistor output stages. There are no references.

V.I. Lebedev, Candidate of Technical Sciences. Some Characteristics of Common-collector Transistors 71

The author discusses the equivalent circuit of common-collector transistors and derives expressions for the transfer function and attenuation-frequency characteristics. He also derives formulas for calculating transistor performance and discusses the effect

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of a capacitive load and temperature on transistor response. There are 3 references of which 2 are Soviet (including 1 translation), and 1 English.

V.T. Dimitriyev, Candidate of Technical Sciences. Transistor Summing Amplifier 95

The author analyzes single - and multistage feedback transistor amplifier circuits and discusses their frequency and phase characteristics. He also describes the methods and circuits used in stabilizing transistor operation and discusses circuits for measuring transistor gain. There are 9 Soviet references (including 6 translations).

T.M. Agakhanyan, Engineer. Approximate Determination of the Transfer Function and Transistor Response to an Abritrary Pulse 114

The author determines the transfer function for

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

a transistor circuit by means of the Maclaurin series and presents a theoretical analysis of transistor response to an applied current and voltage pulse of an arbitrary shape. There are 14 references of which 10 are Soviet (including 1 translation), and 4 English.

V.P. Nechayev, Engineer. Thermal Stabilization of Pulse Circuits Using Junction-type Transistors 127

The author describes the operating principle of monostable multivibrators using junction-type transistors and discusses the factors causing instability. He also discusses the effect of temperature on pulse width and describes temperature stabilization by means of diodes and thermistors. There are 3 references of which 2 are Soviet and 1 English.

G.G. Fridolin, Engineer. Transistor Oscillators and Their Application 135

The author briefly describes the operation and application of the following transistor circuits:

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oscillators with inductive capacitive feedback, tuned oscillators, tetrode transistor oscillators, frequency multipliers, frequency- and phase-modulated oscillators, blocking oscillators, inverters, crystal-controlled oscillators, relaxation oscillators and oscillators converting sinusoidal signals into rectangular and triangular waves. There are 12 references of which 2 are Soviet, 7 English, 2 French and 1 German.

V.A. Timofeyev, Engineer. Transistor Oscillator With Improved Stability 154

The author describes a transistor oscillator circuit using a crystal resonator and a thermostat for controlling the temperature of the oscillator. He also derives expressions for calculating oscillator performance and discusses circuits for measuring deviation from a standard frequency. A discussion of oscillator frequency variation with ambient

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

temperature is also presented. There are 5 Soviet references (including 1 translation).

A.F. Pashchevskiy, Engineer. Some Results of an Analysis of Junction Transistor Oscillators 170

The author discusses the operation and static characteristics of junction-type transistor oscillators and shows the dependence of transconductance on oscillator frequency. He also derives expressions for determining the conditions for oscillation and discusses the effect of variation of the supply voltage and ambient temperature on oscillator stability. There are 6 references of which 4 are Soviet and 2 English.

Ye. B. Kostyukevich, Engineer. Analysis and Calculation of Multivibrator Relaxation Oscillators Using a Single-stage Point-contact Transistor 192

The author describes the operation of a point-contact transistor multivibrator and derives basic equations for calculating

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oscillator performance. He also discusses the effect of load capacitance on the shape and duration of generated pulses and describes voltage stabilizing circuits using diodes and pulse transformers. Fundamentals of designing the oscillator are also presented. There are 5 references of which 4 are Soviet and 1 English.

N.I. Chicherin, Candidate of Technical Sciences. Some Practical Circuits of Servomechanism Systems Using Transistors and Magnetic Amplifiers 225

The author briefly describes the operation of single-loop and two-loop servosystems using magnetic amplifiers, crystal diodes and transistors. There are 5 references of which 3 are Soviet and 2 English.

A.S. Shaftan, A.A. Petrovskiy, A. Ya. Nekrasovskiy, Engineers. New Relay for Signalling and Control 238

The authors duscuss the construction and

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operation of the REUV-2 electronic relay used in control systems of coal mines. The relay uses DGTs-26 crystal diodes and P3A or PЗV transistors. There are no references.

B.M. Matveyev, A.I. Pivovarov, Engineers. Experience in the Development of Photoelectric Relays Using Semiconductors 243

The authors describe the construction and operation of FRS-10 and FRS-11 photoelectric relays using junction-type triode transistors and discuss relay characteristics and constructional features. The relays were developed at the laboratory of Uralmetallurgavtomatika. There are no references.

B.V. Kol'tsov, Engineer. Dispatcher-operated System Using Nonlinear Capacitors and Transistors for Remote Control of Mines 252

The author briefly describes the operation of a remote control system used in mines. Chief attention is given to the operation of transmitting and receiving devices and their

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

components, such as pulse generators and pulse distributing circuits using nonlinear capacitors and pulse forming circuits and coincidence circuits using transistors. There are 6 references of which 3 are Soviet and 3 English.

S.V. Misaylovskiy, Engineer. Coding and Decoding Devices Using Transistors 267

The author discusses a two-channel transmission system containing coding and decoding devices and describes the system components, such as pulse oscillators and modulators using transistors. There are no references.

V.V. Grebnev, Engineer. A Remote Control System Using Transistors 280

The author describes the circuit and presents the results of an experimental analysis of the transistor coding system of a six-channel

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

SURAYEV, A.P., inzh.; POVAROV, P.A., inzh.

Flushing and blowout of pipelines after installation. Elek. sta. 34 no.8:28-32 Ag '63. (MIRA 16:11)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

L 27352-66 EWT(m)/T/EWP(k)/EWP(t) IJP(c) JD/HW

ACC NR: AP6007720 SOURCE CODE: UR/0413/66/000/003/0119/0119

AUTHORS: Dobrinskiy, N. S.; Povarov, V. S.

ORG: none

TITLE: Method for correcting forgings. Class 49, No. 178662

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 3, 1966, 119

TOPIC TAGS: forging machinery, metal forging, turbine blade

ABSTRACT: This Author Certificate presents a method for correcting forgings, for example, of turbine and compressor blades, in a sectional die. To increase the accuracy of the dimensions, the heated blade forgings are clamped between movable die sections at their technological bases (at the root and tip) with an initial fin separation. Then the forging is corrected in the die along the fin with simultaneous calibration of the base surfaces. Without completely removing the die pressure, the forging is finally quenched by introducing cooling fluid under pressure directly into the split die.

SUB CODE: 13/ SUBM DATE: 10Jan61

Card 1/1 PB

UDC: 621.226
621.7.04-253.5

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, V.S.

Using new lubricants for the drop forging of steel. Biul.tekh.-ekon.inform.Gos.nauch.-issl.inst.nauch.i tekh.inform. no.2:25-26 '63. (MIRA 16:2)

(Steel forgings--Lubrication)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

BATAGOV, B.N.; MARTYNOV, V.N.; POVAROV, V.S.

Progressive steps in the manufacture of forgings for steam and gas turbine blades. Kuz.-shtam.proizv. 2 no.1:17-19 Ja '60. (MIRA 13:5)

(Forging) (Turbines--Blades)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

BATAGOV, B.N.; POVAROV, V.S.

Hot extrusion of shaped blanks for compressor blade forging on a trial 200-ton hydraulic press. Kuz.-shtam.proizv. 1 no.11:19-23 N '59. (MIRA 13:3)
(Extrusion process) (Compressors--Blades)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

KESELER, Yu.M.; POVAROV, Yu.M.; GORBANEV, A.I.

Close interaction of ions in solutions. Zhur.strukt.khim. 3 no.1:93-94 Ja-F '62. (MIRA 15:3)

1. Institut elektrokhimii AN SSSR.
(Electrolyte solutions)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

KESSLER, Yu.M.; POVAROV, Yu.M.; GORBANEV, A.I.

Problem of the salting-out effect. Zhur.strukt.khim. 4 no.1:100-102 Ja-F '63. (MIRA 16:2)

1. Institut elektrokhimii AN SSSR.
(Salting-out)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, Yu.M.; KESSLER, Yu.M.; GORBANEV, A.I.

Thermodynamic properties of strong electrolyte solutions in solvents with dielectric constants. Izv. AN SSSR. Ser. khim. no.10:1895-1896 O '64. (MIRA 17:12)

1. Institut elektrokhimii AN SSSR.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

KESSLER, Yu.M.; POVAROV, Yu.M.

Change in the structure of a solvent in a coulombic field of ions and the thermodynamics of strong electrolyte solutions. Zhur. struk. khim. 6 no.3:361-370 My-Je '65. (MIRA 18:8)

1. Institut elektrokhimii AN SSSR.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

DAMASKIN, B.B.; POVAROV, Yu.M.

Capacitance of the double electric layer in N-methylformamide. Dokl. AN SSSR 140 no.2:394-397 S '61. (MIRA 14:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova. Predstavleno akademikom A.N.Frumkinym.
(Formamide) (Electrochemistry)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

SINYAKOV, Yu.I.; GORBANEV, A.I.; POVAROV, Yu.M.; KESSLER, Yu.M.

Density of N-methylformamide. Izv. AN SSSR. Otd.khim.nauk no.8:1514-1515 Ag '61. (MIRA 14:8)

1. Institut elektrokhimii AN SSSR.
(Formamide)

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"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, Yu.M.; GORBANEV, A.I.; KESSLER, Yu.M.; SAFONOVA, I.V.

Activity coefficients of cesium chloride in N-methylformamide. Dokl. AN SSSR 142 no.5:1128-1129 F '62. (MIRA 15:2)

1. Institut elektrokhimii AN SSSR. Predstavleno akademikom A.N.Frumkinym.

(Cesium chloride)
(Formamide)
(Activity coefficients)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

GOL'DSHTEYN, I.P.; KESSLER, Yu.M.; POVAROV, Yu.M.; GORBANEV, A.I.

Dipole moment of N-methylformamide. Zhur.strukt.khim. 4 no.3: 445-446 My-Je '63. (MIRA 16:6)

1. Institut elektrokhimii AN SSSR.
(Formamide—Dipole moments)

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, Yu.M.; KAZARINOV, V.Ye.; KESSLER, Yu.M.; GORBANEV, A.I.

Solubility of AgCl in solutions of NaCl and CsCl in N-methylformamide and in formamide. Zhur.neorg.khim. 9 no.4: 1008-1010 Ap '64. (MIRA 17:4)

1. Institut elektrokhimii AN SSSR.

APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R0013427

"APPROVED FOR RELEASE: Tuesday, August 01, 2000 CIA-RDP86-00513R001342

POVAROV, Yu.M.; KESSLER, Yu.M.; GORBANEV, A.I.; SAFONOVA, I.V.

Thermodynamic properties of solutions of strong electrolytes in solvents having high dielectric constants. Dokl. AN SSSR 155 no.6:1411-1414 Ap '64. (MIRA 17:4)

1. Institut elektrokhimii AN SSSR. Predstavleno akademikom A.N.Frumkinym.

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5. (4) SOV/20-125-6-30/61

AUTHORS: Gorbanev, A. I., Kessler, Yu. M., Povarov, Yu. M., Sevost'yanov, E. S.

TITLE: Some Regularities in the Properties of the Solutions of Strong Electrolytes (Nekotoryye zakonomernosti svoystv rastvorov sil'nykh elektrolitov)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 6, pp 1281-1284 (USSR)

ABSTRACT: The authors state that it is possible to explain the deviation of the properties of electrolytes from the Debye-Hückel-law only by taking the specific ion interaction into account. On the basis of assumptions made in an earlier paper (Ref 4) the contribution f_c of ion interaction is given as amounting to $\ln f_c = \frac{4}{3}\pi a^3 Bc - B\beta_1 c$ (1). [$a = r_+ + r_-$, the sum of the crystallographic radii of the cation and anion, $B = 6.024 \cdot 10^{20}$, β_1 = coefficient taking the solvation energy of the ion pair into account (Formula 2), c = concentration]. The deviation $\lg f_{exp} = \lg f_D - \lg f_c$ (f_{exp} = experimentally

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Some Regularities in the Properties of the Solutions of Strong Electrolytes

$B\beta_1 c$ and b (dipole effect) as well as g (charge interaction) resulted in no connection in the case of water. On the basis of data (Ref 7) for formamide the values of $B\beta_1 c$ in a formamide solution were calculated and represented as f(a) and f(b) (Fig 3). The authors, however, emphasize that this connection, which now becomes apparent, may be due to a misapprehension. It happens that the salts for which data in formamide are available, show a continuous connection between a, b and g (Fig 4). Thus, the real argument of the function $B\beta_1 c$ can therefore only be one of the variables a, b, g. In order to clear this up, it is necessary to determine the values for salts which do not fit in to the curve of figure 4. There is no connection between a, b and g and the deviation from the law of dilution heat. The dilution heat is influenced in the same manner by the various effects of ion interaction. In this case the entropy terms of the equation must not be omitted. There are 4 figures and 7 references, 4 of which are Soviet.

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Some Regularities in the Properties of the Solutions of Strong Electrolytes

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FADEYEVA, L.Ye.; KESSLER, Yu.M.; POVAROV, Yu.M.

Activity coefficients of sodium and cesium chlorides in a mixture of formamide with acetamide at 25° C. Elektrokhimiia 1 no.7:822-827 Jl '65. (MIRA 18:10)

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POVAROV, Yu.M.; KESSLER, Yu.M.; GORBANEV, A.T.

Thermodynamic properties of strong electrolyte solutions in solvents with high dielectric constants. Elektrokhimiia 1 no.10:1174-1181 O '65. (MIRA 18:10)

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TYLKINA, M.A.; POVAROVA, K.B.

Second All-Union Conference on Rhenium. Izv. AN SSSR. Otd. tekh. nauk. Met. i gor. delo no.2:174-176 Mr-Ap '63. (MIRA 16:10)

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POVAROVA, K. B.

The Second All-Union Conference on Rhenium, sponsored by the Institute of Metallurgy imeni A. A. Baykov, Academy of Sciences USSR, and the State Institute of Rare Metals, was held in Moscow 19-21 November 1962. A total of 335 representatives from 83 scientific institutions and industrial establishments participated. Among the reports presented were the following: autoclave extraction of Re from Cu concentrates (A. P. Zelikman and A. A. Peredereyev); Re extraction from the gaseous phase (V. P. Savrayev and N. L. Peysakhov); recovery of Re by sorption and ion interchange (V. I. Bibikova, V. V. Il'ichenko, K. B. Lebedev, G. Sh. Tyurekhodzhayeva, V. V. Yermilov, Ye. S. Raimbekov, and M. I. Filimonov); production of carbonyl Re (A. A. Ginzburg); electrolytic production of high-purity Re and electroplating with Re (Z. M. Sominskaya and A. A. Nikitina); Re coatings on refractory metals produced by thermal dissociation of Re chlorides (A. N. Zelikman and N. V. Baryshnikov); plastic deformation and thermomechanical treatment of Re (V. I. Karavaytsev and Yu. A. Sokolov); growth of Re single crystals and effect of O_2 on their properties (Ye. M. Savitskiy and G. Ye. Chuprikov); Re-Mo, Re-W, and Re-precious-metal alloys (Ye. M. Savitskiy, M. A. Tylkina, and K. B. Povarova); synthesis of Re nitrides, silicides, phosphides, and selenides (G. V. Samsonov, V. A. Obolonchik, and V. S. Neshpor); weldability of Re-Mo and Re-W alloys (V. V. D'yachenko, B. P. Morozov, and G. N. Klebanov); new fields of application for Re and Re alloys (M. A. Tylkina and Ye. M. Savitskiy); and Re-Mo alloy for thermocouples (S. K. Danishevskiy, Yu. A. Kocherzhinskiy, and G. B. Lapp). [WW]

Tsvetnyye metally, no. 4, Apr 1963, pp 92-93

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