ACC NR: AT7001361

described as having shown itself to have a high degree of sensitivity and contrast when tested in the Polar Institute for the Fishing Industry. Complex automation, and the use of electronic computers to assist in finding fish and in navigation, is contemplated. Orig. art. has: 10 figures and 2 tables.

SUB CODE: 13,06,09,17/SUBM DATE: 15Oct65

Card 2/2

S/263/62/000/005/005/010
I007/I207

Authors: Lade, G. I.,Shpor, K. K., Yanushkovskiy, V. A.

Title: RADIOACTIVE MEASURING DEVICES PRODUCED BY THE TALLIN OPTICAL PLANT OF CONTROL -MEASURING DEVICES (KIP)

Periodical: *Referativnyy zhurnl, Mashinostroyeniye*, no. 5, 1962, 61 abstract 32.5.340 (In sb. "*Radioakt. izotopy i yadern. izlucheniya u nar. kh-ve SSSR*" v. 1, 1961, 69-74, Moscow, Gostoptekhizdat).

Text: The Tallin optical plant for control measuring devices started in 1959 the mass production of radioactive instruments of the relay type for automation of production processes. These instruments are assembled of standard components: beta and gamma radiation sources, radioactive transducers and electronic relay units of the УРАП (URAP) type. These standard components form the basis of the following apparatus: radioactive multiposition level-controllers of the РПРУ-1 (RPRU-1) type consisting of a single-position or a two-position РД-11 (RD-11) radioactive transducer and of the electronic relay units УРАП-3 (URAP-3) or УРАП-2 (URAP-2); the radioactive source consists of a float containing a cobalt 60 isotope or cesium 137 isotope; the РПРУ-3 (RPRU-3) type containing one or two radioactive РД-9 (RD-9) transducers and a standard radioactive beta source БИ-2 (BI-2); radiactive blocking devices: of the БРП-1 (BRP-1) type consisting of the radioactive РД-6 (RD-6) transducer, a УРАП-3 (URAP-3) unit and a БИ-2 (BI-2) source; the БРП-2 (BRP-2) type comprising instead of the radioactive РД-6 (RD-6) transducer, a small size РД-10 (RD-10) transducer; radioactive РК-4 (RK-4) controller for regulating the degree of filling of nontranslucent vessels by liquids; this controller is assembled of the radioactive РД-10 (RD-10) transducer;

Card 1/2

MESZAROS, Miklos (Jaszbereny); LADECZKY, Jeno (Jaszbereny)

A new epicyclic gear with large transmission ratio Gep 16 no.11:431-435 N '64.

LADEKHIN, A.

For rural areas. Pozh. delo 9 no.9:24 S '63. (MIRA 16:10)

1. Starshiy inspektor Upravleniya pozharnoy okhrany Khabarovskogo kraya. (Fire engines)

LADENDZINSKI, S.

Thiamine, riboflavin and nacin content in Polish yeasts manufactured under different technological conditions.

P. 156. (Przemsl Spozywczy. Vol. 10, no. 4, Apr. 1956, Warszawa, Poland)

Monthly Index of East European Accessions (EEAI) LC. Vol. 7, no. 2
February 1958

LADENKO, A.A., inzh.

Possibilities of decreasing the consumption of wood in a system of working inclined layers with hydraulic filling. Sbor. KuzNIUI no.9:43-50 '61. (MIRA 16:5)
(Kuznetsk Basin--Mine timbering) (Mine filling)

MAMRYKIN, K., inzh.; POLYAKOV, V., inzh.; LADENKO, V., inzh.

Logs under control. Izobr. i rats. no.8:11 Ag '62. (MIRA 15:9)

1. TSentral'nyy nauchno-issledovatel'skiy institut mekhanizatsii i energetiki lesnoy promyshlennosti.
(Lumbering--Equipment and supplies)

LADENKOV, V.

Material incentives in improving qualifications of agricultural workers. Vop. ekon. no.12:140-146 D '62. (MIRA 16:1)

(Agricultural wages)

LADERSTEGER, Karoly, Dr. dr.h.c., prof., elnok. (Becs)

New investigation of the theory of the heterogeneous spheroid equilibrum figures. Geod kart 13 no.1:1-8 '61. (EEAI 10:6)

1. Muegyetem, Bacs; Osztrak Felsogeodeziai Intezet.
(Earth) (Geodesy)

LADES, V.I.

Operation of a cathode follower during the supply of linearly increasing voltage to the cathode circuit. Vestsi AN BSSR. Ser. Fiz.-tekh. nav. no. 2:30-34 '63. (MIRA 17:1)

LADES, V.I.

Multifunctional logical circuit of the pulse-potential type. Vestsi AN BSSR. Ser.fiz.-mat.nav. no.1:19-28 '65. (MIRA 19:1)

L 10270-67 EWT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(l)
ACC NR: AP7003083 SOURCE CODE: UR/0201/66/000/003/0093/0099

AUTHOR: Blokh, A. Sh.; Lados, V. I.

ORG: Institute of Technical Cybernetics, AN BSSR (Institut tekhnicheskoy kibernetiki AN BSSR)

TITLE: Synthesis of single-cycle systems whose behavior is described by linear inequalities

SOURCE: AN BSSR. Vestsi. Seryya fizika-tekhnichesknykh navuk, no. 3, 1966, 93-99

TOPIC TAGS: switching circuit, digital computer

ABSTRACT: The control of production processes does not always require absolute knowledge of the value of a determinant function U of parameters X, Y, ..., Z. In many cases it is sufficient to establish the membership of values of U in a certain given interval along the number axis. The usage of digital computers is sometimes limited in such cases by their insufficient speed. A method is presented in this article for synthesis of circuits which allow us to determine the membership of the values of the function U (X, Y, ..., Z) in a certain given interval of the number axis in one cycle for the case when the function is linear:

$$u = A_1X + A_2Y + \ldots + A_nZ,$$

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L 10270-67

ACC NR: AP7003083

The method is based on the canonical method of synthesis of switching circuits. The synthesis is performed in three stages. 1) on the basis of the conditions of the problem, a canonical table is constructed for intermediate arguments; 2) the canonical table is used to find the structural circuit of the device; 3) each sector of the structural circuit is replaced by the corresponding electrical circuit. Orig. art. has: 3 figures and 23 formulas.

[JPRS: 38,836]

SUB CODE: 09 / SUBM DATE: 25Jan66 / ORIG REF: 003

Card 2/2 blp

LADESIC, B.; KEGLEVIC, D.

The synthesis of some optically active 5, 6-dihydrouracils. In English. p. 47.

CROATICA CHEMICA ACTA. (Hrvatsko kemijsko drustvo, Sveuciliste u Zagrebu i Hrvatsko prirodoslovno drustvo) Zagreb, Yugoslavia. Vol 31, no. 2, 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 9, no. 2, 1960. Uncl.

LADESIC, B.; KEGLEVIC, D.

The resolution of β-amino-γ-methylsulfinylbutyric acid (β-methionine sulfoxide) into four optical isomers. In English. p. 57.

CROATICA CHEMICA ACTA. (Hrvatsko kemijsko drustvo, Sveuciliste u Zagrebu i Hrvatsko prirodoslovno drustvo) Zagreb, Yugoslavia. Vol. 31, no. 2, 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 9, No. 2, 1960.

Uncl.

LADEYNOVA, L.V.

"A Physicochemical Investigation of the Equiblibria and of the Solid Phases in the Trinary System: $Zn(OH)_2$ -H_2O_2-H_2O. Cand Chem Sci, Inst of General and Inorganic Chemistry imeni N. S. Kurnakov, Acad Sci USSR, 29 Dec 54. (VM, 21 Dec 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

LADEYNOVA, L. V., and MAKAROV, S. Z.

"Concerning the Production of Peroxidic Compounds of Zinc, by S. Z. Makarov and L. V. Ladeynova, Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR, Zhurnal Neorganicheskoy Khimii, Vol 1, No 12, Dec 56, pp 2708-2711

The methods for the laboratory preparation of zinc peroxide that are described in the literature have been subjected to consideration and procedures for the industrial production of this compound evaluated. On the basis of an experimental investigation of the system $Zn(OH)_2 - H_2O_2 - H_2O$, a method for the production of ZnO_2 has been developed. The results obtained in the laboratory were checked by applying the method on a plant scale. It has been shown that the industrial process must be stopped at the stage of the formation of $ZnO_2 \cdot 0.5\ H_2O$, because dehydration beyond this point leads to the decomposition of the product.

Sum 1274

275
4E2c

Study of systems with concentrated hydrogen peroxide. XIII. Properties of the peroxide complexes of zinc. S. Z. Makarov and L. V. Ladeinova. *Izvest. Akad. Nauk S. S. S. R., Otdel. Khim. Nauk* 1957, 139-42; cf. *C.A.* 51, 12627*a*.—The study of the $Zn(OH)_2$-H_2O_2-H_2O system by the soly. method over the temp. range −20–+80° showed the presence of the solid phases $ZnO_2 \cdot 2H_2O$; $ZnO_2 \cdot 1.5H_2O_2$; $ZnO_2 \cdot H_2O$; $ZnO_2 \cdot 0.5H_2O$; ZnO_2; $ZnO_2 \cdot 0.5H_2O_2 \cdot H_2O$; $ZnO_2 \cdot H_2O_2$; and $ZnO_2 \cdot 2H_2O$. Only $ZnO_2 \cdot 0.5H_2O$ (I) could be isolated in cryst. form. Dehydration of the different solid phases yields I as the final product. Further prolonged drying of I at 110° does not form anhyd. ZnO_2 and is accompanied by its decompn. The thermal analysis showed that the decompn. of $ZnO_2 \cdot 0.5H_2O$ with the evolution of H_2O and O_2 sets in at 180-190°. J. Rovtar Leach

LADEYNOVA, L. V.

62-1-1/21

AUTHORS: Makarov, S. Z., and Ladeynova, L. V.

TITLE: Investigation of Systems with Concentrated Hydrogen Peroxide. Part 12. The Ternary $Zn(OH)_2$-H_2O_2-H_2O System (Izucheniye sistem s kontsentrirovannoy perekis'yu vodoroda. Soobshcheniye 12. Troynaya sistema $Zn(OH)_2$-H_2O_2-H_2O).

PERIODICAL: Izvestiya Akademii Nauk SSSR, Otdeleniye Khimicheskikh Nauk, 1957, No. 1, pp. 3-17 (U.S.S.R.)

ABSTRACT: The ternary system $Zn(OH)_2$-H_2O_2-H_2O was investigated by the solubility method at temperatures ranging from +30 to - 20°. The authors used pure zinc hydroxide prepared from solutions of zinc and ammonium nitrate and hydrogen peroxide freed of admixtures and stabilizers by vacuum distillation. In order to reduce the possible errors in determining the actual composition of the solid phases, the authors utilized additional structural diagrams of ZnO-H_2O_2 in liquid phase which determine more reliably the number and limits of the existence of each

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62-1-1/21

solid phase in the system. The actual composition and the sequence of changes in the solid phases in the ternary system investigated were established by studying the data of the liquid phase diagram. At positive temperatures, the solid phases were observed as being well-forming and easily separable from the mother liquid. The solid phases, existing at temperatures of from 30 to - 20°, are listed in four groups.

A comparison of experimental results with literature data showed that a majority of zinc peroxide compounds are mechanical mixtures. A polythermal solubility diagram was formulated which makes it possible to determine the positions of eleven fields corresponding to the existence of solid phases. Data on the composition of the liquid phases are given in Table 11.

Tables, graphs; there are twenty-one references, of which 5 are Slavic.

62-1-1/21

Investigation of Systems with Concentrated Hydrogen Peroxide. Part 12. The Ternary $Zn(OH)_2$-H_2O_2-H_2O System

ASSOCIATION: Academy of Sciences of U.S.S.R., Institute of General and Inorganic Chemistry imeni N. S. Kurnakov.

PRESENTED BY:

SUBMITTED: June 25, 1956

AVAILABLE: Library of Congress

Card 3/3

Ladeynova, L.V.

MAKAROV, S.Z.; LADEYNOVA, L.V.

Systems with concentrated hydrogen peroxide. Report No.13. Studying the properties of zinc peroxide compounds. Izv.AN SSSR, Otd.khim.nauk no.2:139-142 F '57. (MLRA 10:4)

1. Institut obshchey i neroganicheskoy khimii im. N.S.Kurnakova Akademii nauk SSSR.

(Zinc peroxide) (Systems (Chemistry))

5(2)
AUTHOR: Ladeynova, L. V.

SOV/62-59-2-3/40

TITLE: Study of Systems Containing Concentrated Hydrogen Peroxide (Izucheniye sistem s kontsentrirovannoy perekis'yu vodoroda) Communication 20. Synthesis of Zinc Peroxide Compounds From the Solutions of Zinc Salts and Physico-Chemical Characteristic of $ZnO_2 \cdot H_2O$ (Soobshcheniye 20. Sintez perekisnykh soyedineniy tsinka iz rastvorov soley tsinka i fiziko-khimicheskaya kharakteristika $ZnO_2 \cdot H_2O$)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 2, pp 195-201 (USSR)

ABSTRACT: In the present paper the methods and conditions of production of zinc peroxide by means of solutions of zinc salts, ammonia and hydrogen peroxide are devised and the properties of the product obtained investigated. In order to obtain $ZnO_2 \cdot H_2O$ the nitrate of a zinc salt solution was added under continuous stirring to the solution of the ammonia hydrogen peroxide mixture. Experimental conditions and results found are given in table 1. In order to obtain $ZnO_2 \cdot 0.5H_2O$ alkali solution

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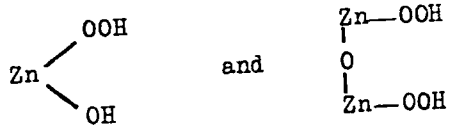
was added to the nitrate of the zinc salt solution until the zinc hydroxide was precipitated. Excess alkali was then added up to the complete dissolution of the precipitate and the solution mixed with hydrogen peroxide solution. On considerable KOH-excess a product in form of a viscous suspension was obtained. After drying in the vacuum at 70° the product revealed only 6.52% active oxygen. In following experiments NH_4OH was used. The results of this investigation are presented in table 2. It could be found that the dehydration of $ZnO_2 \cdot H_2O$ with absolute alcohol and ether leads to the formation of $ZnO_2 \cdot 0.5H_2O$. The investigation of the properties of the resulting products showed that $ZnO_2 \cdot H_2O$ and $ZnO_2 \cdot 0.5H_2O$ may be regarded as compounds with a hydrogen peroxide structure:

SOV/62-59-2-3/40

Study of Systems Containing Concentrated Hydrogen Peroxide. Communication 20. Synthesis of Zinc Peroxide Compounds From the Solutions of Zinc Salts and Physico-Chemical Characteristic of $ZnO_2 \cdot H_2O$



There are 9 figures, 3 tables, and 5 references, 3 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences, USSR)

SUBMITTED: July 15, 1957

Card 3/3

S/062/61/000/001/001/016
B101/B220

AUTHORS: Ladeynova, L. V., Lozhkina, L. G., and Chernysheva, A. M.

TITLE: Study of systems with concentrated hydrogen peroxide. Communication 22. The 20° and 0°C isotherms of the $Cd(OH)_2 - H_2O_2 - H_2O$ ternary system

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, no. 1, 1961, 12-16

V

TEXT: The authors refer to the different, partly contradictory data on cadmium peroxides. In Ref. 1 they had studied the system $Zn(OH)_2 - H_2O_2 - H_2O$, and because of the similar behavior of Zn and Cd they expected to find analogous conditions in the $Cd(OH)_2 - H_2O_2 - H_2O$ system. The present report deals with the verification of this assumption. The system was studied by means of the solubility method described in Ref. 1. Residues and liquid phases were analyzed for active oxygen and CdO. The active oxygen was determined by volumetric analysis with $KMnO_4$, the CdO of the residue as cadmium pyrophosphate. In the liquid phase CdO was determined

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Study of systems with concentrated hydrogen...

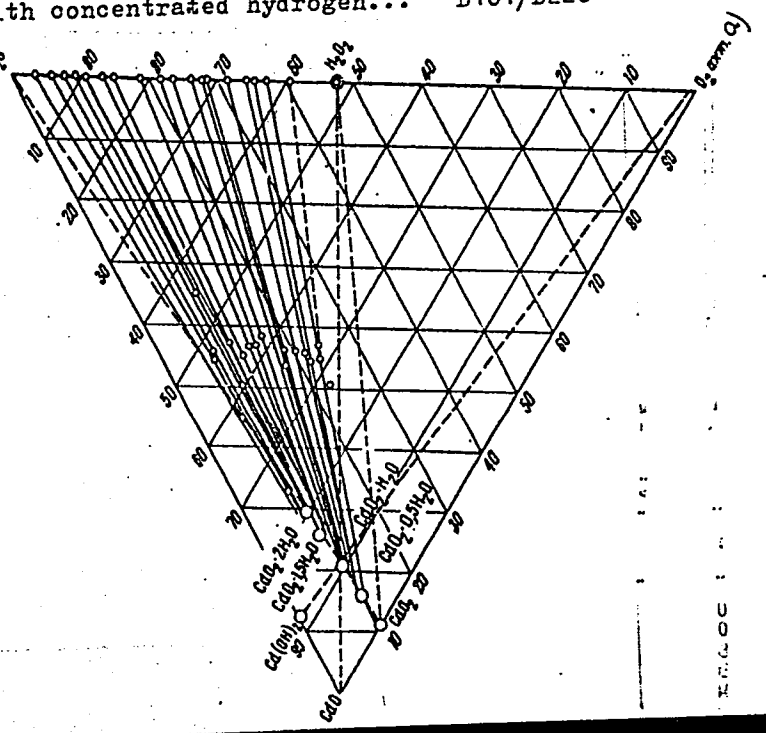
by means of dithizon and an ФЭК-2 (FEK-2) electrophotocolorimeter. To obtain equilibrium in the system, 2 hr were sufficient at 0°C and about 1.5 hr at 20°C. The 20°C isotherm was studied between 0.00 and 89.10% H_2O_2 in the liquid phase (Fig. 1). The 0°C isotherm was investigated between 0.00 and 93.91% H_2O_2. For both temperatures, 5 solid phases were found whose concentration ranges are indicated in Table 3. The interaction between $Cd(OH)_2$ and H_2O_2 resulted in phases of the hydrate type whose composition is similar to that found in the corresponding system with $Zn(OH)_2$. An exact analysis of the solid phases of the zinc system indicated that they contained the hydroperoxide group -OOH. This should hold true for the cadmium system, too. There are 4 figures, 3 tables, and 13 references: 3 Soviet-bloc and 6 non-Soviet-bloc.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR)

SUBMITTED: July 10, 1959

Study of systems with concentrated hydrogen...

Legend to Fig. 1:
a) O_2 active.



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Legend to Table 3:
a) concentration range of H_2O_2, % by weight;
b) solid phase.

Концентрационные пределы существования твердых фаз в системе $Cd(OH)_2$—H_2O_2—H_2O при 20 и 0°

Твердая фаза b)	a) Концентрационные пределы H_2O_2, вес. %	
	20°	0°
$Cd(OH)_2$	0,00—11,60	0,00—5,40
$CdO_2 \cdot 2H_2O$	11,60—26,08	5,40—23,83
$CdO_2 \cdot 1,5H_2O$	26,08—53,32	23,83—45,03
$CdO_2 \cdot H_2O$	53,32—72,73	45,03—58,34
$CdO_2 \cdot 0,5H_2O$	72,73—89,10	58,34—93,91

Table 3

Card 4/4

MAKAROV, S.Z.; LADEYNOVA, L.V.

Peroxide compounds of titanium, zirconium, and cerium as products of interaction between hydroxides and hydrogen peroxide. Izv.AN SSSR.Otd.khim.nauk no.6:958-964 Je '61. (MIRA 14:6)

1. Institut obshchey i neorganicheskoy khimii im. N.S.Kurnakova AN SSSR.
(Titanium oxide) (Zirconium oxide) (Cerium oxide)

MAKAROV, S.Z.; LADEYNOVA, L.V.

Zirconium peroxide compounds as the products of interaction between hydroxides and hydrogen peroxide. Izv. AN SSSR. Otd.khim.nauk no.7:1169-1175 Jl '61. (MIRA 14:7)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova Akademii nauk SSSR.
(Zirconium oxide) (Zirconium hydroxide)
(Hydrogen peroxide)

MAKAROV, S.Z.; LADEYNOVA, L.V.

Peroxide compounds of cerium. Izv. AN SSSR. Otd.khim.nauk no.7: 1176-1182 Jl '61. (MIRA 14:7)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova AN SSSR.

(Cerium oxide)

29515
S/062/61/000/011/002/012
B119/B138

S-2390

AUTHORS: Makarov, S. Z. (Deceased), Ladeynova-Soboleva, L. V., and Chernyshova, A. M.

TITLE: Physicochemical study of the reactions occurring on interaction between lanthanum hydroxide and hydrogen peroxide

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 11, 1961, 1933-1940

TEXT: In a number of experiments, $La(OH)_3$ was made to react with H_2O_2, the concentration of which was varied between 0 and 97%. Experiments were made at 0 and -20°C. The two reaction components were mixed in an aqueous medium at the experimental temperature chosen, until the chemical composition of both the liquid and solid phase remained constant. Both phases were analyzed for La_2O_3 content (by precipitating the oxalate and weighing of the La_2O_3 obtained by calcining) and 1/2 O_2 (manganometrically).

Card 1/3

Physicochemical study of the reactions ...

At 0°C, below a concentration of 0.72% H_2O_2 the solid phase consists of $La(OH)_3$. Between 7.98 and 83% H_2O_2, the compound $La_2O_4 \cdot 2\ H_2O$ was found. At -20°C, the compound $La_2O_4 \cdot H_2O$ was found in the H_2O_2-concentration range between 31.52 and 81.51% in the liquid phase. Both substances were separated from the mixture for differential thermal analysis which was carried out on a Kurnakov-type recording pyrometer. The substances show an exothermic effect between 27 and 45°C and 25 and 70°C, and an endothermic effect between 105 and 125°C and between 98 and 110°C. The beginning of the exothermic effect corresponds to the oxygen separation which continues to ~200°. The oxygen separation proceeds in 2 stages: (1) Decomposition of the adsorbed H_2O_2 (beginning at ~25°C); (2) decomposition of the hydroperoxide compound of lanthanum (beginning at ~85°C). Anhydrous lanthanum peroxide compounds could not be obtained. For the compounds obtained, the following formulas are suggested: For

X

29516
S/062/61/000/011/003/012
B119/B138

5.2306

AUTHORS: Makarov, S. Z. (Deceased) and Ladeynova-Soboleva, L. V.

TITLE: Physicochemical study of the reaction occurring on interaction between neodymium hydroxide and hydrogen peroxide

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 11, 1961, 1940-1946

TEXT: $Nd(OH)_3$ suspended in water was made to react with H_2O_2 of varying concentrations at 0 and -20°C. Equilibrium was established between the chemical compositions of the liquid and solid phases after 1.5 to 2 hr. Both phases were chemically analyzed (active oxygen content was determined manganometrically, Nd_2O_3 content by precipitating with oxalic acid and weighing the Nd_2O_3 obtained by calcining the oxalate). At 0°C, in the H_2O_2-concentration range from 1.53 to 35.6%, two solid phases were found. The one consisted of $Nd(OH)_3$, the other of $Nd_2O_5 \cdot 2\,H_2O$. At 36% or more

Card 1 4

Physicochemical study of the reaction ...

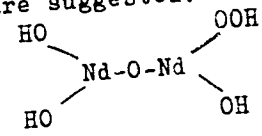
H_2O_2 in the liquid phase, the latter compound was observed to decompose. At -20°C in the H_2O_2-concentration range between 24.88 and 37.42%, the compound $Nd_2O_4 \cdot 2\ H_2O$ was found. At these experimental temperatures(0 and -20°C), the solubility of $Nd(OH)_3$ increases up to as much as 50 times with H_2O_2 content increasing between 20 and 30%. Solubility of $Nd(OH)_3$ in H_2O at 0°C is 0.004%. The solid phases with compositions $Nd_2O_5 \cdot 2\ H_2O$ and $Nd_2O_4 \cdot 2\ H_2O$, respectively, were isolated for differential thermal analysis using a Kurnakov-type recording pyrometer. The compound $Nd_2O_5 \cdot 2\ H_2O$ shows an endothermic effect at 0°C, and between 90 and 112°C. The first corresponds to melting in the presence of the excess liquid phase, and the second ,dehydration. It is suggested that the exothermic separation of oxygen is suppressed by dehydration. $Nd_2O_4 \cdot 2\ H_2O$ shows an exothermic effect between 25 and 60°C, an endothermic one between 93 and 105°C. For both compounds, oxygen separation proceeds in two

29516
S/062/61/000/011/003/012
B119/B138

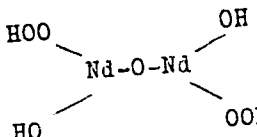
Physicochemical study of the reaction ...

stages: (1) Decomposition of adsorbed H_2O_2 from 60 to 75°C; (2) decomposition of the peroxide compound of neodymium from ~85 to 90°C. At 200°C, the composition corresponds to the compound $Nd(OH)_3$. The two peroxide compounds could not be obtained in a completely anhydrous state. The following formulas are suggested:

For $Nd_2O_4 \cdot 2\,H_2O$ ...



and for $Nd_2O_5 \cdot 2\,H_2O$ ...



. There are 7 figures, 6 tables, and 5 references: 1 Soviet and 4 non-Soviet. The two references to English-language publications read as follows: B. Brauner, Proc. Chem. Soc. 14, 72 (1889); B. Brauner, Proc. Chem. Soc. 17, 66 (1901).

Card 3/4

29516
S/062/61/000/011/003/012
B119/B138

Physicochemical study of the reaction

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR (Institute of General and Inorganic Chemistry imeni N. S. Kurnakov of the Academy of Sciences USSR)

SUBMITTED: May 4, 1961

Card 4/4

MAKAROV, S.Z. [deceased]; LADEYNOVA, L.V.

Determination of active oxygen in peroxide compounds of cerium. Zhur.anal.khim. 17 no.6:743-747 S '62. (MIRA 16:1)

1. Institute obshchey i neorganicheskoy khimii im. N.S.Kurnakova AN SSSR, Moskva.
(Oxygen--Analysis) (Cerium oxide)

TKACHUK, V.G., doktor geologo-mineralog. nauk; TOLSTIKHIN, N.I., prof.; PINNEKER, Ye.V., kand. geologo-mineralog. nauk, mladshiy nauchnyy sotr.; YASNITSKAYA, N.V., mladshiy nauchnyy sotr., khimik; KRUTIKOVA, A.I., mladshiy nauchnyy sotr., khimik; SHOTSKIY, V.P., kand. geogr. nauk; ORLOVA, L.M., starshiy gidrogeolog; STEPANOV, V.M., kand. geologo-mineralog. nauk; VLASOV, N.A., kand. khim. nauk; PROKOP'YEV, B.V., kand. khim. nauk; CHERNYSHEV, L.A., starshiy prepodavatel'; PAVLOVA, L.I., starshiy prepodavatel'; Prinimali uchastiye: IVANOV, V.V., kand. geologo-mineralog. nauk; YAROTSKIY, L.A., kand. geologo-mineralog. nauk; KARASEVA, A.P., nauchnyy sotr.; ARUTYUNYANTS, R.R., nauchnyy sotr.; ROMANOVA, E.M., nauchnyy sotr.; TROFIMUK, P.I., starshiy gidrogeolog; LADEYSHCHIKOV, P.I., starshiy nauchnyy sotr., kand. geogr. nauk; LYSAK, S.V., starshiy laborant; KRUCHININA, L.Yu., laborant; SEMENOVA, Ye.A., red. izd-va; BOCHEVER, V.T., tekhn. red.

[Mineral waters of the southern part of Eastern Siberia] Mineral'nye vody iuzhnoi chasti Vostochnoi Sibiri. Moskva. Vol.1. [Hydrogeology of mineral waters and their significance for the national economy] Gidrogeologiia mineral'nykh vod i ikh narodnokhoziaistvennoe znachenie. Pod obshchei red. V.G.Tkachuk i N.I.Tolstikhina. 1961. 346 p. (MIRA 14:8)

1. Akademiya nauk SSSR. Sibirskoye otdeleniye. Vostochno-sibirskiy geologicheskiy institut.

(Continued on next card)

TKACHUK, V.G.—— (continued) Card 2.

2. Vostochno-Sibirskiy geologicheskiy institut (for Tkachuk, Pinneker, Yasnitskaya, Krutikova, Lysak). 3. Institut geografii Sibirskogo otdeleniya Akademii nauk SSSR (for Shotskiy). 4. Chitinskoye geologicheskoye upravleniye (for Orlova). 5. Sosnovskaya ekspeditsiya Ministerstva geologii i okhrany nedr SSSR (for Stepanov). 6. Irkutskiy gosudarstvennyy universitet (for Vlasov, Prokop'yev, Chernyshev, Pavlova). 7. Leningradskiy gornyy institut (Tolstikhin). 8. Gosudarstvennyy nauchno-issledovatel'skiy institut kurortologii i fizioterapii (for Ivanov, Yarotskiy, Karaseva, Arutyunyants, Romanova). 9. Irkutskoye geologicheskoye upravleniye (for Trofimuk). 10. Baykal'skaya limnologicheskaya stantsiya Vostochno-Sibirskogo filiala AN SSSR (for Ladeyshchikov). 11. Otdel ekonomiki i geografii Vostochno-Sibirskogo filiala AN SSSR (for Kruchinina).

(Siberia, Eastern--Mineral waters)

LADEYSHCHIKOV, V.

Improvement in efficiency among sharpshooters. Voen. znan. 37 no. 1:28 Ja '61. (MIRA 14:1)

1. Predsedatel' soveta Khar'kovskogo oblastnogo strelkovo-sportivnogo kluba Dobrovol'nogo obshchestva sodeystviya armii, aviatsii i flotu.

(Targets (Military science))

LADFALVI, I.

The classification of baby chicks based on sexual organs.

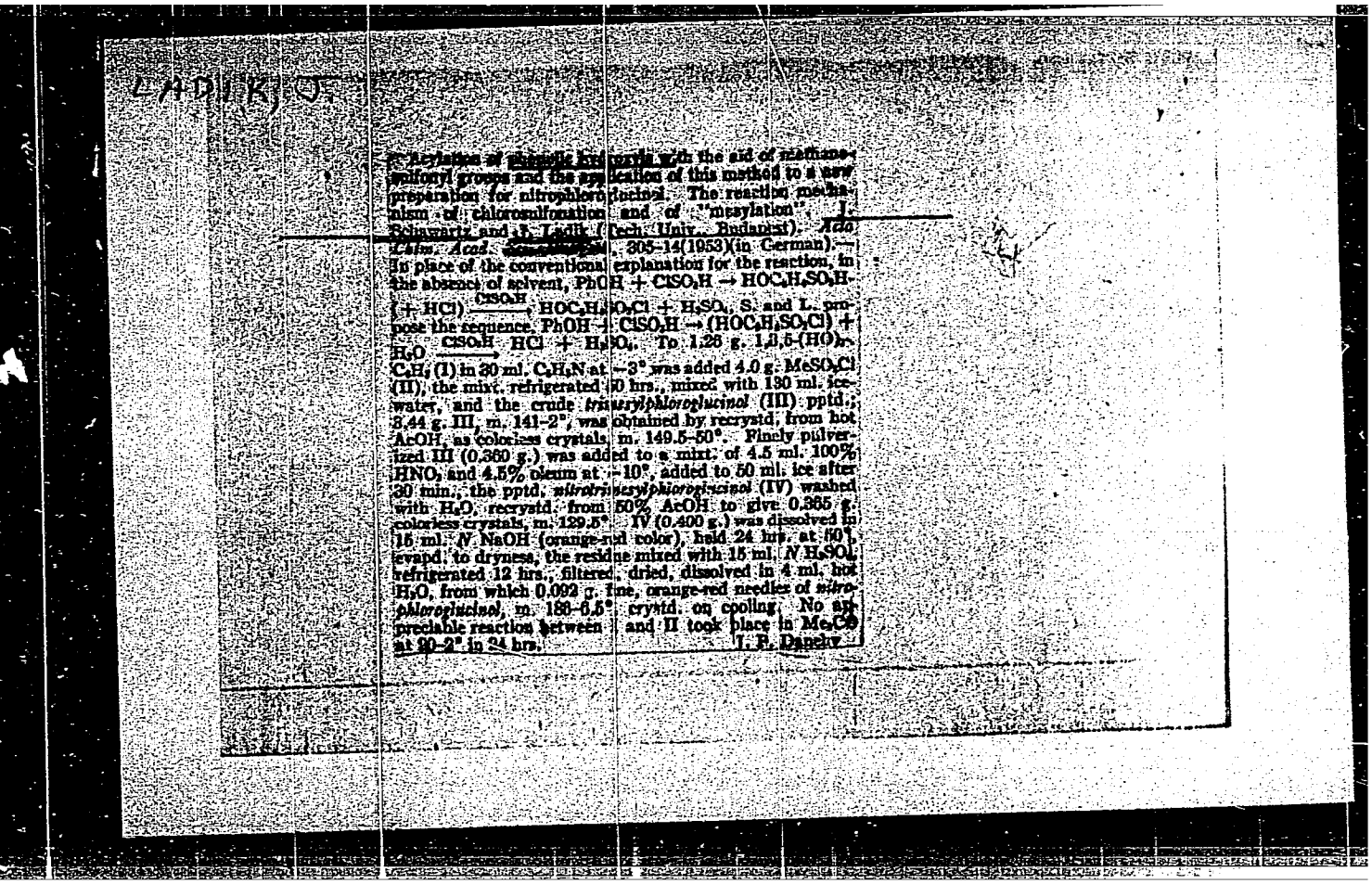
p. 10 (Tobbtermeles. Vol. 9, no. 19, Nov. 1957, Budapest, Hungary)

Monthly Index of East European Accessions (EMAI) LC. Vol. 7, no. 2, February 1958

LADIK, J.

Varsanyi, Gy. Ladik, J.
"Ultraviolet absorption spectra of diphenylsulfone and benzenesulfonic acid; the nature of the S = O bond." p. 243.
(Acta Chimica Academiae Scientiarum Hungaricae. Vol. 3, no. 2, 1953, Budapest.)

SO: Monthly List of East European Acessions, Vol. 2, No. 9, Library of Congress, September 1953, Uncl.



C-Acylation of phenolic hydroxyls with the aid of methanesulfonyl groups and the application of this method to a new preparation for nitrophloroglucinol. The reaction mechanism of chlorosulfonation and of "mesylation". J. Schwartz and J. Laszlo (Tech. Univ., Budapest). *Acta Chim. Acad.* , 305–14(1953)(in German).—In place of the conventional explanation for the reaction, in the absence of solvent, $PhOH + ClSO_3H \rightarrow HOC_6H_4SO_3H$ (+ HCl) $\xrightarrow{ClSO_3H}$ $HOC_6H_3O_2Cl + H_2SO_4$, S. and L. propose the sequence. $PhOH + ClSO_3H \rightarrow (HOC_6H_4SO_2Cl) + H_2O \xrightarrow{ClSO_3H} HCl + H_2SO_4$. To 1.26 g. 1,3,5-$(HO)_3C_6H_3$ (I) in 30 ml. C_5H_5N at −3° was added 4.0 g. $MeSO_2Cl$ (II), the mixt. refrigerated 30 hrs., mixed with 130 ml. ice-water, and the crude *trimesylphloroglucinol* (III) pptd.; 3.44 g. III, m. 141–2°, was obtained by recrystd. from hot AcOH, as colorless crystals. Finely pulverized III (0.360 g.) was added to a mixt. of 4.5 ml. 100% HNO_3 and 4.5% oleum at −10°, added to 50 ml. ice after 30 min.; the pptd. *nitrotrimesylphloroglucinol* (IV) washed with H_2O, recrystd. from 50% AcOH to give 0.365 g. colorless crystals, m. 129.5°. IV (0.400 g.) was dissolved in 15 ml. *N* NaOH (orange-red color), held 24 hrs. at 50°, evapd. to dryness, the residue mixed with 15 ml. *N* H_2SO_4, refrigerated 12 hrs., filtered, dried, dissolved in 4 ml. hot H_2O, from which 0.092 g. fine, orange-red needles of *nitrophloroglucinol*, m. 180–0.5°, crystd. on cooling. No appreciable reaction between and II took place in Me_2CO at 20–2° in 24 hrs.

J. R. Dapsky

~~JANOS~~ LADIK, Janos

Hungary/Atomic and Molecular Physics - Physics of the Molecule, D-2

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34293

Author: Ladik Janos, Czukas Andrasne

Institution: None

Title: Magnetic Interation in the H_2 Molecule, Due to the Motion of 2 Electrons

Original Periodical: A mayar tud. akad. Alkalm. mat. int. kozl., 1954 (1955), 3, No 3-4, 425-441; Hungarian; Russian and English resumés

Abstract: The authors give in the first part of their article a simple computational method for taking into account in wave mechanics the magnetic interaction, occurring when 2 electrons are moving. Next, the authors, using the approximate eigenfunctions of wang (wang, S. C., Physical Review, 1928, 31, 579-586) calculated the energy of the magnetic interaction P_m in the case of the H_2 molecule (T_m = 8.24 x 10^{-4} ev). This is approximately the same magnitude as the error in the spectroscopic determination of the binding energy of H_2. Kellog and others (Kellog, J. M. B., et. al., 1940, 57, 677-695) have measured approximately, with the aid of the method of magnetic resonance of molecular beams, the magnetic nuclear spin-nuclear spin interaction in the H_2 molecule. Assuming that the energy of the magnetic

Hungary/Atomic and Molecular Physics - Physics of the Molecule, D-2

Abst Journal: Referat Zhur - Fizika, No 12, 1956, 34293

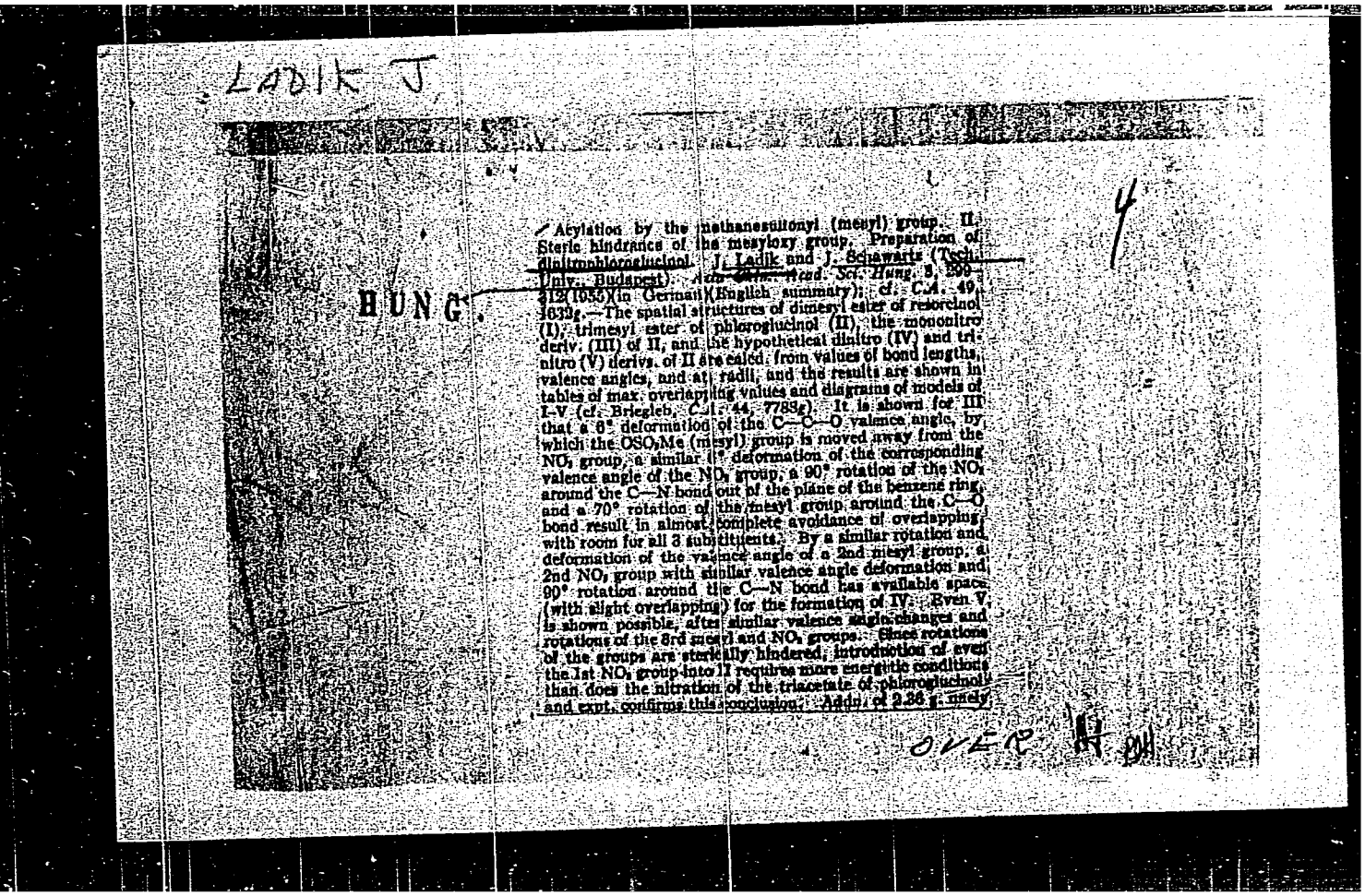
Author: Ladik Janos, Czukas Andrasne

Institution: None

Title: Magnetic Interaction in the H_2 Molecule, Due to the Motion of 2 Electrons

Original Periodical: A mayar tud. akad. Alkalm. mat. int. kozl., 1954 (1955), 3, No 3-4, 425-441; Hungarian; Russian and English resumés

Abstract: electron spin-electron spin interaction in the H_2 molecule is 1847^2 times greater than the latter and that the energy of the magnetic interaction, occurring during the motion of the electrons, is equal to the energy of the magnetic electron spin-electron spin interaction, a value of 3.11×10^{-4} ev was obtained for T_m, i.e., a value of the same order of magnitude as that obtained above.



LADIK J.

HUNG.

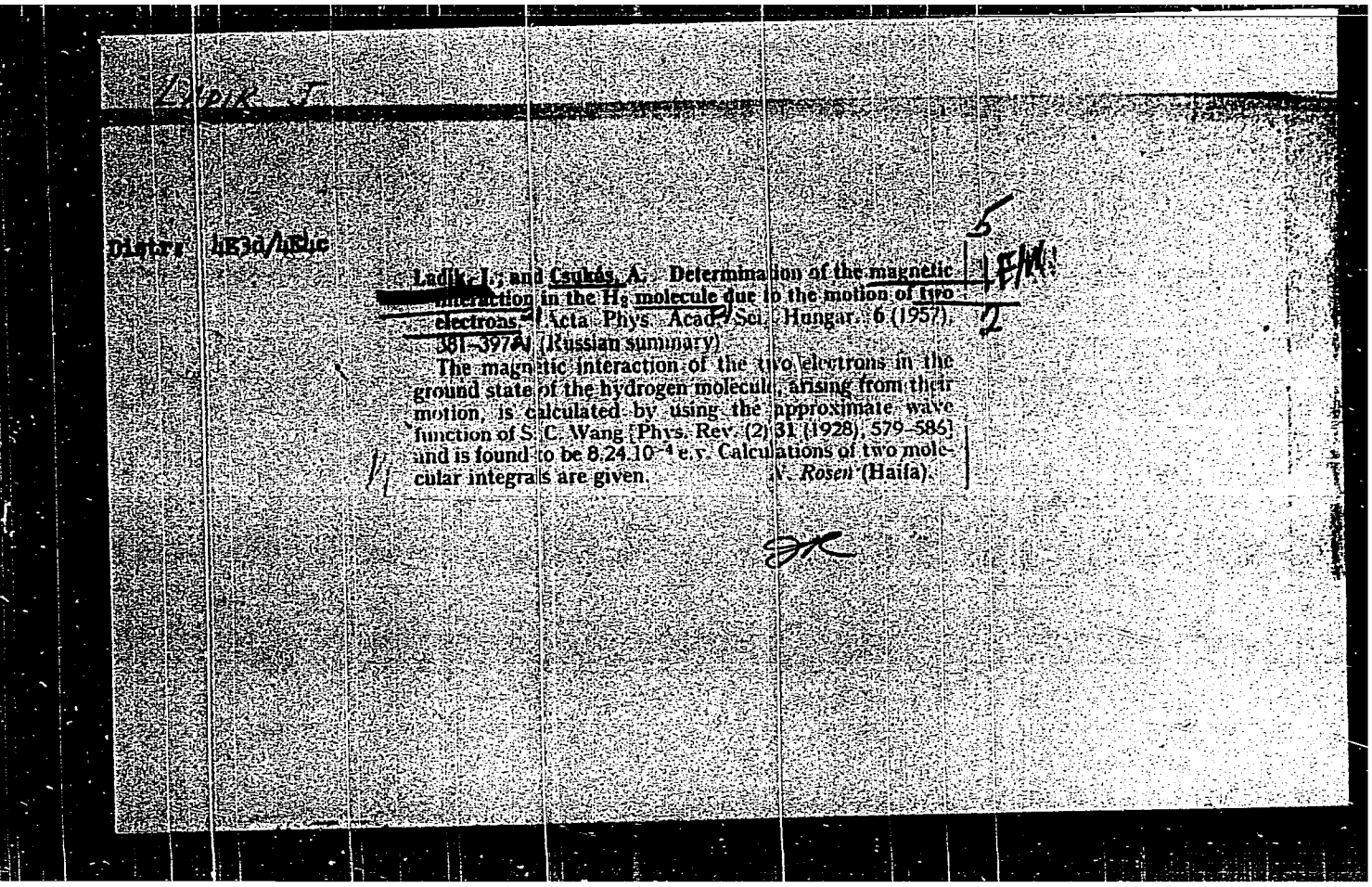
4

Acylation by the methanesulfonyl (mesyl) group. II. Steric hindrance of the mesyloxy group. Preparation of dinitrophloroglucinol. J. Ladik and J. Schwartz (Tech. Univ., Budapest). *Acta Chim. Acad. Sci. Hung.* 5, 209-312(1955)(in German)(English summary); cf. *C.A.* 49, 1633g.—The spatial structures of dimesyl ester of resorcinol (I), trimesyl ester of phloroglucinol (II), the mononitro deriv. (III) of II, and the hypothetical dinitro (IV) and trinitro (V) derivs. of II are calcd. from values of bond lengths, valence angles, and at. radii, and the results are shown in tables of max. overlapping values and diagrams of models of I-V (cf. Briegleb, *C.A.* 44, 7788g). It is shown for III that a 6° deformation of the C—C—O valence angle, by which the OSO_2Me (mesyl) group is moved away from the NO_2 group, a similar 6° deformation of the corresponding valence angle of the NO_2 group, a 90° rotation of the NO_2 around the C—N bond out of the plane of the benzene ring, and a 70° rotation of the mesyl group around the C—O bond result in almost complete avoidance of overlapping, with room for all 3 substituents. By a similar rotation and deformation of the valence angle of a 2nd mesyl group, a 2nd NO_2 group with similar valence angle deformation and 90° rotation around the C—N bond has available space (with slight overlapping) for the formation of IV. Even V is shown possible, after similar valence angle changes and rotations of the 3rd mesyl and NO_2 groups. Since rotations of the groups are sterically hindered, introduction of even the 1st NO_2 group into II requires more energetic conditions than does the nitration of the triacetate of phloroglucinol, and expt. confirms this conclusion. Addn. of 2.36 g. finely

J. LADIK

powd. II at 0° during 10 min. to 20 ml. HNO_3, sp. gr. 1.51, and 10 ml. 20% fuming H_2SO_4, the mixt. held 40 min. at 40°, cooled to room temp., and poured onto ice (20 times its vol.), yielded 2.48 g. (83.5%) crude IV, m. about 123°; recrystd. first from hot 50% AcOH and then from aq. Me_2CO gave 0.58 g. pure IV, m. 120°. Under these conditions no V resulted, probably not only because of steric hindrance, but also because the aromatic ring is strongly deactivated by the electron-attracting substituents already present. IV (1.32 g.) in 10 ml. Me_2CO, treated with 0.6 ml. 2.5*N* NaOH, refluxed 10 hrs. at 95° on a H_2O bath, evapd. *in vacuo* to dryness, the remaining solid Na salt dissolved in 8 ml. H_2O and acidified with 2 ml. concd. HCl, yielded 0.512 g. (70%) crude dinitrophloroglucinol (VI), shrinkage temp. 150°, m. about 198°; recrystd. from H_2O gave 0.102 g. pure VI, m. 207°. Absorption curves between 300 and 500 mμ are shown for VI, and for comparison, mononitro- and trinitrophloroglucinol. H. S. French

2/2



Ladik, J.; and Csukás, A. Determination of the magnetic interaction in the H_2 molecule due to the motion of two electrons. Acta Phys. Acad. Sci. Hungar. 6 (1957), 381–397. (Russian summary)

The magnetic interaction of the two electrons in the ground state of the hydrogen molecule, arising from their motion, is calculated by using the approximate wave function of S. C. Wang [Phys. Rev. (2) 31 (1928), 579–586] and is found to be $8.24 \cdot 10^{-4}$ e.v. Calculations of two molecular integrals are given.

N. Rosen (Haifa).

Distr: 4E3d/4E2c(j)

28. Analyzing the spectra of angularly condensed aromatic hydrocarbons" by experimental and theoretical methods. E. Falta, J. Ladik, L. Láng. A Magyar Tudományos Akadémia Központi Fizikai Kutató Intézetének Közleményei (Proceedings of the Central Research Institute for Physics of the Hungarian Academy of Sciences), Vol. 6, 1958, 3, pp. 172-197, 4 figs., 3 tabs.

Tests have proved that the 376 mμ band system occurring in certain phenanthrene spectra can be attributed to anthracene impurities. In order to define the modified theory of oriented light absorption the notion of the structural (gross) effect and the denomination substitution axes are introduced as the first step.

/Retyped clipped abstract/
Card 1/1

LADIK, J.

3

The ground state of the hydrogen molecule on the basis of the relativistic quantum mechanics with the aid of the Wang wave function. I. Breit equation of the hydrogen molecule. Calculation of the relativistic correction terms of the kinetic energy. J. Ladik (Hungarian Acad. Sci., Budapest). *Acta Phys. Acad. Sci. Hung.* 10, 271-90(1959)(in English).—For the relativistic treatment of the H mol. the expression for the reduced Breit equation is given. Here, too, as in the atom problem, the relativistic correction terms give additive contributions to the nonrelativistic value. The great no. of correction terms occurring in the relativistic correction terms of the kinetic energy are calcd. The calcn. was made by detg. the expectation values of the corresponding operators with the Wang wave function, by using the values of the parameters of Wang, $\alpha = 1.117$ and $R = 1.40$ A. As a result, the value of -38.1×10^{-4} e.v. was obtained for the sum of the 3 relativistic correction terms of the kinetic energy. This value was about twice as large as the value obtained with the hydrogenic wave function for the ground state of the He atom. Certain previously unknown 2-center integrals arising in the course of the calcn. could be reduced to well-known 2-center integrals in a relatively simple manner. H. Hyleraas

LADIK, Janos

Gerhard Herzberg's Malecular Spectra and Molecular Structure. Vol. 2. Infrared and Raman Spectrum of Molecules with Several Atoms; a book review. Magy fiz folyoir 8 no.2:161-163 '60. (EEAI 9:10)

(Herzberg, Gerhard) (Molecules)
(Spectrum analysis) (Spectrum, Infrared)
(Raman effect)

HOFFMANN, Tibor; LADIK, Janos

A possible explanation of the cancer-causing effect of radiations and carcinogen hydrocarbons on the basis of the electronic structure of the deoxyribonucleic acid. Magy fiz folyoir 8 no.6:471-486 '60. (EEAI 10:5)

1. Tavkozlesi Kutato Intezet es MTA Kozponti Kemiai Kutato Intezete, Budapest.
(Carcinogenic substances) (Cancerigenic substances)
(Hydrocarbons) (Deoxyribonucleic acids)

LADIK, J.

Investigation of the electronic structure of desoxyribonucleic acid. I. Approximate calculation of the π-electron overlap between adjacent nucleotide bases. Probable consequences. Acta phys Hung 11 no.3:239-258 '60. (EEAI 9:10)

1. Central Research Institute for Chemistry of the Hungarian Academy of Sciences, Budapest. Earlier: State Institute of Hygiene, Department of Biochemistry and Isotope Research, Budapest. Presented by G.Schay.
(Electrons)
(Deoxyribonucleic acids)
(Nucleotides)

LADIK, J.

Semiempirical method for the determination of the ground state of the hydrogen molecule on the basis of the molecular orbital method. J. Ladik (Hung. Acad. Sci., Budapest). *Acta Phys. Acad. Sci. Hung.* 11, 405-8(1960) (in English).—The H mol. is treated by using as mol. orbitals the H_2^+ functions of Hylleraas (*CA* 25, 1850). The electronic repulsion integral is approximated for an interatomic distance of 0.74 A. The binding energy of H_2 becomes 3.3 e.v. by using Coulson's best self-consistent-field mol. orbitals (*CA* 33, 8255). H. H. Jaffé

KARDOS, G. (Budapest); LADIK, J. (Budapest)

The ground state of the hydrogen molecule on the basis of the relativistic quantum mechanics with the aid of the Wang wave function. II. Method for evaluation of the two-centre integrals occuring in the calculation of the retarded magnetic orbit-orbit interaction term. Mat kut kezl MTA 6 no.1/2:77-88 '61.

1. Central Research Institute for Chemistry, Hungarian Academy of Sciences, Budapest.

(Hydrogen) (Molecules) (Integrals) (Quantum theory)

LADIK, J. (Budapest)

The ground state of the hydrogen molecule on the basis of relativistic quantum mechanics with the aid of the Wang wave function. II. The relativistic correction energy terms. Acta phys Hung 13 no.2:123-137 '61.

1. Central Research Institute for Chemistry, Hungarian Academy of Sciences, Budapest. Presented by Z. Gyulai.

LADIK, J. (Budapest)

Approximate determination of the most important radiation correction energy terms for the ground state of the hydrogen molecule. Acta phys Hung 13 no.2:139-144 '61.

1. Central Research Institute for Chemistry, Hungarian Academy of Sciences, Budapest. Presented by Z. Gyulai.

LADIK, J.

A note on the nucleic acid - protein coding problem.
Acta phys Hung 13 no.4 473-478 '61.

1. Central Research Institute for Chemistry of the Hungarian Academy of Sciences, Budapest.

LADIK, Janos

An account of my study trip to Czechoslovakia. Kem tud kozl MTA 16 no.2:233-235 '61.

1. Magyar Tudomanyos Akademia Kozponti Kemiai Kutato Intezete, Budapest.

LADIK, J.

Some remarks on the energy band structure of protein. Acta phys Hung 15 no.4:287-298 '63.

1. Central Research Institute for Chemistry of the Hungarian Academy of Sciences, Budapest. - Presented by G. Schay.

BICZO, G.; LADIK, J.; TUDOS, F.; BEREZSNICH, T.A.

Calculation of some atomic localization energies of various polycyclic hydrocarbons. Acta phys Hung 16 no.2:173-180 '63.

1. Central Research Institute for Chemistry of the Hungarian Academy of Sciences, Budapest.

LADIK, Janos

An account of my study trip abroad. Kem tud kozl MTA 19 no.2:267-269 '63.

1. Magyar Tudomanyos Akademia Kozponti Kemiai Kutato Intezete, Budapest.

LADIK, Janos

An account of my study trip to Czechoslovakia. Kem tud kozl MTA 19 no.4:477-478 '63.

1. Magyar Tudomanyos Akademia Kozponti Kemiai Kutato Intezet, Budapest.

LADIK, Janos (Budapest, II., Pusztaszeri ut 57/69); MESSMER, Andras, dr. (Budapest, II., Pusztaszeri ut 57/69); REDLY, Judit (Miss) (Budapest, II., Pusztaszeri ut 57/69)

Research on the electronic structure of 1-benzene-azo-N-phenyl-2-naphthylamine chelate. Pt.1. Acta chimica Hung 38 no.4:393-403 '63.

1. Central Research Institute for Chemistry, Hungarian Academy of Sciences, Budapest, and State Institute for Statistics, Budapest.

BICZO, Geza; LADIK, Janos; TUDOS, Ferenc; BEREZSNICH, Tamara

Calculating the atomic localization energy of polycondensed hydrocarbons. Magy kem folyoir 70 no. 1: 17-19 Ja '64.

1. Magyar Tudomanyos Akademia Kozponti Kemiai Kutato Intezete, Budapest.

LADIK, Janos

Newer results in the quantum mechanical analysis of deoxyribunucleic acid. Magy kem folyoir 70 no.9:382-390 S '64.

1. Central Research Institute of Chemistry, Hungarian Academy of Sciences, Budapest.

L 34716-66 EWP(j) RM SOURCE CODE: HU/2502/65/046/003/0195/0203

ACC NR: AT6025195

AUTHOR: Biczo, Geza--Bitso, G. (Doctor); Ladik, Janos--Ladik, Y. (Doctor); Messmer, Andras (Doctor)

ORG: Central Research Institute for Chemistry, Hungarian Academy of Sciences, Budapest

TITLE: Investigation of the electronic structure of 1-benzene-azo-N-phenyl-2-naphthylamine chelate. Part 2

SOURCE: Academia scientiarum hungaricae. Acta chemica, v. 46, no. 3, 1965, 195-203

TOPIC TAGS: chelate compound, organic azo compound, chemical bonding

ABSTRACT: Part 1 was published Ibid., v. 38, 1963, p. 393. The potential function of the N-H...N hydrogen bond in the title compound and of the O-H...N hydrogen bond in 1-benzene-azo-2-naphthol was determined for various N-H and N-O distances. The chelate system was found to be homogeneous. The values obtained were presented and discussed. The authors thank Miss A. Jeszenak for performing the numerical calculations. Orig. art. has: 4 figures, 10 formulas, and 2 tables. [Orig. art. in Eng.]

[JPRS: 34,165]

SUB CODE: 07 / SUBM DATE: 04Feb65 / ORIG REF: 002 / OTH REF: 005

Card 1/1 MLS 0916 0560

LADIK, Janos; BICZO, Geza

Energy band calculations for periodic DNA models on the basis of the Huckel approximation. Magy kem folyoir 71 no.1:31-39 Ja '65.

1. Central Research Institute of Chemistry of the Hungarian Academy of Sciences, Budapest.

LADIK, Janos

Semi-empirical theories of molecular crystals. Pt.1,2. Magy kem folyoir 71 no.2:71-81 F '65.

1. Central Research Institute of Chemistry of the Hungarian Academy of Sciences, Budapest. Submitted June 30, 1964.

L 37777-66

ACC NR: AP6028836 SOURCE CODE: HU/0016/65/000/009/0274/0278

40
B

AUTHOR: Ladik, Janos

ORG: Central Research Institute for Chemistry, MTA (MTA Kozponti Kemiai Kutato Intezete)

TITLE: Coding of protein synthesis

SOURCE: Fizikai szemle, no. 9, 1965, 274-278

TOPIC TAGS: protein, cybernetics, biochemistry, organic synthetic process

ABSTRACT: A review was made of the techniques involved in and results achieved in the coding of protein synthesis. The article is the text of the author's lecture presented at the meeting on cybernetics held in conjunction with the 1965 General Session of the Hungarian Academy of Sciences. Orig. art. has: 3 figures, 6 formulas and 3 tables. [JPRS: 34,161]

SUB CODE: 06, 07 / SUBM DATE: none / ORIG REF: 002 / OTH REF: 014

Card 1/1

L 39546-66 GD/RM

ACC NR: AP6008594 SOURCE CODE: HU/0005/65/071/001/0031/0039

AUTHOR: Ladik, Janos; Biczo, Gasa

ORG: Central Research Institute for Chemistry, Hungarian Academy of Sciences, Budapest (Magyar Tudomanyos Akademia Kozponti Kemiai Kutato Intezete)

TITLE: Energy band calculations for periodic DNA models in the Huckel approximation

SOURCE: Magyar kemiai folyoirat, v. 71, no. 1, 1965, 31-39

TOPIC TAGS: DNA, energy band structure

ABSTRACT: The energy band structures of different periodic models of DNA were calculated by means of the Huckel approximation. The characteristic features of the results were compared with those previously obtained for homopolynucleotids and for the most simple heteropolynucleotids. The widths of the energy bands make possible a small conduction in DNA. For the forbidden band width between the highest filled band and the lowest non-filled singlet band the value of 3.46 eV. was obtained in the case of the most complicated model systems, which do not differ significantly from real DNA. The authors thank Prof. P. O. Lowdin and Prof. B. Pullman for many valuable exchanges and the suitable power guarantee. Further

Card 1/2

L 39546-66
ACC NR: AP6008594

thanks is extended to Doctor T. C. Chen and Mr. T. S. Shao for solving of the 40th order special Hermite complex matrix equations in the research program and the calculations done at the IBM Data Systems Division Development Laboratory (New York) on the IBM 7030 (Stretch) Computer. Thanks is also given to Janos Szelezsan and Gyurusi Belane for the solving of the 20th order Hermite complex matrix equations on the Elliott 803A Computer. Orig. art. has: 3 tables. /JPRS/

SUB CODE: 07 / SUBM DATE: 28May64 / ORIG REF: 001 / OTH REF: 008
SOV REF: 002

Card 2/2 11b

Biochemistry

HUNGARY

LADIK, Janos; Hungarian Academy of Sciences, Central Research Institute of Chemistry (Magyar Tudomanyos Akademia, Kozponti Kemiai Kutato Intezet), Budapest.

"The Coding of Protein Synthesis."

Budapest, A Magyar Tudomanyos Akademia Biologiai Tudomanyok Osztalyanak Kozlemenyei, Vol VIII, No 2, 1965, pages 165-172.

Abstract: The article is a summary report on the problem of coding of the RNA-to-protein molecule step. Ochoa, Nierenberg and other authorities are quoted. The problem can also be formulated on the basis of an analogy with John Neumann's theory concerning self-reproducing automata and automata which construct more involved ones than themselves. This is discussed briefly. 2 Hungarian, 14 Western references.

L 43961-66 EWI(1)/EWP(1)/T/EWP(t)/ETI IJP(c) JD/HW/AT/RM

ACC NR: AP6032108 SOURCE CODE: HU/0005/66/000/001/0022/0026

AUTHOR: Ladik, Janos; Biczo, Geza

53

ORG: Central Chemical Research Institute, MTA, Budapest (MTA Kozponti Kemiai Kutato Intezete)

B

TITLE: Study of the electron structure of solids having catalytic action. I. Change of the energy band structure of infinite nickel crystals

SOURCE: Magyar kemiai folyoirat, no. 1, 1966, 22-26

TOPIC TAGS: electron structure, energy band structure

ABSTRACT: Using the tight binding approximation in its interpolation form, suggested by Slater and Koster, the energy bands of Ni in the whole first Brillouin zone were calculated at 0°K and 1373°K. In the latter case the effect of the extension of the crystal by the increase in temperature was taken into consideration, but the interaction of the electrons with the phonons was neglected. The energy integrals at 1373°K were estimated from the appropriate energy integrals at 0°K and from the overlap integrals at 0°K and at 1373°K, respectively. According to the results, the widths of the 4s and of the common 3d band decrease considerably with an increase in temperature. Therefore in any theoretical interpretation of the catalytic properties of the transition metals it is necessary to start with the band structures computed for the temperature of the catalytic reaction. Orig. art. has: 4 tables and 9 formulas. [JPRS:34,805]

Card 1/1 SUB CODE: 20 / SUBM DATE: 31May65 / OTH REF: 011

0919 1220

L 46854-66 EWP(j) RM

ACC NR: AP6034717 SOURCE CODE: HU/0005/65/071/009/0388/0392

AUTHOR: Biczo, Geza; Ladik, Janos; Messmer, Andras; Hungarian Academy of Sciences, Central Research Institute of Chemistry (Magyar Tudomanyos Akademia, Kozponti Kemiai Kutato Intezet), Budapest.

TITLE: Study of the electronic structure of 1-benzene-azo-n-phenyl-2-naphthyl-amine chelate II. Approximate calculation of the potential function of the n-h...n hydrogen bond

SOURCE: Magyar kemiai folyoirat, v. 71, no. 9, 1965, 388-392

TOPIC TAGS: hydrogen bonding, organic azo compound, chelate compound

ABSTRACT: The potential functions of the N-H···N hydrogen bond of 1-benzene-azo-N-phenyl-2-naphthylamine and of the O-H···N hydrogen bond of 1-benzene-azo-2-naphthol have been calculated by using the semiempirical method of Lippincott and Schroeder. The calculations were carried out for different N-N and O-N distances. According to the results, in the chelate system containing the N-H···N hydrogen bond, the potential function has only one single minimum if the N-N distance is smaller than 2.76 Å. Since such a large N-N distance seems to be improbable, this result is in agreement with the previous experimental results which indicate that this system is homogeneous. The results obtained for the second system indicate that a potential with double minima can be expected only if the O-H distance is greater than 2.78 Å.

Card 1/2

0921 1346

L 46854-66
ACC NR: AP6034717

The authors thank Jeszanak Adrienne for carrying out the calculations. Orig. art. has: 4 figures, 10 formulas and 2 tables. [JPRS] [Based on authors' Eng. abst.]

SUB CODE: 07 / SUBM DATE: 21 Jan 65 / ORIG REF: 002 / OTH REF: 005

LS
Card 2/2

L 47239-66 EWP(j)/T RM

ACC NR: AP6034303 SOURCE CODE: HU/0005/66/000/006/0239/0243

26
B

AUTHOR: Tudos, Ferenc; Ladik, Janos; Turcsanyi, Bela

ORG: Central Research Institute of Chemistry, Hungarian Academy of Sciences, Budapest (Magyar Tudomanyos Akademia, Kozponti Kemiai Kutato Intezet)

TITLE: Kinetics of free radical polymerization XVII. Effect of charge transfer complexes on certain elemental processes of free radical polymerization

SOURCE: Magyar kemiai folyoirat, no. 6, 1966, 239-243

TOPIC TAGS: radical polymerization, polymerization kinetics, copolymerization

ABSTRACT: [Authors' English summary modified] Molecular compounds (charge transfer complexes) which are formed in some cases of radical polymerization have a considerable influence on the kinetics of the process. A theoretical study was made of the factors which determine the kinetic parameters of the reactions of radicals with other compounds which have a closed shell π electron system. Special attention was paid to the effect of the formation of molecular compounds. It was found that the increase in reactivity which is observed generally may be attributed to an increase in the resonance energy of the transition state. This can be used as a basis for the interpretation of some anomalous effects of inhibited polymerization and co-polymerization in a satisfactory manner. Orig. art. has: 3 figures and 17 formulas. [JPRS: 36,862]

SUB CODE: 07 / SUBM DATE: 19Jun65 / ORIG REF: 006 / SOV REF: 001
OTH REF: 008

Card 1/1 gda

0952 0024

L 00707-67 EWP(j)/EWP(t)/ETI IJP(c) JD/HW/RM

ACC NR: AT6035470 SOURCE CODE: HU/2502/66/047/003/0263/0271

AUTHOR: Ladik, Janos—Ladik, Ya. (Doctor; Budapest); Biczo, Geza—Bitso, G. (Budapest)

ORG: Central Research Institute for Chemistry, Hungarian Academy of Sciences, Budapest

TITLE: Investigation of the electronic structure of catalytically active solids

SOURCE: Academia scientiarum hungaricae. Acta chimica, v. 47, no. 3, 1966, 263-271

TOPIC TAGS: solid state, energy band structure, nickel, electron energy level, catalysis, temperature dependence

ABSTRACT: The purpose of this paper is to calculate the energy band structure of an infinite nickel crystal at 0°K and at 1373°K., to investigate the effect of temperature increase on the band structure. For the calculations of the energy band structure, the tight binding approximation was used, taking into account the 4s and the five 3rd states of nickel. The widths of the 4s band and of the common 3rd band decreased significantly with increase in temperature. The importance of the findings obtained in this study for catalytic mechanisms was discussed. The authors thank Academician Dr. G. Schay and Dr. F. Nagy, Corresponding Member of the Hungarian Academy of Sciences, for calling their attention to the problem, and for their inspiring interest during this work. They also thank Mr. F. Beleznay for many stimulating discussions and for calling their attention to important data in the literature, Miss J. Redly for solving the matrix eigenvalue problems on the Ural II computer of the State Institute of Statistics, and Miss A. Jeszenak for performing the tedious desk calculations. Orig. art. has: 9 formulas and 4 tables. [Orig. art. in Eng.]

[JPRS: 36,464]

SUB CODE: 07, 20 / SUBM DATE: 31May65 / OTH REF: 016

Card 1/1 vlr

0921 2180

OKSEN', I.; LADIKOV, A.

Success rests with the specialists. Muk.-elev.prom.26 no.5:3-6 My '60.
(MIRA 14:3)

1. Ministerstvo khleboproduktov Ukrainskoy SSR.
(Grain elevators)
(Grain milling)

LADIKOV, A.

Grain procurement stations of the Ukraine are getting ready for the forthcoming plenum of the Central Committee of the Communist Party of the Soviet Union. Muk.-elev. prom. 25 no.10:7-8 O '59.
(MIRA 13:3)

1. Ministerstvo khleboproduktov Ukrainskoy SSR.
(Ukraine--Grain elevators)

BUGRAYEV, A.; LADIKOV, A.; ZABOLOTSKIY, K.; FILIPPOV, G., kand.ekonomicheskikh nauk

"Problems concerning the economy of grain receiving enterprises" by A.A. Borinevich. Reviewed by A. Bugraev and others. Muk.-elev. prom. 28 no.6:30-32 Je '62. (MIRA 15:7)

1. Moskovskoye oblastnoye upravleniye khleboproduktov (for Bugrayev). 2. Kiyevskoye upravleniye khleboproduktov (for Ladikov). 3. Rostovskoye upravleniye khleboproduktov (for Zabolotskiy). 4. Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti (for Filippov).
(Grain elevators) (Borinevich, A.A.)

LADIKOV, A.V., elektromonter.

Starting arrangement for direct-current motors. Energetik 4 no.10: 23 O '56. (MLRA 9:11)

(Electric motors--Starting devices)

83304

S/179/60/000/04/002/027
E031/E135

10.8000
24.2120
26.1410

AUTHOR: Ladikov, Yu.P. (Moscow)

TITLE: Magneto-Vortex Rings

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 1960, No 4, pp 7-13

TEXT: The existence and stability of a stationary plasmoid is investigated. It is assumed that the velocity vector and the magnetic field are collinear. The assumption has been expressed that the ring is stable only when the velocity in the gas is greater than the corresponding Alfven velocity. It is shown here that stability is possible when the opposite relation holds. It is also established that in many cases the pressure inside the plasmoid can exceed the external pressure and so there may be a considerable temperature inside. Assume that inside the region of the ring is an incompressible fluid of infinite conductivity. Vortices in it and azimuthal currents cause a flow and a magnetic field in the meridian plane. The magnetohydrodynamic equations must be solved in the axisymmetric case under the condition curl $\underline{v} = rf(\psi)$, where $\underline{v}$ is the velocity and ψ is the stream function. Toroidal coordinates ξ, θ, η, are introduced. It is assumed that the radius

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Magneto-Vortex Rings

of a section of the ring is much less than the radius of the ring. Hicks' solution of the equation curl $\underline{v} = rf(\psi)$ with the condition ψ = const. on the surface of the ring and $f(\psi)$ = constant is quoted. The cross section of the ring is not assumed to be a perfect circle. From Hicks' expression for the stream function, the velocity components and the magnetic field components are determined (the latter from the condition of collinearity). The total pressure on the surface of the ring is obtained by integrating the magnetohydrodynamics equations and using the results already obtained. The problem is now considered of the flow round the ring, the velocity at infinity and the circulation on the ring being known. In the region external to the ring there is also a magnetic field caused by the ring current, but it is unrelated to the motion of the medium and is determined independently of it. Hicks' solution of this problem is quoted and the velocity and field components determined as before. The total pressure on the ring is quoted. It is deduced that if the magnetic energy exceeds the kinetic energy, a greater pressure, and consequently higher

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Magneto-Vortex Rings

temperatures, can arise within the ring. The analysis shows that a change in the defining parameters which leaves the form of the ring unchanged leads only to a change in the velocity of the incident flow and does not cause instability. Hence the stability of the plasmoid is studied under the condition that its surface is disturbed. It is assumed that the disturbance is of the second order of smallness in comparison with $\frac{1}{2}c/a$, where c is the radius of a section of the ring and a is the radius of the ring. The equations are given which, after linearisation, the perturbation values of the velocity, field and pressure must satisfy both inside and outside the ring. Explicit forms for these quantities are assumed and non-dimensional coordinates introduced. The equations lead to Bessel's equation for $v2 = v_\theta/u$, where u is the value of the velocity on the surface of the ring. All the other unknowns are determined in terms of v2 and its derivatives. By comparing the expressions for the total pressure on both sides of the ring we obtain an equation such that if its roots do not have a positive real part, the motion is stable. Various possible limiting conditions and assumptions are considered.

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Magneto-Vortex Rings

There are 1 figure and 5 references: 1 English, 1 Russian translation of an English text-book, and 3 Soviet.

SUBMITTED: February 20, 1960

4

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9,3150 (1049, 1141, 1532)

AUTHOR: Ladikov, Yu.P. (Moscow)

S/040/60/024/005/011/028
87788
C111/C222

TITLE: Some Problems of the Dynamics of Magnetic Vortex Configurations

PERIODICAL: Prikladnaya matematika i mekhanika, 1960, Vol.24, No.5, pp.897-905

TEXT: The author establishes the motion equations of a system of coaxial magnetic vortex rings. These rings are circular vortex filaments through which there flow currents. It is assumed that the fluid outside the rings is ideal: incompressible and not conductive. The plane analogue of the system of coaxial rings are pairs of rectilinear magnetic vortex filaments situated symmetrically to an axis, and having opposite circulations and currents. It is assumed that the motion of the magnetic vortex ring is qualitatively equal to the motion of the corresponding pair of rectilinear magnetic vortex filaments. The motion of such a pair is investogated in the direction of the conductive and the non-conductive wall. It is shown that in the first case the ring is enlarged for an approximation to the wall. In the second case, for certain parameter values it is possible that the ring is narrowed for an approximation to the wall, and if the wall has a split it may slide

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Some Problems of the Dynamics of Magnetic Vortex Configurations

throught it (similar phenomena were observed for ball ligthnings). The author thanks his leader L.I.Sedov for advices. There are 6 figures and 5 references: 2 Soviet, 2 English and 1 German.

SUBMITTED: June 16, 1960

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LADIKOV-ROYEV, Yu. P. Cand Phys-Math Sci -- "Certain problems of the dynamics of gas configurations taking into account [redacted] magnetic effects." Mos, 1961 (Mos State Univ im M. V. Lomonosov). (KL, 4-61, 183)

20735
S/020/61/137/002/006/020
B104/B212

10.8000
26.1410

AUTHOR: Ladikov, Yu. P.

TITLE: Various exact solutions of equations for unsteady motions in magneto-hydrodynamics

PERIODICAL: Doklady Akademii nauk SSSR, v. 137, no. 2, 1961, 303-306

TEXT: The class of motions whose radial velocities are a linear function of the radius have been extended in this paper. At first the pulsation of a gravitating sphere having an infinite conductivity is investigated in a magnetic field. Similar investigations have been done previously (Ref. 1: L. I. Sedov, Metody podobiya i razmernosti v mekhaniki, 1957; Ref. 2: M. I. Lidov, DAN, 97, no. 3, (1954)) and, here, an axisymmetric magnetic field is studied with gas particles rotating around their axis of symmetry. The author starts from a hydrodynamic system of equations in spherical coordinates considering the axial symmetry and setting $v_\varphi = 0$:

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Various exact solutions of ...

$$\frac{\partial v_r}{\partial t}+v_r\frac{\partial v_r}{\partial r}-\frac{v_\varphi^2}{r}=\frac{1}{4\pi\rho r}\frac{H_\theta}{r}\left(\frac{\partial rH_\theta}{\partial r}-\frac{\partial H_r}{\partial\theta}\right)-\frac{H_\varphi}{4\pi\rho r}\frac{\partial}{\partial r}(rH_\varphi)-\frac{1}{\rho}\frac{\partial p}{\partial r}-f\frac{M}{r^2},$$

$$\frac{\partial v_\varphi}{\partial t}+v_r\frac{\partial v_\varphi}{\partial r}+\frac{v_rv_\varphi}{r}=\frac{H_r}{r\sin\theta}\frac{\partial}{\partial r}(r\sin\theta H_\varphi)+\frac{H_\theta}{r^2\sin\theta}\frac{\partial(r\sin\theta H_\varphi)}{\partial\theta},$$

$$-\frac{v_\varphi^2}{r}\operatorname{ctg}\theta=-\frac{H_\varphi}{4\pi\rho r^2\sin\theta}\frac{\partial(r\sin\theta H_\varphi)}{\partial\theta}-\frac{H_r}{4\pi\rho r}\left(\frac{\partial H_\theta r}{\partial r}-\frac{\partial H_r}{\partial\theta}\right)-\frac{1}{\rho r}\frac{\partial p}{\partial\theta},$$

$$\frac{\partial}{\partial r}(H_rr^2\sin\theta)+\frac{\partial}{\partial\theta}(H_\theta r\sin\theta)=0, \qquad (1),$$

$$\frac{\partial\rho}{\partial t}+v_r\frac{\partial\rho}{\partial r}+\rho\left(\frac{2v_r}{r}+\frac{\partial v_r}{\partial r}\right)=0, \qquad (1)$$

$$\frac{\partial p}{\partial t}+v_r\frac{\partial p}{\partial r}+\gamma p\left(\frac{\partial v_r}{\partial r}+\frac{2v_r}{r}\right)=0,$$

$$\frac{\partial H_r}{\partial t}+v_r\frac{\partial H_r}{\partial r}+H_r\frac{2v_r}{r}=0,$$

$$\frac{\partial H_\theta}{\partial t}+v_r\frac{\partial H_\theta}{\partial r}+H_\theta\left(\frac{v_r}{r}+\frac{\partial v_r}{\partial r}\right)=0,$$

$$\frac{\partial H_\varphi}{\partial t}=\frac{1}{r}\frac{\partial}{\partial r}\left[r(H_rv_\varphi-v_rH_\varphi)\right]+\frac{1}{r}\frac{\partial}{\partial\theta}(v_\varphi H_\theta).$$

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Various exact solutions of ...

where $\gamma = c_p/c_v$, ξ the initial radius of the particles, all other quantities are commonly used. It may easily bee seen that the last five equations of (1) have the following solutions for a dependence of the radial velocity on the radius which has been selected here:
$\xi = \mu^3 \xi_1(\xi)$; $p = \mu^{3\gamma} \Pi(\xi,\theta)$; $H_r = \mu^2 h_r(\xi,\theta)$; $H_\theta = \mu^2 h_\theta(\xi,\theta)$;
$H_\varphi = \mu^2 h_\varphi(\xi,\theta)$ (2). The first three equations of (1) may be solved by assuming that the pressure consists of two summands:
$p = \mu^{3\gamma} (\Pi_1(\xi,\theta) + \Pi_2(\theta))$. Using results of Sedov (Ref. 1) the author obtains the following final result:

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$$v_r = -r\frac{\mu'(t)}{\mu(t)}, \quad \xi = r\mu(t), \quad p = \mu^3(t)\,\rho_0\left(1-\frac{\xi}{R}\right),$$

$$H_r = \frac{2K}{a^2}\mu^2(t)\cos\theta\left[1-\left(\frac{R}{\xi}\right)^{3/2}\frac{J_{3/2}(a\xi)}{J_{3/2}(aR)}\right],$$

$$H_\theta = -\frac{K}{a^2}\mu^2(t)\sin\theta\left[2+\frac{(aR)^{3/2}}{J_{3/2}(aR)}\left\{\frac{J_{3/2}(a\xi)}{(a\xi)^{3/2}}-2\frac{J_{5/2}(a\xi)}{(a\xi)^{5/2}}\right\}\right], \tag{8}$$

$$H_\varphi = \frac{K}{a}\xi\mu^2(t)\sin\theta\left[1-\left(\frac{R}{\xi}\right)^{3/2}\frac{J_{3/2}(a\xi)}{J_{3/2}(aR)}\right],$$

$$p = \mu^4(t)\left\{-\frac{K^2}{4\pi a^2}\sin^2\theta\left[1-\left(\frac{R}{\xi}\right)^{3/2}\frac{J_{3/2}(a\xi)}{J_{3/2}(aR)}\right]+p_0-\right.$$

$$\left.-\frac{\pi f\rho_0^2}{4R^2}\xi^4+\left(\frac{2p_0}{R^2}+\frac{1}{2}\frac{\pi f\rho_0^2}{R}\right)\xi^3-\left(\frac{3p_0}{R^2}+\frac{1}{4}\pi f\rho_0^2\right)\xi^2\right\}, \tag{8},$$

$$\frac{d\mu}{dt} = \pm\sqrt{3}\,\mu^2(N\mu+L)^{1/2}.$$

R denotes the radius of the sphere and $J_p(a\xi)$ represent first kind

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Various exact solutions of ....

Bessel functions. Quantity "a" satisfies equation $J_{5/2}(aR) = 0$, the constants K, p_0, ρ_0 and L have to be determined in a proper way. All gas particles perform a periodic pulsating motion for $L < 0$, and it is easily seen that pressure, density, and magnetic field vanish at the boundary $\xi = R$. The pulsation of a rotating plasma cylinder is investigated in the second part of the paper. Here, the author uses the same assumptions and starts from the system

$$\frac{\partial v_r}{\partial t} + v_r \frac{\partial v_r}{\partial r} - \frac{v_\varphi^2}{r} = -\frac{1}{\rho}\frac{\partial p}{\partial r} - \frac{1}{8\pi\rho}\frac{\partial H_\varphi^2}{\partial r} - \frac{1}{4\pi\rho}\frac{H_\varphi^2}{r} - \frac{1}{8\pi\rho}\frac{\partial H_z^2}{\partial r} - \frac{2fM}{r},$$

$$\frac{\partial v_\varphi^2}{\partial t} + v_r \frac{\partial v_\varphi^2}{\partial r} + \frac{2}{r} v_r v_\varphi^2 = 0,$$

$$\frac{\partial \rho}{\partial t} + v_r \frac{\partial \rho}{\partial r} + \rho\left(\frac{\partial v_r}{\partial r} + \frac{v_r}{r}\right) = 0, \qquad (10),$$

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$$\frac{\partial \rho}{\partial t} + v_r \frac{\partial \rho}{\partial r} + \gamma \rho \left(\frac{\partial v_r}{\partial r} + \frac{v_r}{r} \right) = 0,$$

$$\frac{\partial H_\varphi^2}{\partial t} + v_r \frac{\partial H_\varphi^2}{\partial r} + 2H_\varphi^2 \frac{\partial v_r}{\partial r} = 0,$$

$$\frac{\partial H_z^2}{\partial t} + v_r \frac{\partial H_z^2}{\partial r} + 2H_z^2 \left(\frac{\partial v_r}{\partial r} + \frac{v_r}{r} \right) = 0.$$

where f is the gravitation constant and $\rho_1(\xi)$ the initial density.

The system has the following partial solutions:

$$v_r = r\frac{\zeta'(t)}{\zeta(t)}, \quad \rho = \zeta^{-3}\frac{\varphi'(\xi)}{\xi}, \quad p = \zeta^{-3\gamma} F(\xi), \quad H_\varphi^2 = \zeta^{-2}\xi F_1(\xi),$$
$$H_z^2 = \zeta^{-4} F_2(\xi), \quad v_\varphi^2 = \zeta^{-2}\xi^2 \Phi(\xi). \qquad (11),$$

where $\xi = r/\zeta(t)$ is a Lagrange coordinate, $\varphi(\xi)$ and $\Phi(\xi)$ are arbitrary functions, $F(\xi)$, $F_1(\xi)$, and $F_2(\xi)$ are connected with the functions $\varphi(\xi)$ and $\Phi(\xi)$ by the following relations:

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Various exact solutions of ...

$$F(\xi) = A\varphi(\xi) + N,$$

$$\frac{1}{8\pi}\frac{d}{d\xi}[\xi F_1(\xi)] + \frac{1}{4\pi}F_1(\xi) + \frac{4\pi f}{\xi^2}\varphi(\xi)\varphi'(\xi) = B\varphi'(\xi),$$

$$\frac{1}{8\pi}\frac{dF_2(\xi)}{d\xi} - \varphi'(\xi)\Phi(\xi) = D\varphi'(\xi); \qquad (12).$$

$\zeta(t)$ satisfies the following differential equation:

$$\left(\frac{d\zeta}{dt}\right)^2 = \frac{A}{\gamma-1}\zeta^{-3(\gamma-1)} - 2B\ln\zeta + D\zeta^{-3} + C = f(\zeta). \qquad (13).$$

The solutions investigated are a function of $\zeta(\frac{r}{\zeta})$ and $\frac{1}{b}(\frac{r}{\zeta})$ for any γ, which characterize the initial density distribution and the angular velocity. For $\gamma = 3$ the solution is dependent on the arbitrary functions. A. G. Kulikovskiy, I. M. Yavorskaya, and Ye. V. Ryazanov are mentioned.
The author thanks L. I. Sedov for valuable suggestions.

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20735

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B104/B212

Various exact solutions of ...

There are 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

PRESENTED: September 1, 1960, by L. I. Sedov, Academician

SUBMITTED: August 27, 1960

Card 8/8

43321
S/040/62/026/006/006/015
D234/D308

10.2000 26.1410

AUTHOR: Ladikov, Yu.P. (Orsk)

TITLE: Properties of plane and axially symmetrical stationary flows in magnetohydrodynamics

PERIODICAL: Prikladnaya matematika i mekhanika, v. 26, no. 6, 1962, 1087 - 1091

TEXT: For plane flow of infinitely conducting ideal gas, the author defines

$$\rho v_x = -\frac{\partial \Psi}{\partial y}, \quad \rho v_y = \frac{\partial \Psi}{\partial x}, \quad H_x = -\frac{\partial \varkappa}{\partial y}, \quad H_y = \frac{\partial \varkappa}{\partial x} \qquad (1.2)$$

and takes Ψ and $\varkappa$ as independent variables. It is assumed that $v_z = H_z = 0$ and that all flow characteristics are independent of z. If (v,H) is independent of Ψ and the gas is isentropic, the differential equations have the integral

$$P + \frac{H^2}{4\pi\rho} + \frac{v^2}{2} = f_1(\Psi) \quad \left(P = \frac{\gamma}{\gamma - 1}\frac{p}{\rho} = \frac{u^2}{\gamma - 1}, \ \gamma = \frac{c_p}{c_v}\right) \qquad (1.18)$$

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