

KOUT, M.; GERTSOV, P.

Serological activity of group AB substances ~~in vivo~~ and in vitro experiments. Probl. gemat. i perel. krovi 4 no.6:46-50 Ja '59.
(MIRA 12:8)

1. Iz Prazhskogo instituta gematologii i perelivaniya krovi (dir. - prof. Ya. Gorzheyshi).

(BLOOD GROUPS

serol. activity of group substances as in vivo & in vitro (hus))

BRABEC, V.; KOUT, M.

A contribution to pathogenesis of secondary anaemias in haemoblastoses. Neoplasma, Bratislava, 7 no.1:68-81 '60.

1. Clinical Department and Immuno-Haematological Department, Institute of Haematology and Blood Transfusion, Prague, CSR.
(ANEMIA etiol.)
(LEUKEMIA compl.)

KOUT, M.; HERZOG, P.; technicka spoluprace: REZNICKOVA, M.

Certain immuno-hematological findings in iso-immunization in pregnancy. Cesk.pediat.16 no.3:216-222 Mr '61.

1. Ustav hematologie a krevni transfuze v Praze, reditel prof. dr. J. Horejsi.

(PREGNANCY)
(RH FACTORS)

KOUT, Miroslav

3

SURNAME, Given Names

Country: Czechoslovakia

Academic Degrees: MD

Affiliation: Institute of Hematology and Blood Transfusion (Ustav hematologie a krevni transfuze), Prague; Director: Prof J. HOREJSI, MD.

Source: Prague, Prakticky Lekar, Vol 41, No 8, 1961, pp 361-362.

Data: "Causes and Prevention of Hemolytic Reactions Following Blood Transfusion."

Author: DOBRY, Eduard

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04

670 981443

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Source: Prague, Prakticky Lekar, Vol 41, No 15-16, Aug 21, 1961; pp721-724

Data: "Serologic Study of the So-Called Auto-Immune Hemolytic Anemias"

HOREJSI, J.; CHUDOMEL, V.; JEZKOVA, Z.; KOUT, M.; SOUSEK, O. Technicka
spoluprace: ~~W~~LACKOVA, Helena

Antibodies against the liver - their importance in the clinical aspects
of hepatopathy. I. Acute hepatitis. Cas.lek.cesk 100 no.38/39:1208-1213
29 S '61.

1. Ustav hematologie a krevni transfuze v Praze, prednosta prof. MUDr.
J. Horejsi, laborator pro metabolismus bilkovin fakulty vseob. lek. v
Praze, prednosta prof. MUDr. J. Horejsi, oddeleni inf. hepat. v Motole,
prednosta MUDr. O. Sousek.

(HEPATITIS immunol)

KOUT, M.; BAITSCH, H.

Serum haptoglobin groups. Bratisl. Lek. Listy 1 no.3:134-139 '62.

1. Z Ustavu hematologie a krevni transfuse v Praze, reditel prof. MUDr. J. Horejsi, Dr. Sc., a z Ustavu antropologie a lidske genetiky university v Mnichove, reditel prof. dr. K. Saller.

(MUCOPROTEINS blood)

KOUT, M.; HERZOG, P.

Some immuno-haematological considerations of isoimmunization in pregnancy. Rev. Czech. M. 8 no.1:21-28 '62.

1. Institute of Haematology and Blood Transfusion, Prague.
Director: Prof. J. Horejsi, Dr. Sc.
(PREGNANCY blood) (BLOOD GROUPS in pregn)

KOUT, M.; HERZOG, P.; BOHATOVA, J.

On the problem of the presence of blood group substances in hormonal preparations. Cesk. gyn. 27[41] no.4:250-254 My '62.

1. Ustav hematologic a krevni transfuze v Praze, red. prof. MUDr.
J. Horejsi, DrSc.
(BLOOD GROUPS) (HORMONES immunol)

HOLECKOVA, Ema; SEKLA, Bohumil; CUMLIVSKI, Bohumil; KOUT, Miloslav;
JANELE, Jiri

Cytotoxic effect of heterologous immune sera against human leukemia.
Cas. lek. cesk. 101 no.36:1086-1090 7 S '62.

1. Fyziologicky ustav CSAV Praha, Biologicky ustav fakulty vseobecneho
lekarstvi KU Praha, Vyzkumny ustav zivocisne vyroby CSAZV Praha,
Ustav hematologie a krevni transfuze, Praha, Fakultni nemocnice
Praha-Vinohrady.

(IMMUNE SERUMS)

(LEUKEMIA)

CZECHOSLOVAKIA

M. KOUT and O. ENDERLE, Institute for Hematology and Blood Transfusion
(Ustav hematologie a krevni transfuze) Chief (veditel) Prof Dr J. HOREJSI
DrSc; and Experimental Therapeutics Research Institute (Vyzkumny ustav
experimentalni terapie) Chief Docent Dr O. SMANEL, DrSc; Prague.

"Anti-Kell Iso-Immunization."

Prague, Ceskoslovenska Lekarska Ceskych, Vol 102, No 10, 8 Mar 63; pp 264-267.

Abstract [English summary modified]: Case report; woman aged 47 with
chronic hypochromic anemia aggravated by 3 pregnancies, cholecystectomy
requiring in all 23 transfusions over about 18 years. Authors theorize
based on distribution frequency of Kell antigen (about 10%) that at
least 2 donors were Kell-incompatible. Incomplete antibodies should
also be sought when repetitive transfusions are required. Two tables,
2 Polish and 15 Western references.

BRABEC, V.; BICANOVA, J.; FRIEDMANN, B.; KOUT, M.; MIRCEVOVA, L.;
PALEK, J.; VOPATOVA, M.; VOLEK, V.

Metabolic changes of erythrocytes in autoimmune hemolytic
disease. Cas. lek. cesk. 104 no.22:604-605 4 Je '65.

1. Ustav hematologie a krevni transfuze v Praze (reditel:
prof. dr. J. Horejsi, DrSc.) a I. interni klinika fakulty vse-
obecneho lekarstvi Karlovy University v Praze (prednosta prof.
dr. V. Hoenig, DrSc.).

OF CZECHOSLOVAKIA

PALEK, J.; KOUT, M.

Institute of Hematology and Blood Transfusion (Ustav
hematologie a krevni transfuze), Prague (for both)

Prague, Vnitri Lekarstvi, No 9, 1964, pp 900-906

"The AB Group System in Human Serum."

KOUTECKY, Frantisek, inz.;

Maps of the structure and quality of coal seams as a basis for projects. Geol pruzkum 6 no. 6:179-180 Je '64.

1. Banske projekty, Teplice.

CA

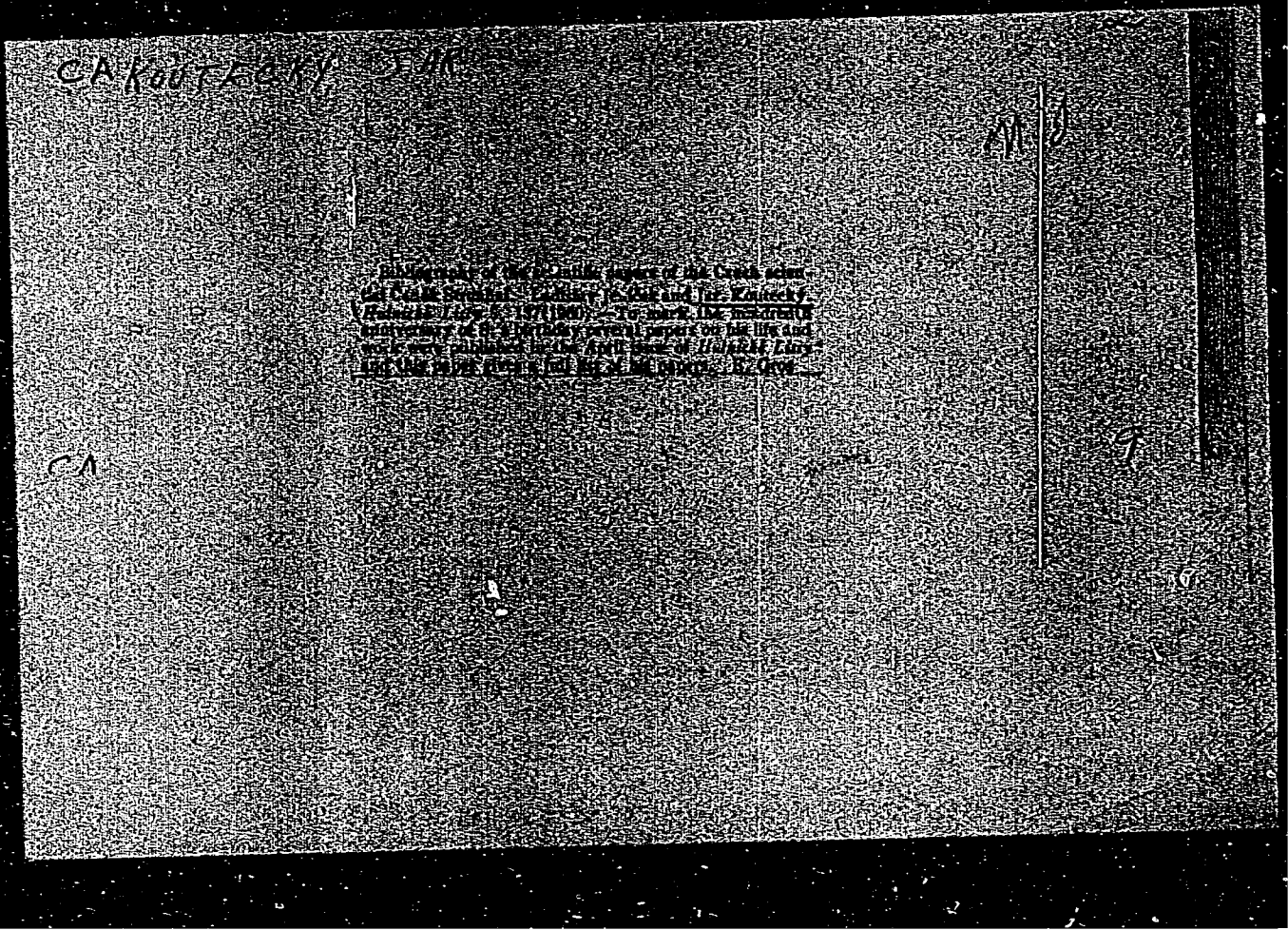
Gas flow through the reactor. Jaroslav Koucky.
Chem. Listy 87, 87-91(1943).—The max. effect is obtained
when the flow velocity is equal to akQ and a^2kQ for the
unimol. and bimol. reaction, resp., where a is initial
concn., k reaction rate const., and Q free space of the re-
actor. Milos Hudlicky

CA

2

The molecular refraction of halogenated olefins. Jaroslav Koutský, *Chem. Listy* 38, 10-15(1944).—Olefins halogenated in the 2-position to the double bond show, as a rule, a rise of mol. refraction. This rise averages 0.4 for Cl and 0.8 for Br in the 2-position to the double bond, and is explained by conjugation. Analogy between the systems $C:CC:C$ and $C:CC-Cl$ is pointed out. Possibility of conjugation of the electronic pair of Cl with a double bond is discussed. Miloš Hudlický

237 FUNDAMENTAL EQUATION FOR THE ELECTROLYTIC CURRENT WHEN DEPENDENT ON THE FORMATION RATE OF THE DEPOLARISER JOINTLY WITH DIFFUSION AND ITS POLAROGRAPHIC VERIFICATION - J. Koutecký and R. Holický (*Coll. Czech. Chem. Commun.* 12, 337, 1947) Whilst the ordinary limiting currents obtained in electrolysis with the dropping mercury electrode are determined by the diffusion rate of the depolariser, some special cases are known in which these currents are considerably enhanced by the formation of the depolariser in the electrode environs. In order to estimate the velocity constant of the reaction considered, a simplified conception of the processes taking place at the electrode surface has been used up to now, which was able to account for the effects observed in the main features. In this communication a rigorous treatment of the problem is presented with respect to all concentration changes provoked in the neighbourhood of the electrode through the instantaneous uptake of the depolariser at the electrode surface (2 figs., 2 tables)



Electrochemistry-4

ea

Linear systems of electrode reactions in which is interposed a chemical reaction taking place in the solution. J. Koutecký. (Ver. Stahlhütten, Nationalunternehmen, Kladno). *Sbornik Mezinárod. Polarog. Sjezdů Prace, 1st Congr. 1951, Pt. 1, Proc.* 818-20 (in Russian), 820-38 (in German).—A math. discussion of various systems of electrode reactions with special emphasis on 3 irreducible systems which are combined by a chem. reaction occurring in the soln. Otto H. Müller

CA

Hardenability of steel and its testing. L. Ječáček, J. Koutecký, and P. Labonck. *Hlavní listy* 6, 5-11, 70-5, 119-23, 231-8, 270-80(1951).—In the 1st part the various terms are defined, and the diverse methods of hardenability tests now in use are reviewed, giving for each the author, tech. data for carrying out the tests, and evaluation of the results obtained. Details of 15 tests are given. In the 2nd part the problem of cooling of a quenched body is defined in a general manner for the purpose of math. analysis. On the basis of the given definitions application of the non-dimensional coeff. is suggested for evaluation of the temp. distribution inside a quenched body. The analysis of the cooling process for individual shapes is carried out by coordinate systems most suitable for the purpose, namely, Cartesian coordinates for cubes and plane-shaped parts, cylindrical coordinates for cylindrical and wedge-shaped bodies, and polar coordinates for spheres and cones. The progress of the cooling of quenched cones and wedges was investigated in greater detail; the results are given in tables, and their meaning is discussed. After reviewing the hardenability criteria the cryst. theory of von Cöler and Sachs (C.A. 26, 5419) was applied to show that with assumptions, which can be considered as being approx. fulfilled, the diagrams of isothermal breakdown of austenite can be used as a criterion in hardenability tests. It is shown that, if the given theoretically-calcd. curves are used as a starting point, the cooling-rate criterion in the "nose" zone of the austenite breakdown curve is more suitable for this purpose than the half-time criterion. The 3rd part describes exptl. results obtained with Jominy test bars, wedges, hollow cones, and cylinders of 4 different low-alloy steels. The reasons for the choice of specific sample shapes is given.

and their prep. is fully described. The purpose of the tests was to confirm the findings derived theoretically in the previous parts. On the basis of theoretical considerations, calcd. cooling curves, and principles detd. governing the interrelation between the hardness curves applicable to parts of various shapes, interrelation diagrams and nomograms for wedges, cones, cylinders, plates, and Jominy test bars were plotted; these are based on the half-time criterion and the cooling speed. It is believed that these nomograms are simpler and more generally applicable than those previously proposed; they do not contain logarithmic scales and, thus, various operations are easier to carry out, but the range is smaller, and diagrams for the various ranges must be plotted. By utilizing interrelation diagrams hardness curves detd. for one shape have been used for plotting hardness curves applicable to other shapes. The values thus detd. showed very good agreement if the half-time criterion was used. The use of wedge-shaped test samples has several advantages, e.g., the distance from the edge to a point of a certain hardness can be easily measured, and this shape is insensitive to various exptl. errors. The aim of this work was to investigate afresh all the fundamental assumptions on which hardenability testing is based. A theory of interrelations for wedges and cones starting from the cooling curves and a general theory of interrelation of hardening tests on the basis of dimensional analysis were developed.

R. Gros

KOUTECKY, J.

2A(2,A) PHASE I BOOK EXPLOITATION CZECH/2A33

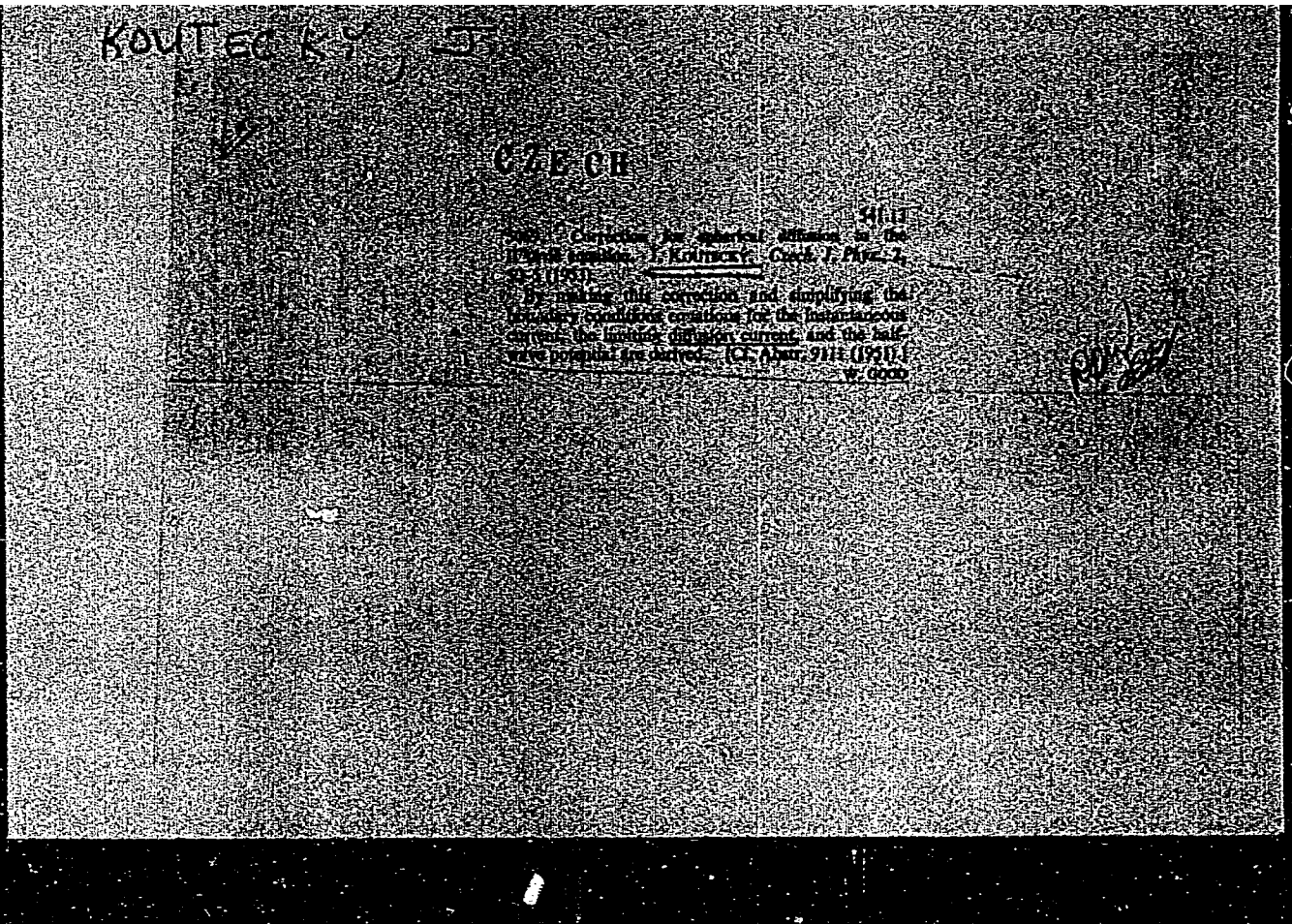
International Polarographic Congress. Ist, Prague, 1951
Sbornik I. Mezinarodni polarografickeho sjezdu. Dil 3. Hlavní referaty prednesene na sjezdu. Proceedings...Vol 3. Reviews Read at the Congress. Praha. Pírodovědecká vyd-vi (1952) 714 p. 2,000 copies printed.

Resp. Ed.: Jiří Koryta, Doctor; Chief Ed.: Oldřich Dunka, Milan Skalník, Doctor; Tech. Ed.: Oldřich Dunka, and physicists.

PURPOSE: The book is intended for chemists, chemical engineers, and physicists.
COVERAGE: The book is a collection of reviews and original papers read at the International Polarographic Congress held in Prague in 1951. Uses of polarography in organic and inorganic analysis, biochemistry, medicine, and industry are discussed. In the section, Reviews Read at the Congress, reviews are either German or English translations of each review and presented. In the section, Original Papers Read at the Congress, only those translations in Russian, German, and English which have not been published in Volume I are presented. The following scientists participated in the opening of the Congress: Professor Wiltz, Director of the Faculty of Sciences, Warsaw; Doctor Juris, Dean of the Faculty of Sciences, Warsaw; Doctor Jurek, Chairman of the Faculty of Sciences; Professor Jaroslav Hrabovský, Chairman of the Congress; and Professor Jaroslav Hrabovský, Chairman of the Center for Scientific Research and Technical Development. References follow each paper.

Study of Catalytic Reactions at a Dropping Mercury Electrode	667
Decomposition Rate of the Complex of Nitrotrifluoroacetic Acid With Cadmium	672
Slow Electrode Reactions	677
Russian Translation	683
English Translation	687
Polarographic Study of the Recombination of Phenylethynolic Acid	691
Linear Systems of Electrode Reactions in Which a Chemical Reaction in Solution Takes Place	699
Contribution to the Theory of Diffusion Currents	706
Russian Translation	712
English Translation	717

Card 12/14



KOUTECKY, J.

JENICEK, L. ; KOUTECKY, J. "The measurement of module of elasticity by sympathetic pendulums.
p. 338. (Hutnicke Listy Vol. 8, no. 7, July 1953 Brno.)

SO: Monthly List of East European Accessions, Vol. 3, No. 2, Library of Congress, Feb. 1954
Uncl.

KOUTECKY, J.

Kinetics of electrode processes. Part 4. General calculation of the current due to a linear system of electrode reactions involving at most one chemical reaction in solution [in English with summary in Russian]. Sbor.Cekh.khim.rab. 18 no.2:183-196 Ap '53. (MLRA 7:6)

1. United Steelworks, Poldina hut, Kladno.
(Electrolysis)

KOUTECKY J

The kinetics of electrode processes, VII. Theory of some catalytic currents in polarography. J. Koutecky (Czech. Acad. Sci., Prague). *Collection Czech. Chem. Commun.* 18, 311-26 (1953) (in German); *Chem. Listy* 47, 9-26 (1953); cf. *C.A.* 49, 742. A formula was derived for the ratio of the total current, i , to the diffusion current, i_d , at any instant during an electrode reaction in which the product was reconverted into a depolarizer by a chem. reaction. The calcn. was made for a dropping Hg electrode with a growing surface, in contrast to a previous calcn. for a flat stationary electrode (*C.A.* 46, 10973g). The case of a very fast chem. reaction was considered in more detail, and the calcn. was extended to the mean values of the currents. Numerical values for some of the complicated functions of the equation were given in tables. The theory was in good agreement with available exptl. data. VIII. Theory of slow electrode reactions in polarography and the polarographic behavior of a system in which the depolarizer was produced by a fast chemical reaction from electroinactive material. J. Koutecky. *Collection Czech. Chem. Commun.* 18, 897-910 (1953) (in German); *Chem. Listy* 47, 323-33 (1953). Equations were derived for the instantaneous and the mean current at the dropping Hg electrode observed when a depolarizer was produced by a fast chem. reaction from electroinactive material. In these derivations the movement of the soln. in contact with the growing electrode was considered. By means of proper conversion factors the new equations could be brought into agreement with previous theories for the case of a noncatalytic current at the dropping Hg electrode, but for other cases this was not possible. Otto H. Miller

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Koutecky, J.

C. Z. E. C. H.

4064 AERE-LIB/Trans-509
THE THEORY OF SLOW ELECTRODE REACTIONS IN
POLAROGRAPHY AND THE POLAROGRAPHIC BEHAVIOUR
OF A SYSTEM IN WHICH THE DEPOLARISER IS FORMED
FROM AN ELECTRO-INACTIVE SUBSTANCE BY MEANS
OF A RAPID CHEMICAL REACTION. J. Koutecky. Trans-
lated by F. Hedwell from Collection Czechoslov. Chem.
Commun. 16, 597-616(1951) 16p.

An analysis is presented of polarographic currents in a system in which the depolariser is formed from an electro-inactive substance by means of a very rapid pseudo-unimolecular chemical reaction. It is shown that the theory can be formulated as a special case of those electrode reactions whose velocity is finite. The instantaneous and average current for the two cases has been calculated. The results of the theory are compared with those of earlier theories. It is found that the same expressions are obtained, including numerical factors, with the theory for average current as with the approximate theory. (auth)

18/04/51

KOUTECKÝ, J.

Evaluation of the rate constant of the decomposition of hydrogen peroxide by catalase from the polarographic limiting current of oxygen. J. Koutecký, R. Dřímal, and V. Hájek (Czech. Acad. Sci., Prague). *Collection Czech. Chem. Commun.* 18: 611-23 (1953) (in English). *Chem. Listy* 47: 713-8 (1953). Previous interpretations of the effect of catalase on the polarographic limiting currents due to the reduction of O_2 were revised. Calculations of the rate constant based on the concept of a reaction layer at the electrode were of only limited value. A rigorous solution was given of the appropriate system of differential equations, taking into account the growth of the Hg drop, for a reaction in which half the originally present reactant (O) was regenerated from the redoxic product (H_2O_2) by a chem. reaction with the catalyst (catalase). Values for the resulting function were tabulated, and the rate constants, calculated by means of it were in good agreement with values obtained by direct manometric measurements.

Otto H. Müller

Abh. Phys. Chem., Czech. Acad. Sci.

KOUTEK, J.; ZAK, L.

"Epigenetic Antimony Ores of the Skarn-Type Magnetite Deposit at Vlasejovice in the Savaza Basin", P. 593, (SEBORNÍK. ODDÍL GEOLOGICKÝ, Vol. 20, 1953, Praha, Czech.)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 3, Mar 1955, Uncl.

~~KOUTECKY, J.~~
KOUTECKY, J.

"Kinetics of electrode processes. VII. Theory of some catalytic currents in polarography."
Ceskoslovenska Morfologie, Praha, Vol. 47, No 1, Jan 1953, p. 9.

SO: Eastern European Accessions List, Vol 3, no 11, Nov 1954, L.C.

KOUTECKY, J.

" Kinetics of Electrode Processes. Part 8. Theory of Slow Electrode Reactions and Some Kinetic Currents in Polarography," p. 323.
(Chemické Listy, Vol.47, No.3, Mar. 1953, Praha.)

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

KOUTECKY, J.; BRDICKA, R.; HANUS, V.

Koutecky, J.; Brdicka, R.; Hanus, V. "Calculation of the rate constant for the decomposition of hydrogen peroxide by catalase from polarographic limiting currents caused by oxygen. p. 793 CASOPIS PRO PESTOVANI MATEMATIKY. CZECHOSLOVAK MATHEMATICAL JOURNAL. Vol. 47 no. 6 June 1953 Praha, Czechoslovakia.

SO: MONTHLY LIST OF EAST EUROPEAN ACCESSIONS, L. C. Vol. 3 No. 1 Jan. '54 Uncl.

KOUTECKY, JAROSLAV

Chemical Abst.
Vol. 48
Apr. 10, 1954
Electrochemistry

⑤

7 Kinetics of electrode processes. IX. Electrolysis preceded by chemical reaction. Josef Pilva and Milos Smutek (Ústav org. chemie CSAV, Prague, Czech.). *Chem. Listy* 47, 933-32(1953).—The theory of an electrode process is formulated, the rate of which is controlled by the rates of the following 3 elementary processes: diffusion, proper electrode reaction (I), and the chem. reaction (II) in the soln. by which an electrode-active form of the depolarizer can be formed. The problem is solved for one-dimensional diffusion and a plane immobile electrode. The final expression for the c.d. results for 2 limiting cases in equations previously published: when I is fast (Koutecky and Brdicka, *C.A.* 43, 484) or when II is fast (S., *Chem. Listy* 45, 241(1951)). X. Polarographic behaviors of systems involving any given number of substances interconnected by rapid chemical reactions in solution. Jaroslav Koutecky (*Lab. org. chemie CSAV, Prague, Czech.*)—1953—1263—8.—Expressions for the total instantaneous and av. current are derived for a system, the substances of which may be interconnected by electrode reactions according to any given scheme. The electrode reactions may be slow eventually. The reactions of the substances in the soln. are assumed to be of first order, consecutive reactions being excluded. The derived formulas can be expressed as a linear combination of time functions known from more simple problems. The soln. is thus reduced to an algebraic problem. From the soln. for the plane immobile electrode, the soln. for the dropping electrode follows at once. XI. The polarographic current due to an electrode process preceded by a chemical reaction in solution between reactants differing in their diffusion coefficients. *Ibid.* 1758-61.—Expressions for the av. current are derived for 2 depolarization schemes: in the first case, only one substance is electrode-active in the given potential range, in the second case, both substances are active. The chem. reaction in the soln. is supposed to be very rapid and of the first order. B. Erde

NOTES BY JAKOSLAV

5/880

The method of dimensionless parameters for the calculation of polarographic currents governed by a chemical reaction in the solution is described. The method of dimensionless parameters for which the differential equations describing the problem are transformed into the form of dimensionless independent variables is described. A participating chemical reaction can be accomplished if the participating chemical reactions are very rapid. In such a case the influence of the reaction in the solution can be neglected under the boundary conditions. This is of utmost importance in reversible reactions where the differential equations are not solved. If the depolarizer is formed by the reversible decomposition from an inactive dimer, then the problem of limiting currents with the problem of polarization is solved. The distribution of the depolarization products can be calculated readily. The boundary conditions are nonlinear for the surface electrode, and the differential equations have a simple form of diffusion equation. In the theoretical treatment the mechanism of depolarization and the procedure for the calculation of depolarization and limiting currents in the immediate vicinity of the electrode under the conditions of the problem of the transportation of the depolarizer to the surface of the electrodes seems to be solved in principle even for complicated depolarization schemes. There are only a few cases where the theory of depolarizer transformation is applicable, because the correct depolarization scheme is not known with a proper kind of certainty.

Jan Miska

AK

KOUTECKY, J

KOUTECKY, J.; KORYTA, J.

Effect of regeneration of depolarizers by dismutation on polarographic currents.
I. Theoretical part. p. 845 (Collection of Czechoslovak Chemical Communication.
Praha. Vol. 19, no. 5, Oct. 1954)

SO: Monthly List of East European Accession (EMAL), LC, Vol. 4, No. 6, June
1955, Uncl.

KOUBECKY

5176. Kinetics of Electrode Processes. Über die Kinetik der Elektrodenvorgänge. I. Polarographic Behavior of Systems Including an Arbitrary Number of Substances Having High Reaction Rates in Solution. Das polarographische Verhalten von Systemen, die eine beliebige Anzahl von Stoffen einschließen, welche in der Lösung durch sehr schnelle Reaktionen abgebaut werden. XI. Polarographic Currents of Electrode Processes Including Reactions in Which Substances With Different Coefficients of Diffusion Take Part. Polarographische Ströme eines Elektrodenvorganges mit vorgeschalteter chemischer Reaktion, an welcher sich Stoffe mit verschiedenen Diffusionskoeffizienten beteiligen. (German). J. Koubeky, Collection of Czechoslovak Chemical Communications, Prague 3, Oct. 1954, p. 837-861, 1045-1047. 2 ref.

KOUTECKY, JAROSLAV

(7)

Kinetics of electrode processes. XII. Currents due to electrode processes on the dropping mercury electrode preceded by consecutive reactions in solution. Jaroslav Koutecký (Lab. phys. chem., ČSAV, Prague, Czech.). Chem. Listy 48, 309-7(1954); cf. C.A. 48, 38108.—The treatment of the electrode process preceded by a very rapid consecutive reaction in the soln. can be reduced to the treatment of the process preceded by a very rapid simple reaction given previously. Differences of the diffusion coeffs. of the consecutively reacting components are considered. The rate consts. evaluated by this method for the case of the polarographic reduction of maleic, fumaric, and citraconic acids (Hanus and Brdička, C.A. 45, 3735f) are smaller than those obtained by a simplified treatment. XIII. Theory of slow electrode processes. M. Šmudek. *Ibid.* 404-7.—By means of the Laplace transform a simpler solution of the problem treated previously (Meiman, C.A. 43, 2373f; Koutecký, Chem. listy 47, 323(1953)) is given. E. Erdős.

10-13-54 MEF

~~SECRET~~
KOUTECKY, Jaroslav

Effect of depolarizer regeneration by disproportionation on polarographic currents. I. Theoretical. Jaroslav Koutecký and E. Redde (Polarograf. časopis, Prague, Czech.). *Chem. Listy* 48, 998-1008 (1954).—The paper of Orlemann and Kern (C.A. 47, 11807c) on the kinetics of disproportionation of U(V), which is the reduction product of U(VI), is discussed. A new solution of this problem is given, and an equation of the polarographic wave is derived. A theory of the general case of a slow reversible disproportionation is given. A function is tabulated for the slow irreversible disproportionation, which gives the ratio of the limiting current to the diffusion current of the depolarizer as a function of the drop time, the disproportionation const., and of the depolarizer concn. This function can be used directly for evaluating the rate const. of the disproportionation of U(V) from polarographic limiting currents. E. Redde

A-Jew

KODICE KY. JAROSLAV

Classification of electrode processes. XIV. Reversible and
molecular chemical reaction involving the depolarization
product. Jaroslav Koutecký (Laborator fys. chem. CSAV, Brno), *Collection Czechoslovak. Chem. Commun.*, 1951, 16, 48, 801. The depolarization scheme $B \rightleftharpoons A \rightleftharpoons C$ is treated mathematically, and an expression for the av. polarographic current is derived. The solution is specialized for the case of a consecutive chem. reaction and for the case when the electrode process is preceded by a chem. reaction. The results are applied to the distribution of the polarographic currents of the ascorbic acid. The properties of the reduction wave of dehydroascorbic acid are discussed; it is assumed that the usual simple depolarization scheme is correct. B. Erdős

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KOUTECKY JAROSLAV

Two examples of rapid bimolecular reactions participating in the depolarization process on the dropping mercury electrode. Jaroslav Koutecky and Vladimír Hanus (Lab. phys. chem., C&AV, Prague). *Chem. Listy* 48: 1446-57 (1954). The limiting polarographic current was computed for the case where the depolarizer was formed by a rapid monomerization of the dimer which was electrode inactive. The shape of the polarographic wave was computed for the case where the product of a perfectly mobile electrode process was inactivated by a very rapid irreversible dimerization. The resulting functions were tabulated. The results were compared with an approx. solution. The soln. of a very rapid disproportionation of the electrode-process product, by which the depolarizer was partially regenerated, could be reduced to the soln. of the second case mentioned.

B. Erdős

M
TRET

KONTECKY, J.

i Rm J.

CZECH

Effect of depolarizer regeneration by disproportionation on polarographic currents. II. Experimental investigation of the disproportionation of uranium(V) ion. J. Koryta and Jiroslav Kontecký (Polygraphical Inst. CSAV, Prague). *Chem. Abstr.* 74:1064; cf. C.A. 49:743. The dependences of the limiting current of the reduction of the UO_2^{2+} ion in acid solutions on the H^+ -ion concn., H_2O_2 concn., and on the drop time were detd. In 0.5M ClO_4^- soln., the rate const. of the disproportionation, referred to unit H^+ -ion concn., was detd.: $k_d = k/[H^+] = 1.63 \times 10^4 l./mole^2 sec.$ in 0.5M Cl^- soln. contg. 6.02% gelatin; $k_d = 2.6 \times 10^4 l./mole^2 sec.$ and in 2M Cl^- soln. $k_d = 7 \times 10^4 l./mole^2 sec.$ The agreement of the exptl. results with the theory (*loc. cit.*) was best for the 0.5M ClO_4^- soln. In 2M Cl^- soln., an anomalous behavior was observed. The gelatin retarded the rate of the disproportionation. E. Sedláček

BRZ 247 ①

1204 (SECRET)

Calculation of hydrodynamic currents for degradation
of some living reactions of higher order. *Journal of
Theoretical Biology*, 1970, 27(1), 1-10. *Waterbury, L. B.*
This paper presents a mathematical model for the growth
of a population of cells under conditions of limited
resources. The model is based on the assumption that
the rate of cell division is proportional to the
amount of resources available. The model is solved
for the case of a single resource and for the case
of multiple resources. The model is shown to be
stable under a wide range of conditions. The
model is also shown to be able to predict the
behavior of a population of cells under conditions
of limited resources. *Thomas P. Hillier*

KOUTECKY, J.

Kinetics of electrode processes. XLV. Reversible monomolecular chemical reaction inactivating the depolarization product. In German. p. 116

Vol. 20, no. 1, Feb. 1955
SBORNIK CHEKHOSLOVATSKIKH KHMICHESKIKH RABOT
Praha, Czechoslovakia

So: Eastern European Accession Vol. 5, No. 4, April 1956

KOUTECKÝ, JAROSLAV

C Z E C H

Two examples of rapid bimolecular reactions participating in the depolarization process on the dropping mercury electrode. Jaroslav Koutecký and Vladimír Hanták. *Collection Czechoslovak Chem Commun.* 10, 124-33 (1955) (in German). See C.A. 49, 1445. E. J. C.

NY 2/24

KOUTECKY, JAROSLAV

CZECH

Effect of depolarizer regeneration by disproportionation
on polarographic currents. II. Experimental investigation
of the disproportionation of uranium(V) ion. Jit
Koutecy and Jaroslav Koutecy. *Collection Czechoslovak
Comm. Chem.* 1965, 1(185) (in German). See C.A.
49, 6166d. E. J. C.

KOUTECKY, J. ; WEBER, J.

Kinetics of electrode processes, IV. Tables of functions for calculating polarographic currents due to depolarization processes involving preceding or consecutive rapid monomolecular chemical reactions. p. 562

CHEMICKÉ LISTY (Československá akademie věd. Československá společnost chemická) Praha, Czechoslovakia. Vol. 49, no. 4, Apr. 1955

Charles Univ, Prague

Jan
Monthly List of East European Accessions (EEAI) LC, VOL. 9, No. 1/1960
Uncl.

KOUTECKY, JAROSLAV

Theory of polarographic currents at periodically varying potentials Jaroslav Koutecký (Ústav fys. chem., CSAV, Prague) Chem. Abstr. 54:1056 (1958) -- The polarographic current of a reversible dropping electrode reaction was calc. for general forms of periodically varying applied voltage. The soln. of the problem for a high frequency and sufficiently long drop time was shown to be related to that applying to a flat electrode. The general relations were used to calc. the av. value of the Kálousck's switching-gear current (C.A. 42, 9574a) and the actual intensity of it in case of the triangular or sinusoidal forms of applied voltage. Another method for calc. the intensity of polarographic currents of partially irreversible reactions was proposed. P. S. 11

AA

JK

KOU TECK Y, JAKOSLAV

509

Effect of the adsorbable limiting currents of formaldehyde on the electrode reactions of formaldehyde on silver electrodes. Kou Teck Y, Jakoslav J. *J Electroanal Chem* 1971; 31: 1-11.

The limiting currents of formaldehyde, involving the formation of the adsorbable species, on silver electrodes, were studied. The actual and apparent values of the limiting currents were calculated. The electrode reaction was supposed to be determined by the products. The scheme was applied to the electrocatalysis of HCHO in unbuffered solutions. The typical relations between the actual values of the limiting currents, the concentration of HCHO, and the rate of the reaction, the limiting current, drop-line, and the logarithm of the rate of the reaction, of the product, were studied. The values of the limiting currents to be calculated with the aid of the kinetic constants of the reaction which were taken from the known values of the limiting currents of HCHO in buffered solutions. F. S. G. G.

KOUTETSKiy, Ya.

USSR/Chemistry - Physical chemistry

Card 1/1 Pub. 22 - 31/51

Authors Koutetskiy, Ya.

Title : ~~Research~~ Research on the F. F. Vol'kenshteyn theory of chemical adsorption

Periodical : Dok. AN SSSR 101/1, 119-122, Mar 1, 1955

Abstract : Ways of simplifying and generalizing the method of studying the Vol'kenshteyn chemical adsorption are discussed. In the case when the bond forming electrons are localized in the immediate vicinity of the chemisorption molecule, which leads to the formation of a quasi-homopolar bond, the quantum-mechanical study of the chemical adsorption is analogous to the problem concerning the motion of electrons in the zone of the molecule and nearest crystal ions investigated by the method of molecular orbits. Formulas determining the motion of electrons in the potential field are included. Six references: 2 USSR, 2 USA and 2 English (1947-1953).

Institution : Acad. of Sc., Czechoslovakia, Laboratory of Phys. Chem., Prague

Presented by : Academician A. W. Truhinin, October 9, 1954

KOUTECKY, J.,

Czechoslovakia

KOUTECKY, J., author of "Review of recent theoretical work on the Prague Polarographic school," presented at the 4th Electrochemical Conference, Moscow, 1-6 Oct. 1956.

SOURCE: Program of the 4th Int'l Conference on Electrochemistry, Moscow, 1-6 Oct. 1956, Unclassified.

~~APPROVED FOR RELEASE~~ 08/23/2000 CIA-RDP86-00513R000825420017-2

CZECHOSLOVAKIA / Theory of Solids. Geometrical Crystallography. E-2

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9139

Author : Koutecky, Jaroslav

Inst : Ustav Fysikalni Chemie CSAV, Prague, Czechoslovakia.

Title : Remarks Concerning the Approximate Solution of the Equation $u''_{nl} + \frac{2}{r} u'_{nl} + (E_n - \frac{l(l+1)}{r^2} + v(r)) u_{nl} = 0$

Orig Pub : Ceskosl. casop. fys.; 1956, 6, No 1, 97-99

Abstract : Unlike the usually employed approximate solution in the form $u_{nl} = u_{n0} r^l$, the author proposes a solution in the form

$$u_{nl} = u_{n0} \cdot \frac{1}{\sqrt{r}} \left[C_1 J_{l+\frac{1}{2}}(\alpha r) + C_2 J_{-(l+\frac{1}{2})}(\alpha r) \right]$$

which is irregular at the origin. For the case of a Coulomb field, a solution of the ordinary type and an exact solution of the equation are considered. It is shown that in this case the approximate solution differs strongly from the exact solution. On the basis of this, the author concludes that the use of the approximate solution is possible only if necessary precautions are taken.

KOUTECKY, J.

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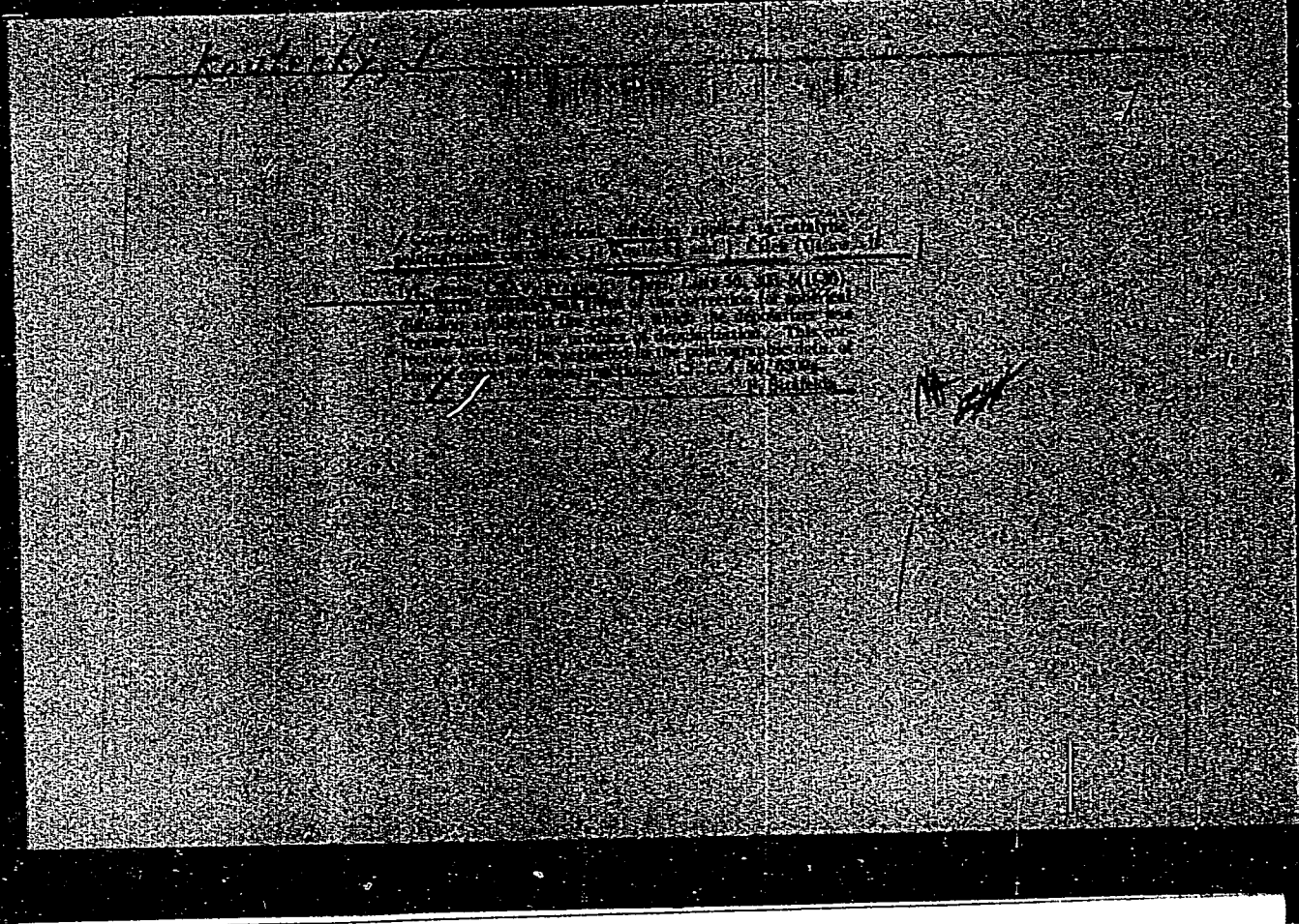
Kinetics of electrode processes. XVI. Slow electrode processes preceded and followed by chemical reactions. J. Koutecky (Col. akad. věd., Prague). Chem. Listy 50, 115-119 (1956); cf. C.A. 49, 10093a. The reaction scheme $A \rightleftharpoons B \rightleftharpoons C \rightleftharpoons D$ was solved, where $A \rightleftharpoons B$ and $C \rightleftharpoons D$ were fast chem. reactions and $B \rightleftharpoons C$ was an electrochem. reaction. The corresponding polarographic current was calcd. The dependence of this current on the drop time and on the rate consts. of both electrode and chem. reactions was shown to be derivable with the use of the functions known from the soln. of simpler cases (*loc. cit.*).
E. Stráfeldt

Handwritten initials or signature.

KOUTECKY, J.

KOUTECKY, J. - correction of spherical diffusion in polarographic kinetic currents. p. 196. Vol. 50, no. 2, Feb. 1956
CHEMICKÉ LISTY (Československá akademie věd. Chemický ústav)
Praha, Czech.

SOURCE: EAST EUROPEAN ACCESSIONS LIST (EEAL) VOL 6 NO 4 April 1957



KOUTECKY, J.

CZECHOSLOVAKIA/Physical Chemistry - Molecule. Chemical Bond. B-4

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14358

Author : Koutecky, Jaroslav

Inst :

Title : Investigation of chemisorption of a molecule on a two-dimensional crystal with localized bond electron by means of the method of molecular orbitals

Orig Pub: Chem. listy, 1956, 50, No 5, 677-688

Abstract: In order to establish a relationship between the theories of chemisorption and the condition of the formation of the homeopolar -type bond, use was made of the modified MO Dewar method (Dewar M. J. S., Proc. Cambridge Phil. Soc., 1949, 45, 638). As an allowable simplification, a two-dimensional crystal was used as a model for the adsorbing surface of a three-dimensional crystal. In this manner, general equations were derived for the calculation of the energy of chemisorption and for the functions of the state of the bond electrons. The MO method has certain short-

Card 1/2

KOUTECKY, J. "APPROVED FOR RELEASE: 08/23/2000" CIA-RDP86-00513R000825420017-2
CZECHOSLOVAKIA/Physical Chemistry - Molecule. Chemical Bond. B-4

Abs Jour: Ref Zhur-Khimiya, No 5, 1957, 14359

Author : Koutecky, Jaroslav

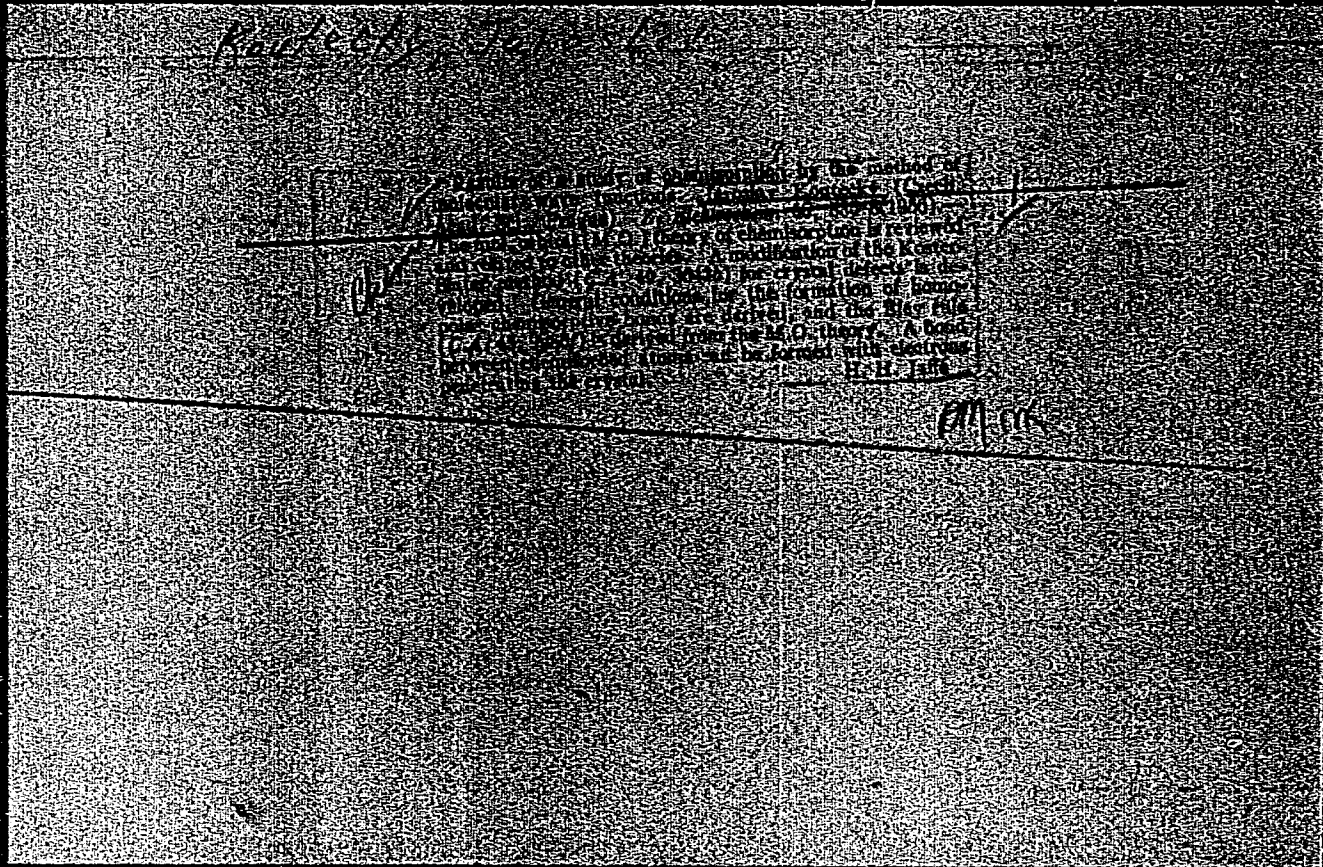
Inst :

Title : Investigation of chemisorption of a molecule on a two-dimensional crystal with non-localized electron bond by means of the method of molecular orbitals

Orig Pub: Chem. listy, 1956, 50, No 5, 689-701

Abstract: In order to study the same problem as in the preceding abstract but with a localized bond electron, use was made of the modified MO method for calculating the energy and function of state of one or several non-localized bond electrons in several cases with certain simplification assumptions. Since the Wannje functions are linear combinations of functions of the state of an ideal crystal, the functions of the state of the bond electron can be considered linear combinations of the functions of the state of a molecule and of an ideal

Card 1/2



KOUTECKY, J.

"Theory of polarographic currents which are increased during regeneration of the depolarizer from the depolarization product by means of a rapid bimolecular reaction. In German."

p. 160 (COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS. SBORNIK
CHECKOSLOVATSKIKH KHMICHESKIKH RABOT. -- Praha, Czechoslovakia.)
Vol. 22, No. 1, Feb. 1957

SO: Monthly Index of East European Accession (SEAI) LC, Vol. 7, No. 5, May 1958

Card : 1/1

APPROVED FOR RELEASE

Koutecky, J.

CZECHOSLOVAKIA/Physical Chemistry - Kinetics, Combustion, Explosions,
Topochemistry, Catalysis.

B-9

Abs Jour: Referat. Zhurnal Khimiya, No 2, 1958, 3886.

Author : J. Koutecky

Inst : ~~_____~~

Title : Study of Molecule Chemosorption on Two-Dimensional Crystals
with Non-Localized Bond Electron by Method of Molecule Eigenfunction.

Orig Pub: Sb. chekhosl. khim. rabot, 1957, 22, No 3, 683-696.

Abstract: See RZhKhim, 1957, 14359.

Card : 1/1

KOUTECKY, J.

CZECHOSLOVAKIA / Physical Chemistry Electrochemistry. B

Abs Jour: Ref Zhur-Khimiya, No 11, 1958, 35562

Author : Paldus Josef, Koutecky Jaroslav.

Inst : Not given

Title : Calculation of Polarographic Kinetic Currents
at Two Simultaneously Occuring Chemical Reactions,
Preceding an Electrode Process.

Orig Pub: Chem. Listy, 1957, 51, No 6, 1046-1051

Abstract: The problem of the glucose reduction kinetic
current has been solved by an accurate method;
the scheme α -pyranose $\xrightleftharpoons{k_1}$ carbonyl form $\xrightleftharpoons{k_2}$
 β -pyranose is assumed. Whereby the electro-
chemically active carbonyl form is understood.

Card 1/2

Koutetskiy, Ya.

20-3-23/52

AUTHORS:

Koutetskiy, Ya. , Levich, V. G.

TITLE:

Use of a Rotating Disk-Electrode **in the Study of**
Kinetic and Catalytic Processes in Electrochemistry (Primeneniye
vrashchayushchegosya diskovogo elektroda k izucheniyu kinetiches-
kikh i kataliticheskikh protsessov v elektrokhemii)

PERIODICAL:

Doklady AN SSSR, 1957, Vol. 117, Nr, 3, pp. 441 - 444 (USSR)

ABSTRACT:

The present paper shows that the rotating disk as a device for the investigation of kinetic and catalytic currents offers considerable advantages as against the droplet electrode. Unlike what is the case with the simple electrode, processes on the rotating disk take place during steady operation. It is just this that facilitates the easy derivation of the formulae for the computation of complicated cases of reactions. This is an essential condition for the study of the velocities of kinetic reactions. Besides, the study of steady processes is also experimentally more simple. Finally, it is possible, in the case of the disk, also to vary experimental conditions considerably by modifying not only the pH-value of the solution, but also the rotation velocity of the disk. The authors do not intend here to deal with the entire manifold of the various kinetic and catalytic processes, but the present paper explains

Card 1/3

20-3-23/52

Use of a Rotating Disk-Electrode **in the Study of Kinetic and**
Catalytic Processes in Electrochemistry

the characteristic method for the solution of problems occurring during the study of kinetic and catalytic processes on the basis of individual examples. As a first example a kinetic quasi-steady process is investigated, which develops in accordance with the scheme

$$A \xrightleftharpoons[k_2]{k_1} B \quad (\text{volume}), \quad A \rightarrow C \quad (\text{electrode}).$$

The computation

is followed step by step. In the second characteristic example the volume reaction for the scheme

$$2A \xrightleftharpoons[k_2]{k_1} B$$

is defined and is thus

of bimolecular character. There are 7² references, 4 of which are Slavic.

Card 2/3

CZECHOSLOVAKIA/Electricity - Semiconductors

G-3

Abs Jour : Ref Zhur - Fizika, No 1, 1959, No 1220

Author : Koutecky Jaroslav

Inst :

Title : Application of the Method of Self-Consistent Field to the Theory of Surface Electron States in a Crystal

Orig Pub : Coskosl. casop fys., 1958, 8, No 2, 153-157

Abstract : See Referat Zhur Fizika, 1958, No 9, 20687

Card : 1/1

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R000825420017-

AUTHORS: Koutetskiy, Ya., Levich, V. G.

SOV/76-32-7-17/45

TITLE: The Application of the Rotating Disk Electrode for the Investigation of Kinetic and Catalytic Processes in Electrochemistry (Primeneniye vrashchayushchegosya diskovogo elektroda k izucheniyu kineticheskikh i kataliticheskikh protsessov v elektrokhemii)

PERIODICAL: Zhurnal fizicheskoy khimii, 1958, Vol. 32, Nr 7, pp.1565-1575 (USSR)

ABSTRACT: The electrode reactions, the course of which is closely connected with chemical side reactions in the volume of the solution, have recently been investigated systematically. The reactions may be divided into two groups: the so-called kinetic reactions in which one of the products of the chemical reaction in the inner volume of the solution diffuses to the electrode, and enters into the electrode reaction; this can be represented by the scheme



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SOV/76-32-7-17/45

The Application of the Rotating Disk Electrode for the Investigation of Kinetic and Catalytic Processes in Electrochemistry

The second group are the catalytic reactions in which the substance participating in the electrode reaction is partly regenerated in the exchange reaction into which products of the electron reaction enter; this takes place according to the scheme:



The investigations of these two types of reactions have hitherto been carried out by means of the dropping mercury electrode, it is, however, assumed that the method mentioned in the title offers some advantages, as the processes take place within the steady regime; thus, calculation formulae for complicated reactions may be obtained. On the other hand in the case of disk electrodes besides the properties of the solutions also the angular velocities of the rotation may be modified within a wide interval, by which fact the experimental technique is simplified. By means of some examples of kinetic and catalytic processes the limit-diffusion currents at the surface of the disk electrode are calculated. A kinetic process of quasimo-

Card 2/4

SOV/76-32-7-17/45

The Application of the Rotating Disk Electrode for the Investigation of Kinetic and Catalytic Processes in Electrochemistry

lecular character is investigated as first example as the constants of the reaction velocity $A \rightleftharpoons B$ depend on the concentration of any of the substances D being in the solution. The calculations were carried out for the case $D_1 \neq D_2$ in the convective diffusion according to E. R. Dogonadze; they are printed in the DAN USSR. A value δ_e of the thickness of the layer of the solution at the electrode surface is determined in which the reaction takes place kinetically (not in equilibrium). The authors mention the paper written by Budevskiy (Ref 6) in which reactions of bimolecular character as well as catalytic reactions of a quacimolecular character are described. There are 8 references, 3 of which are Soviet.

ASSOCIATION: Akademiya nauk SSSR, Institut fizicheskoy khimii, Moskva;--
Chekhoslovatskaya Akademiya nauk, Institut fizicheskoy khimii,
Praga
(Moscow, Institute of Physical Chemistry, AS USSR;-- Prague,
Institute of Physical Chemistry of the Czechoslovakian Academy of Sciences)

Card ~~3~~/4

CZECHOSLOVAKIA / Physical Chemistry. Electrochemistry. B-12

Abs Jour: Ref Zhur-Khimiya, No 23, 1958, 76830.

Author : Cizek, J., Koryta, J., and Koutecky, J.

Inst : Not given.

Title : The Polarographic Current Determined by the
Dissociation of an Electrically Neutral Com-
pound with the Formation of an Electrically
Active and an Electrically Neutral Substance.

Orig Pub: Chem Listy, 52, No 2, 201-213 (1958) (in Czech).

Abstract: The value of the instantaneous current i and of
the limiting diffusion current i_d have been cal-
culated for the case when the complex alone is
present in solution, which contains no complex-
ing agent. The decomposition /dissociation/ of
the complex (B) yields an electrically neutral
complexing agent (C) and an electrically active

Card 1/2

~~J. Koutecky~~ Koutecky, J.

7

The molecular-orbital theory of chemisorption. Jaroslav Koutecky (Czech. Acad. Sci., Prague). *Trans. Faraday Soc.* 54, 1068-52 (1958); *cf. C.A.* 52, 6888g.—It is assumed that the state functions of the electrons in the system were detd. by the one-electron approximation. On the basis of the mol. orbital theory general theorems are derived concerning the localization of the electron affecting the chemisorption bond on the surface of a 3-dimensional crystal. The chemisorption of an atom on a crystal surface was calcd. under certain simplifying conditions, and showed considerable localization of the bonding electron and thus the homopolar character of the bond. Under certain conditions interaction of atoms that are chemisorbed on the surface of a nonmetal occurred through an electron cloud penetrating the crystal. Eley's rule (*C.A.* 45, 9882f) for calcg. the heat of chemisorption was related to the expression for the energy of a bonding electron in the chemisorption of an atom on the surface of a crystal. V. R. Dele-

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KOUTETSKY YA
KOUTETSKY, YA.

5(4) PHASE I BOOK EXPLOITATION SOV/2216

Soveschaniye po elektrokimii. 4th, Moscow, 1956.

Trudy... (Izborniki) (Transactions of the Fourth Conference on Electrochemistry, Collection of Articles) Moscow, Izd-vo AN SSSR, 1959. 868 p. Errata slip inserted. 2,500 copies printed. Sponsoring Agency: Akademiya nauk SSSR, Otdeleniye khimicheskikh nauk.

Editorial Board: A.M. Frumkin (Resp. Ed.) Academician, O.A. Yesina, S. Zhdanov (Resp. Secretary), P. Kabanov, Prof. Ya.M. Kolthoff, Doctor of Chemical Sciences V.V. Losev, P.D. Lukovskiy, Professor; Z.A. Solov'yeva, V.V. Skander, Professor; and G.M. Floriansovich, Ed. of Publishing House: M.O. Yegorov; Tech. Ed.: T.A. Prusakova.

PURPOSE: This book is intended for chemical and electrical engineers, physicists, metallurgists and researchers interested in various aspects of electrochemistry.

COVERAGE: The book contains 127 of the 139 reports presented at the Fourth Conference on Electrochemistry sponsored by the Department of Chemical Sciences and the Institute of Physical Chemistry, Academy of Sciences, USSR. The collection pertains to different branches of electrochemical kinetics, double layer theories and galvanic processes in metal electrodeposition and industrial electrolysis. Abridged discussions are given at the end of each division. The majority of reports not included here have been published in periodical literature. No personalities are mentioned. References are given at the end of most of the articles.

Koutetsky, Ya. Institute of Physical Chemistry, Czechoslovakian Academy of Sciences, Bureau of the Latest Theoretical Work at the Prague Polarographic School

Mikolayeva-Fedomykh, M.V., and B.B. Danasikin (Moscow State University). Influence of the Radius of "Background" Cathions on the Reduction of Persulfate Anions at a Mercury Electrode 150

Mink, Stefan. Institute of Physical Chemistry, Polish Academy of Sciences. The Influence of Structure of Organic Molecules on the Course of Cathodic Polarization of a Platinum Electrode in Nitric Acid Solutions 159

Zhdanov, S.I., V.I. Ezykov, and T.V. Malin (Institute of Card 7/34

Electrochemistry and Physics, Dresden School for Advanced Technology). The Influence of Organic Solvents on Wave Height and Semilabile Potential of Organic Depolarizers 170

Zaborin, P.I., S.P. Bukacvan, and G.Z. Kiriyakov (Institut Khimii Akademii nauk KazSSR-Institute of Chemistry, Academy of Sciences, Kazakh SSR). Influence of the Position of Zero-Charge Points on the Reduction of Indium at a Mercury-Drop Electrode 179

Koryta, J. Polarographic Institute, Czechoslovakian Academy of Sciences. Kinetics of the Separation of Cadmium from Cyanide Complex at Dropping Mercury Electrodes and Streaming Mercury Electrodes 186

Shchel'k, Sh. S. (Tsentrallyaya laboratoriya "Zavodstroya" Dzerzhinsk-Central Laboratory "Zavodstroya", Dzerzhinsk). Reduction of a Chlorite Ion at a Dropping Mercury Cathode 193

Card 8/34

ADDITIONAL INFORMATION : Czechoslovakia B-14
AUTHOR : RZChim., No. 1959, No. 65902
AUTHOR : Cizek, J.; Koryta, J.; Koutetsky, J.
TITLE : Polarographic Current Resulting from Dissociation of an Electroinactive Compound into an Electroactive and an Electroinactive*
ORIG. PUB. : Collect. Czechosl. Chem. Commun, 1959, 24, No 3, 663-677
ABSTRACT : See RZKhim, 1959, No 23, 74830.

WORD:

* Substance.

CIZEK, J.; KORYTA, J.; KOUTECHY, J.

Polarographic currents which are determined by the velocity of the formation of an electroactive substance from two electroinactive substances, none of which is in excess. Coll Cz chem 25 no.12:3844-3860 '59. (BEAI 9:6)

1. Institut für physikalische Chemie, Tschechoslovakische Akademie der Wissenschaften, Prag.
(Polarograph and polarography)

KOUTECKY J.

✓ Participation of 3d orbitals in the sulfur bond in aromatic compounds. Study of dibenzothiophene? by the M.O.-L.C.A.O. method. J. Koutecký, K. Zahradník, and J. Paldus (Czechoslov. Acad. Sci., Prague). *J. chim. phys.* 36, 456-60 (1959).—Two models of the dibenzothiophene (I) mol. are considered: that of Longuet-Higgins (*C.A.* 43, 8302c), which assumes participation of the 3d orbitals of S in the form of hybridized $3p^4$ orbitals, and makes the —S— analogous to —CH:CH—, and that of Berthier and Pullman (*C.A.* 45, 4501h) for dibenzocyclopentadiene, which is made applicable here by replacing —CH— by —S—. The calcs. predict approx. the same reactivity for C 2, 3, and 4 in electrophilic substitution for the 1st model, but a smaller reactivity for C 3 compared to C 2 and 4 for the 2nd model. Exptl. data favor the 2nd model, but not conclusively. The 2nd model also predicts a larger value for the bathochromic shift of the electronic transition $N \rightarrow V_1$ on going from thiophene to benzothiophene to I. H. Newcombe

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299 (NB)

4E2L (gj)

of
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5(4), 24(5)

AUTHORS:

Koutetskiy, Yaroslav: (Koutecky, J.);
Fingerland, Antonin

SOV/20-125-4-43/74

TITLE:

The Calculation of Quantum-mechanical Single-electron Systems
Which Comprise a Large Subsystem (Raschet odnoelektronnykh
kvantomekhanicheskikh sistem, vklyuchayushchikh bol'shuyu
podsistemu)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 4, pp 841-844
(USSR)

ABSTRACT:

Lifshits (Ref 1), Koster and Slater (Ref 2), and Baldock
(Ref 3) developed a method for the theoretical investigation of
distortions in a crystal. This method was generalized by
J. Koutecky and applied to the general theory of surface
tensions in a crystal in the approximation of the simple method
of molecular orbits and in the approximation of the self-
consistent field, as well as to the theory of chemisorption.
This method is suited, according to the authors' opinion also
for investigations of problems connected with the theory of
chemical binding: With respect to its nature it is a theoretical
basis of the modified method of molecular orbit by Dewar (Ref 8).
This method is based upon the following idea: The state of the

Card 1/4

The Calculation of Quantum-mechanical Single-electron SOV/20-125-4-43/74
Systems Which Comprise a Large Subsystem

electron is investigated (by the simple method of the molecular orbits) or of several electrons (according to the method of the self-consistent field) which is located in the field of the configuration of the atomic remainders S . This system S is assumed to be composed of individual subsystems of the atomic remainders D_I, D_{II}, \dots, D_R . At least one of these subsystems is by far greater than the domain within which it comes into spatial contact with the other subsystems. In this case, the potential acting upon the electrons is in such subsystems of approximately the same magnitude as in the corresponding parts of the system S . This applies in the case of a sufficiently weak interaction of the large subsystem to be investigated with the remaining subsystems. The authors endeavor to find the state function in the system S in form of a linear combination of the linear orbits of the subsystems. The equations for the required development coefficients of the eigenfunctions of the electron decomposed with respect to the orbits of the subsystems may be written down in such a manner that they may be expressed by a small number of development coefficients of the Wannier-functions or of the equivalent orbits. The here

Card 2/4

The Calculation of Quantum-mechanical Single-electron Systems Which Comprise a Large Subsystem SOV/20-125-4-43/74

discussed calculation method may obviously be applied to the following examples: 1) A molecule produced from two subsystems of atomic remainders. In this case the initially existing molecules are considered to be subsystems. 2) A finite crystal. Here an infinite crystal is looked upon as an initial system. 3) Chemisorption of a molecule. In this case a molecule and a finite crystal or a molecule and an infinite crystal is considered to be a subsystem. 4) Polyene. In this case an infinite chain of atoms connected with one another by double bonds serves as an initial system. The aforementioned program may be realized by means of approximation methods of the molecular orbits and of the selfconsistent field. The second part of this paper deals with calculations (step by step) of the simple method of the molecular orbits. In the third part the method of a selfconsistent field is briefly discussed. There is complete analogy between the investigation of the problem investigated in the present case within the framework of the simple method of molecular orbits and the method of the selfconsistent field. There are 1 figure and 11 references, 5 of which are Soviet.

Card 3/4

The Calculation of Quantum-mechanical Single-electron Systems Which Comprise a Large Subsystem SOV/20-125-4-43/74

ASSOCIATION: Institut fizicheskoy khimii Chekhoslovatskoy Akademii nauk Praga, ChSR (Institute of Physical Chemistry of the Czechoslovakian Academy of Sciences, Prague, CSR)

PRESENTED: January 1, 1959, by A. N. Frumkin, Academician

SUBMITTED: December 22, 1958

Card 4/4

Koutecky, J.

TRAVEL BOOK EXPLANATION 509/521

Abstracts from USSR. Institut fizicheskoy khimii
 Problemy khimicheskoy kataliza. (1) 10: Prints i fizicheskaya kataliza
 (Problems of Catalysis) Moscow: Izdatvo AN SSSR, 1966. 461 p. Errata
 fully inserted. 2,600 copies printed.
 Ed.: G.Z. Rodchuk, Corresponding Member of the Academy of Sciences USSR,
 and G.V. Izrael, Candidate of Chemistry; Ed. of Publishing House: A.L.
 Maslovskiy [Tech. Ed.: G.A. Arak'yan].
 PURPOSE: This collection of articles is addressed to physicists and chemists
 and to the community of scientists in general interested in recent
 research on the physics and physical chemistry of catalysis.
 COVERAGE: The articles in this collection were read at the conference on the
 Physics and Physical Chemistry of Catalysis organized by the Otial khimicheskikh
 nauk AN SSSR (Section of Chemical Sciences, Academy of Sciences USSR) and by
 the Academic Council on the problem of "the scientific bases for the selection
 of catalysis." The Conference was held at the Institut fizicheskoy khimii AN
 SSSR (Institute of Physical Chemistry of the AS USSR) in Moscow, March 20-23, 1958.
 Of the great volume of material presented at the conference, only papers not
 published elsewhere were included in this collection.

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Kryzhev, I.P. [Institute of Physical Chemistry AS USSR]. Nature of the Heterogeneity of the Active Surface of Semiconductor Catalysts	73
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Buterov, L. F., and I. P. Kryzhev [Institute of Physical Chemistry AS USSR]. Investigation of Chemical Adsorption of Gases on Zinc Oxide and its Solid Solutions	82
Korotkiy, G. I. Mechanism of Electron Exchange in the Photooxidation of Water Over Semiconductors	87
Izrael, G. V. [Institute of Physical Chemistry AS USSR]. Study of the Surface Charge of Oxide Semiconductor Catalysts During Adsorption	88
Yakovlev, V. O., G. V. Prudskiy, T. A. Semakova, and B. G. Lyubimovskiy [Condensate Institute of the Academy of Sciences of the USSR (Institute of the Nitrogen Industry)]. Investigation of Zinc, Chromium, and Copper Oxide Based Catalysts for the Conversion of Carbon Monoxide	90
Bukharov, A. M., V. A. Akhmedov, and A. A. Sliohin [Institute of Organic Chemistry of the AS USSR]. Heterogeneous and Heterochemical Investigation of Hetero- geneously Precipitated NiO - Al ₂ O ₃ Catalysts	95
Goryunov, B. A. [Physicochemical Institute of the AS USSR]. Type of Bond and Properties of Semiconductors of the Crystalline, Overgrown, and Amorphous Forms - Thesis	96

KOUTECKY J.

KOUTETSKIY, Ya.

Theory of chemisorption and surface states. Probl. kin. 1 kat.
10:34-36 '60. (MIRA 14:5)

1. Chekhoslovatskaya Akademiya nauk, Institut fizicheskoy khimii,
Praga.

(Chemisorption)

WEBER, J.; KOUTECKY, J.

Effect of absorbable substances on polarographic currents. V. Instantaneous and delayed currents in the presence of charged and uncharged surface-active substances undergoing slow adsorption. Coll Cz Chem 25 no.12:2993-3003 D '60. (EEAI 10:9)

1. Institut für physikalische Chemie, Tschechoslowakische Akademie der Wissenschaften, Prag.

(Polarograph and polarography) (Surface-active substances)
(Adsorption)

KOUTECKY, M.J.; FINGERLAND, A.

Problem of the existence of localized states in the interaction
between an atom and a crystal. Coll Cz Chem 25 no.1:1-16 Ja '60.
(EEAT 9:12)

1. Institut für physikalische Chemie, Tschechoslowakische
Akademie der Wissenschaften, Prag.
(Molecular dynamics) (Crystals) (Atoms)

KOUTECKY, J.; PALDUS, J.; ZAHRADNIK, R.

A study of benzodithylium by a simple MO LCAO method. Coll Cz chem
25 no.3:617-624 Mr '60. (EEAI 9:12)

1. Institute of Physical Chemistry, Czechoslovak Academy of
Science and Institute of Industrial Hygiene and Occupational
Diseases, Prague.

(Molecules) (Quantum theory) (Sulfur)
(Benzodithylium)

KOUTECKY, J.; ZAHRADNIK, R.

Calculation of molecular orbital energies of macromolecules with conjugated double bonds. Coll Cz chem 25 no.3:811-819 Mr '60.

(EEAI 9:12)

1. Institute of Physical Chemistry, Czechoslovak Academy of Science, and Institute of Industrial Hygiene and Occupational Diseases, Prague.

(Macromolecular compounds)

KOUTECKY, J.; WEBER, J.

The theory of polarographic currents affected by the adsorption of electro-inactive substances in a reversible electrode reaction. Coll Cz Chem 25 no.5:1423-1426 My '60.

1. Institut für physikalische Chemie, Tschechoslowakische Akademie der Wissenschaften, Prag.

AUTHORS: Koutecky, J., Hanuš, V.,
Mayranovskiy, S. G. (Moscow)

S/076/60/034/03/025/038
B005/B016

TITLE: Polarographic Catalytic Hydrogen Waves Caused by Organic Catalysts.
I. Exact Solution of the Problem for the Case of a Bimolecular
Regeneration of the Inactive Form of the Depolarizer From the
Products of Electrode Reaction, and of a Monomolecular Conversion
of the Depolarizer to Its Active Form

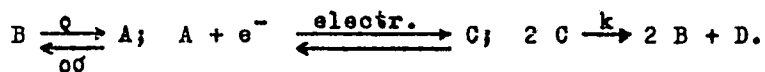
PERIODICAL: Zhurnal fizicheskoy khimii, 1960, Vol 34, Nr 3, pp 651-660 (USSR)

TEXT: In connection with investigations on catalytic hydrogen separation from
buffer solutions on a dropping mercury electrode the authors aimed at explaining
the complicated depolarization process for those cases in which the rates of the two
chemical reactions taking place on the electrodes are very high (this means that
equilibrium between diffusion and the chemical reactions is quickly established),
and in which the concentration of the proton donors practically does not change
with time. In this case, the concentrations of the components of the buffer system
may be included into the two effective rate constants q and $q\sigma$ of a monomolecular
reversible reaction. The following schematic reaction equations are then obtained
for the depolarization process:

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Polarographic Catalytic Hydrogen Waves Caused by Organic Catalysts. I. Exact Solution of the Problem for the Case of a Bimolecular Regeneration of the Inactive Form of the Depolarizer From the Products of Electrode Reaction, and of a Monomolecular Conversion of the Depolarizer to Its Active Form

S/076/60/034/03/025/038
B005/B016



B - base (electrochemically inert form of the depolarizer); A - depolarizer (electrochemically active acid conjugated to B, which is in equilibrium with B in the solution); C - product of the electrode process; D - hydrogen. For the calculations an ideal mobility was assumed for the electrochemical equilibrium, so that the ratio $\lambda = [A]_0/[C]_0$ depends only on the potential, but not on time. As a

further simplification the diffusion coefficients for the substances A, B, and C were assumed to be equal. It results therefrom that the algebraic sum of the diffusion currents flowing through random cross section is equal to zero. It was further assumed that the rates of all reactions mentioned above are very high already at a relatively small distance from the electrode, $qt_1 \gg 1$; $q\sigma t_1 \gg 1$;

$kat_1 \gg 1$. t_1 - dropping period of the mercury electrode; $\alpha = [A] + [B] + [C]$. Under these conditions a steady state forms after a very short time t_s of electrolysis
Card 2/3

Polarographic Catalytic Hydrogen Waves Caused by Organic Catalysts. I. Exact Solution of the Problem for the Case of a Bimolecular Regeneration of the Inactive Form of the Depolarizer From the Products of Electrode Reaction, and of a Monomolecular Conversion of the Depolarizer to Its Active Form

S/076/60/034/03/025/038
B005/B016

($t_g \ll t_1$), in which the concentrations of the substances A and B are equal to the initial concentrations owing to the assumed rapid regeneration of the depolarizer from the products of depolarization. It follows that the diffusion of the depolarizer from the solution to the electrode does not affect the electrode process, and that current density does not depend on time, accordingly. This means for a dropping electrode that the mean current density is independent of the depth of the reservoir and is, at the same time, proportional to $t_1^{2/3}$. On the basis of these assumptions the authors derived the equations for the mean polarographic current densities by means of an exact method. The derivation is given and explained in detail. There are 2 figures and 8 references, 1 of which is Soviet.

ASSOCIATION: Chekhoslovatskaya Akademiya nauk Institut fizicheskoy khimii
(Czechoslovakian Academy of Sciences, Institute of Physical Chemistry).
Akademiya nauk SSSR Institut organicheskoy khimii im. N. D. Zelinskogo (Academy of Sciences, USSR, Institute of Organic Chemistry
imeni N. D. Zelinskiy)
SUBMITTED: February 10, 1959

Card 3/3

S/195/61/002/003/002/009
E030/E111

AUTHOR: Koutecký, J.

TITLE: Quantum chemistry of crystal surface

PERIODICAL: Kinetika i kataliz, v.2, no.3, 1961. 319-339

TEXT: This article gives a review of the present state of the subject. Great emphasis is placed on the method of localized molecular orbitals (LCAO MO), using linear combinations of atomic orbitals not only for obtaining first approximations where it is relevant, but even using it in the cases of surfaces of crystals with homopolar and ionic bonding. In the latter case examples are graphite, where predictions of the surface state may be made for both possible orientations of the surface to the crystal axes, and similarly for other organic crystals where the symmetry of the bulk crystal is known. Such an approach is semi-empirical but is the only one which adequately treats the surface states. Consequently, the theories of Vol'kenshteyn and others (Ref.8: F.F. Vol'kenshteyn, Adv. Catal., v.9, 807, 1957, Ref.9: P.Aigrain, C. Duglas, Z. Elektrochem., v.56, 363, 1952, Ref.10: K. Hauffe, H.J. Engel, Z. Elektrochem., v.56, 366, 1952) on physical
Card 1/3

Quantum chemistry of crystal surface S/195/61/002/003/002/009
E030/E111

mechanisms of chemisorption, using a stationary surface of the model, are premature and there is a great need to fill the theoretical gap here. The further refinements of LCAO MO are described, considering in turn: the classical method of approach of two atoms in the crystal to obtain band formation; the energy spectrum of the surface by writing the form of the surface electrons wave-functions; Tamm and Shockley surface states; the spectrum of a semi-infinite chain of atoms with alternately weak and strong bonds; the (111) and (100) surfaces of diamond crystals according to localized orbitals; two-dimensional graphite plane surfaces; and the Goodwin-Artmann model (Ref.23: K. Artmann, Z. Phys., v.131, 244, 1952, Ref.40; E.T. Goodwin, Proc. Cambridge Phil. Soc., v.35, 232, 1939). Study of the transition from the diamond-type to germanium-type crystal, and the effect of hybridization of the sp^3 orbits, whose neglect is especially serious in crystals linked by σ -bonds, are listed as essential future problems.

There are 17 figures and 43 references: 17 Soviet-bloc and 26 non-Soviet-bloc. The four most recent English language references read as follows:

Card 2/3

Quantum chemistry of crystal surface S/195/61/002/003/002/009
E030/E111

Ref.11: P. Handler, J. Phys. Chem. Sol., v.14, 1, 1960.

Ref.12: M. Green, J. Phys. Chem. Sol., v.14, 77, 1960.

Ref.34: J. Koutecký, M. Tomášek, Phys. Rev., v.120, 1212, 1960.

Ref.41: J. Koutecký, M. Tomášek, J. Phys. Chem. Sol., v.14,
241, 1960.

ASSOCIATION: Institut fizicheskoy khimii Chekhoslovatskoy
Akademii nauk Praga
(Institute of Physical Chemistry, Czechoslovak
Academy of Sciences, Prague)

SUBMITTED: March 8, 1961

Card 3/3

ZAHRADNIK, R.; KOUTECKY, J.

Contribution to the chemistry of thiadiazols and 1,3-thiazol. Coll.
Cz chem 26 no.1:156-172 Ja '61. (EEAI 10:9)

1. Institute of Industrial Hygiene of Occupational Diseases and
Institute of Physical Chemistry, Czechoslovak Academy of Science,
Prague.

(Thiadiazole) (Thiazole)

KOUTECKY, J.; PALDUS, J.

Two remarks concerning the properties of the Dewar reactivity number.
Coll Cz Chem 26 no.10:2660-2663 0 '61.

1. Institute of Physica, Chemistry, Czechoslovak Academy of Science,
Prague.

KISELEV, A.V.; ~~KOUTECKI, I.~~ [Koutecki, I.]; CHIZHEK, Y. [Cizek, J.]

Nature of the interaction between a benzene molecule and a hydroxyl group. Dokl. AN SSSR 137 no.3:638-641 Mr '61. (MIRA 14:2)

1. Institut fizicheskoy khimii AN SSSR i Institut fizicheskoy khimii
Chekhoslavtskoy AN. Predstavleno akademikom A.A.Balandinym.
(Benzene) (Hydroxyl group)

S/081/62/000/023/001/120
B162/B180

AUTHORS: Koutecký, J., Paldus, J.

TITLE: Quantum chemical study of transannular interaction. I.
Model of (n,n)-paracyclophanes not considering the benzene
rings distortion

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 23, 1962, 6, abstract
23B15 (Collect Czechosl. Chem. Commun, v. 27, no. 3, 1962,
599-618 [Eng.; summary in Russ.])

TEXT: A model is suggested for (n,n)-paracyclophanes, which consists of
two benzene rings, arranged in parallel planes one above the other so that
their nuclear skeleton forms a D_{6h} symmetry group. The calculation of this
model is carried out by the Parazer and Parr semi-empirical method under the
following assumptions: Slater orbits with an effective atomic charge of
1.5 are used as the $2p_z$ -AO carbon atoms; the spacing between the benzene
ring atoms is 1.39 Å, the resonance integral β_{CC} between the neighboring
atoms of the benzene ring is taken as 2.388 eV, that between the atoms of

Card 1/2

Quantum chemical study of...

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different rings lying one above the other is calculated according to $\beta'/\beta = S_1/S_2$, where S_1 is the $2p_z$ -AO covering integral of these atoms, and S_2 the covering integral between $2p_z$ -AO of neighboring carbon atoms of the benzene ring: the integrals of the Coulomb electron interaction γ_{ij}^{kl} were calculated from $\gamma_{ij}^{kl} = e^2/(1.328 + r_{ij}^{kl})$, where e is the electron charge, r_{ij}^{kl} the spacing between the i and j atoms of k and l rings. The distances between the centers of the benzene ring are considered in the range 2.0-5.0 Å. The wave functions are analyzed for symmetry. At large distances, ~ 5.0 Å, the energy of the monoexcited states is found to be approximately the same as that of the corresponding states of a system of two isolated benzene rings. [Abstracter's note: Complete translation.]

Card 2/2

ZAHRADNIK, R.; PARKANYI, G.; KOUTECKY, J.

Physical properties, reactivity and the MO-LCAO study of thiopyrones and related compounds. Coll Cz Chem 27 no.5: 1242-1253 My '62.

1. Institute of Industrial Hygiene and Occupational Diseases (for Parkanyi and Koutecky). 2. Institute of Physical Chemistry, Czechoslovak Academy of Sciences, Prague (for Zahradnik).

PALDUS, J.; KOUTECKY, J.

Quantum chemical study of transannular interaction. Part 2: Interaction of two double bonds in the molecules of germacrol and bicyclo-[1,2,2]-heptadiene-(2,5) and interaction of three double bonds in the molecule of barrelene. Coll Cz Chem 27 no.9:2139-2151 S '62.

1. Institute of Physical Chemistry, Czechoslovak Academy of Sciences, Prague.

KOUTECKY, J.

ZAHRADNIK, R.

CZECHOSLOVAKIA ⁽¹⁾

no academic degree indicated

Institute of Physical Chemistry, Czechoslovak Academy of Science, Prague, and
Institute of Industrial Hygiene and Occupational Diseases, Prague

Prague, Collection of Czechoslovak Chemical Communications, vol 27, No 10,
Oct 62, pp 2336-2348

"Electronic Spectra and MO-LCAO Study of Aromatic Isothiocyanates"

Co-authors:

VIACHOVA, D. same as above

KOUTECKY, J. " " "

KOUTECKY, J.; ZAHRADNIK, R.; ARIENT, J.

Examination of the relations between the physical properties of symmetrical quinones and their structure by the MO-LCAO method. Coll Cz Chem 27 no.11:2491-2515 N '62.

1. Institute of Physical Chemistry, Czechoslovak Academy of Sciences, Prague and Research Institute of Organic Syntheses, Pardubice - Rybitvi.

2

HOCHMAN, P.; KOUTECKY, J.; ZAHRADNIK, R.

CSSR

Institute of Physical Chemistry, Czechoslovak Academy of Science, Prague
Prague, Collection of Czechoslovak Chemical Communications, No 12, 1962,
pp 3053-3075.

"Tables of Quantum Chemical Data. I. Molecular Orbitals of Some Benzenoid
Hydrocarbons and Benzo Derivatives of Fluoranthene"

3

GANUGH, V. [Hanus, V.]; MAYRANOVSKIY, S.G.; KOUTNICKII, Ya. [Koutecky, J.]

Polarographic catalytic hydrogen waves produced by organic
catalysts. Part 2. Zhur. fiz. khim. 36 no.9:2010-2107 S 162.
(MIRA 17:6)

1. Akademiya nauk Chekhoslovakii, Institut fizicheskoy khimii
AN SSSR i Institut organicheskoy khimii imeni N.D. Zelinskogo.

ZAHRADNÍK, R; PÁRKANYÍ, C; HORÁK, V; KOUTECKÝ, J.

Institute of Physical Chemistry, Czechoslovak
Academy of Science -- Prague; Department of
Organic Chemistry, Charles University -- Prague - (for all)

Prague, Collection of Czechoslovak Chemical Communications,
No 4, 1963, pp 776-794

"Study of the Reactivity of Sulphur Heterocycles."

4

ZAHRADNÍK, R; KOUTECKÝ, J.

Czechoslovakia

Institute of Physical Chemistry, Czechoslovak Academy of
Science -- Prague - (for all)

Prague, Collection of Czechoslovak Chemical Communications,
No 4, 1963, pp 904-932

"Physical Properties and Chemical Reactivity of Alternant
Hydrocarbons and Related Compounds. II. Study of the
Derivatives of Benzenoid Hydrocarbons by the Simple
MO-LCAO Method."

2

KOUTECKÝ, J.

KOUTECKY, J.

CZECHOSLOVAKIA

KOUTECKY, J; ZAHRADNIK, R.

Institute of Physical Chemistry, Czechoslovak Academy
of Science, Prague (for all)

Prague, Collection of Czechoslovak Chemical Communi-
cations, No 5, 1963, pp 1256-1264

"Relationship Between Chemical Reactivity Indices and
Carcinogenic Activity of Larger Benzenoid Hydro-
carbons."

CZECHOSLOVAKIA

KOUTECKY, J; PALDUS, J; VITEK, V.

1. Institute of Physical Chemistry of the Czechoslovak Academy of Sciences, Prague; 2. Mathematical-Physical Faculty of Charles University, Prague (for all)

Prague, Collection of Czechoslovak Chemical Communications,
No 6, 1963, pp 1468-1481

"Calculation of the Positions of the Alpha and Beta Bands
in the Electronic Spectra of Benzenoid Hydrocarbons
using the Method of Limited Configuration Interaction."



CZECHOSLOVAKIA

KOUTECKY, J; PALDUS, J.

Institute of Physical Chemistry of the Czechoslovak Academy
of Sciences, Prague

Prague, Collection of Czechoslovak Chemical Communications,
No 6, 1963, pp 1483-1489

"Calculation of the Excitation Energies of Benzenium and
Diphenylmethyl Ions by the Semiempirical Method of
Limited Configuration Interation."

3

CZECHOSLOVAKIA

ZAHRADNIK, R; KOUTECKY, J; JONAS, J; GUT, J.

Institute of Physical Chemistry and Institute of Organic
Chemistry and Biochemistry of the Czechoslovak Academy
of Sciences, Prague - (for all)

Prague, Collection of Czechoslovak Chemical Communications,
No 6, 1963, pp 1499-1505

"Nucleic Acid Components and Their Analogues. XXXI.
Electronic Structure of Uracil, 5-Azauracil and 6-
Azauracil."

CZECHOSLOVAKIA

KOUTECKY, J; ZAHRADNIK, R.

Institute of Physical Chemistry of the Czechoslovak
Academy of Sciences, Prague (for both)

Prague, Collection of Czechoslovak Chemical Communications,
No 8, 1963, pp 2089-2100

"Physical Properties and Chemical Reactivity of Alternant
Hydrocarbons and Related Compounds. III. Study of
the Heteroanalogues of Benzenoid Hydrocarbons by the
Simple MO-LCAO Method."

MAYRANOVSKIY, S. G.; KOUTETSKIY, Ya. [Koutecky, J.]; GANUSH, V. [Ranus, V.]

Polarographic catalytic hydrogen waves induced by organic catalysts. Part 3: Experimental study of the effect of the preceding reaction on the space catalytic waves. Zhur. fiz. khim. 36 no.12:2621-2627 D '62. (MIRA 16:1)

1. Institut organicheskoy khimii imeni N. D. Zelinskogo AN SSSR, Moskva i Institut fizicheskoy khimii Chekhoslovatskoy AN, Praga.

(Polarography) (Catalysis) (Pyridine)

HOCHMAN, P.; KOUTECKY, J.; ZAHRADNIK, R.

Tables of quantum chemical data. Part 1: Molecular orbitals of some benzenoid hydrocarbons and benzo derivatives of fluoranthene. Coll Cz Chem 27 no.12:3053-3075 D '62.

1. Institute of Physical chemistry, Czechoslovak Academy of Sciences, Prague.

ZAHRADNIK, R.; KOUTECKY, J.

Physical properties and chemical reactivity of alternant hydrocarbons and related compounds. Pt. 2. Coll Cz Chem 28 no.4:904-934 Ap '63.

1. Institute of Physical Chemistry, Czechoslovak Academy of Sciences, Prague.