TOLSTOPYATOVA, A.A.; YUY TSI-TSYUAN' [Yu Ch'i-ch'uan]; DULITSKAYA, K.A.

Catalytic properties of neodymium oxide in the reactions of dehydrogenation of tetralin. Izv. AN SSSR. Ser. khim. no.12: 2095-2100 D '63. (MIRA 17:1)

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

KONENKO, I.R.; TOLSTOPYATOVA, A.A.; BALANDIN, A.A.

Scandium oxide as a catalyst of dehydrogenation and dehydration.
Izv. AN SSSR. Ser. khim. no.11:1899-1905 N '63. (MIRA 17:1)

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

BALANDIN, A. A.; TOLSTOPYATOVA, A. A.

"Selectivity of catalysis and bond energies."

report submitted to 3rd Intl Cong on Catalysis, Amaterdam, 20-25 Jul 64.

Inst or Organic Chemistry im Zelinskiy, AS USSR, Moscow.

TOLSTOPYATOVA, A.A.; BALANDIN, A.A.; YUY TSI-TSYUAN' [Yü Ch'i-ch'üan]

Kinetics of dehydrogenation and dehydration of isopropyl alcohol and of the dehydrogenation of tetralin on lanthanum oxide. Zhur.fiz.khim. 37 no.10:2220-2227 O '63. (MIRA 17:2)

1. Institut organicheskoy khimii AN SSSR.

BALANDIN, A.A.; KONENKO, I.R.; TOLSTOPYATOVA, A.A.

Kinetics of dehydrogenation and dehydration of ethyl and isopropyl alcohols on yttrium oxide. Kin.i kat. 2 no.6:900-906 N-D '61.
(MIRA 14:12)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.
(Ethyl alcohol) (Isopropyl alcohol)
(Dehydrogenation) (Dehydration (Chemistry))

BALANDIN, A.A., akademik; TOLSTOPYATOVA, A.A.; NAUMOV, V.A.

Bond energies of interaction between organogens and the surface of oxide catalysts. Dokl.AN SSSR 148 no.4:825-828 F '63. (MIRA 16:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Chemical bonds) (Chemical elements) (Catalysts)

FERAPONTOV, V.A.; BALANDIN, A.A.; TOLSTOPYATOVA, A.A.

Catalytic dehydrogenation of ethylbenzene to styrene on cadmium oxide in the presence of water vapors. Izv.AN SSSR.Otd. khim.nauk no.3:414-423 Mr '63. (MIRA 16:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Benzene) (Styrene)

TOLSTOPYATOVA, A.A.; BALANDIN, A.A.; NAUMOV, V.A.

Kinetic method used in the determination of bond energies of the reacting atoms of organic molecules having a blue molybdenum oxide surface. Izv.AN SSSR.Otd.khim.nauk no.3:423-429 Mr '63. (MIRA 16:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Chemical bonds) (Molybdenum oxides) (Organic compounds)

TOLSTOPYATOVA, A.A.; BALANDIN, A.A.; PYN BI-SYAN [P'ing Pi-hsiang]

Kinteics of the dehydrogenation and dehydration of isopropyl alcohol and of the dehydrogenation of tetralin on thulium oxide. Izv.AN SSSR. Otd.khim.nauk no.9:1524-1533 S '62. (MIRA 15:10)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Isopropyl alcohol) (Dehydrogenation) (Dehydration (Chemistry))
(Naphthalene)

BALANDIN, A.A.; TOLSTOPYATOVA, A.A.; PYN BI-SYAN [P'êng Pi-hsiang]

Catalytic properties of dysprosium oxide with respect to the reaction of drhydrogenation and dehydration of alcohols and dehydrogenation of tetralin. Izv.AN SSSR.Otd.khim.nauk no.6: 974-980 '62. (MIRA 15:8)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Dysprosium oxide) (Catalysis) (Dehydrogenation)

TOLSTOPYATOVA, A.A.; BALANDIN, A.A. PYN BI-SYAN [P'êng Pi-hsiang]

Kinetics of dehydrogenation and dehydration of isopropyl alcohol and dehydrogenation of tetralin of dysprosium oxide. Izv.AN SSSR. Otd.khim.nauk no.7:1154-1163 Jl '62. (MIRA 15:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Chemical reaction, Rate of) (Catalysis) (Dysprosium oxide)

TOLSTOPYATOVA, A.A.; PYN BU-SYAN [P'êng Pi-hsiang]; BALANDIN, A.A.

Kinetics of dehydrogenation and dehydration of isopropyl alcohol and of dehydrogenation of tetralin on ytterbium oxide. Izv.AN SSSR.Otd.khim.nauk no.8:1322-1329 Ag '62. (MIRA 15:8)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Isopropyl alcohol) (Naphthalene) (Dehydrogenation)

BALANDIN, A.A.; TOLSTOPYATOVA, A.A.; NAUMOV, V.A.

Determination of bond energies of the reacting atoms of organic molecules with the MoO_2 catalyst surface using a kinetic method. Izv.AN SSSR.Otd.khim.nauk no.7:1150-1154 Jl '62. (MIRA 15:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Chemical bonds) (Molybdenum oxide) (Chemical reaction, Rate of)

BALANDIN, A.A.; FYN BI-SYAN [P'êng Pi-hsiang]; TOLSTOPYATOVA, A.A.

Kinetics of dehydrogenation and dehydration of isopropyl alcohol and of dehydrogenation of tetralin on gadolinium oxide. Izv.AN SSSR.Otd.khim.nauk no.8:1330-1336 Ag '62. (MIRA 15:8)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Isopropyl alcohol) (Napthalene) (Dehydrogenation)

TOLSTOPYATOVA, A.A.; BALANDIN, A.A.; MATYUSHENKO, V.Kh.

Determination of bond energies of atoms of organic molecules reacting with the surface of the MnO catalyst. Izv.AN SSSR Otd. khim.nauk no.8:1333-1336 Ag '60. (MIRA 15:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova i Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Chemical bonds) (Chemical reaction, Rate of)

S/062/62/000/008/002/016
B101/B180

AUTHORS: Tolstopyatova, A. A., Ping Pi-hsiang, and Balandin, A. A.

TITLE: Kinetics of the dehydrogenation and dehydration of isopropanol and the dehydration of tetralin on ytterbium oxide

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 8, 1962, 1322-1329

TEXT: Data was obtained on the catalytic dehydration of i-propanol and the dehydrogenation of i-propanol and tetralin on Yb_2O_3, using methods described earlier (Dokl. AN SSSR, 138, 1365 (1961); Izv. AN SSSR, Otd. khim. n., 1962, 974, 1154). The low specific surface area of the catalyst (9.1 m^2/g) precluded capillary condensation and complications due to diffusion. When the catalyst was mixed with quartz powder in a 1:1 ratio, the reaction took place isothermally. z, the relative adsorption coefficient of the reaction products (H_2O, C_3H_3, acetone; H_2, naphthalene), and the thermodynamic functions ΔH (kcal/mole), ΔF (kcal/mole), ΔS

Kinetics of the dehydrogenation ...

(kcal/mole·deg) were calculated:

dehydration of i-propanol

°C	z_{H_2O}	ΔH	ΔF	ΔS
325	7.23	-18.7	-2.39	-10.4
365	3.48	"	-1.57	-10.3
	$z_{C_3H_6}$			
329	1.80	-23.8	-0.69	-38.3
360	0.61	"	0.40	"

dehydrogenation of i-propanol

°C	z_{acet}	ΔH	ΔF	ΔS
345	2.56	-21.9	-1.13	-33.5
365	1.54	"	-0.54	"
	z_{H_2}			
325	0.15	34.7	2.24	54.4
345	0.40	"	1.13	54.5

dehydrogenation of tetralin

	z napht			
500	1.37	26.5	-0.49	34.9
524.5	2.32	"	-1.35	"
	z'_{H_2}			
500	1.40	-48.4	-0.49	-62.0
530	0.42	"	1.39	-62.1

The real and apparent activation energies and the energy of adsorption of the C,H and O atoms onto the surface of the Yb_2O_3 were calculated from the

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Kinetics of the dehydrogenation ...

above data (the first figure being the apparent value, the second the true value, in kcal/mole): dehydration of i-propanol ε_{H_2O} 25.1, 30.6; dehydrogenation of i-propanol ε_{H_2} 20.6, 22.9; dehydrogenation of tetralin ε'_{H_2} 34.7, 36.6; $Q_{C\text{-}cat}$ 22.1, 19.4; $Q_{H\text{-}cat}$ 53.5; 55.1; $Q_{O\text{-}cat}$ 52.5, 49.7.

There are 3 figures and 13 tables.

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

SUBMITTED: February 13, 1962

Card 3/3

TOLSTOPYATOVA, A.A.; KONENKO, I.R.; BALANDIN, A.A.

Bond energies of carbon, hydrogen, and oxygen atoms of organic molecules with yttrium oxide. Kin.i kat. 3 no.1:103-106 '62. (MIRA 15:3)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AN SSSR.
(Chemical bonds) (Yttrium oxede) (Catalysis) (Organic compounds)

Tolstopyatova, N. A.

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Zirconia as a dehydrogenation and dehydration catalyst. A. A. Balandin, N. A. Tolstopyatova, and V. A. Perapontov (*Doklady Akad. Nauk S.S.S.R.*, 1935, 3, 611—614).—The following reactions are catalysed by ZrO_2: *cyclo*hexane → benzene + $3H_2$ (480—522°; ϵ_{1,H_2} = 33·4); $Pr^{\beta}OH \rightarrow COMe_2 + H_2$ (297—333°; ϵ_{1,H_2} 44·3); EtOH → MeCHO + H_2 (316—348°; ϵ_{1,H_2} = 29·1); $Pr^{\beta}OH \rightarrow C_3H_6 + H_2O$ (297—333°; ϵ_{1,H_2O} = 30·9); EtOH → $C_2H_4 + H_2O$ (316—348°; ϵ_{1,H_2O} = 38·5 kg.-cal./mole). The dehydrating activity of ZrO_2 exceeds its dehydrogenating activity. In accordance with theory, the activation energies ϵ_H are very similar for all the reactions, but the ϵ_O differ considerably. The binding energies of C and H with the catalyst, as calculated from the kinetic data, are very close to those found for Ni and Cr_2O_3 catalysts, whilst the catalyst-O bond-energy is much lower.

R. Truscott.

Chem 3

BALANDIN, A.A.; TOLSTOPYATOVA, A.A.; DUDZIK, Z.

Catalytic properties of thorium dioxide in the dehydrogenation and dehydration of alcohols, and in the dehydrogenation of cyclic hydrocarbons. Kin.i kat. 2 no.2:273-284 Mr-Ap '61. (MIRA 14:6)

1. Moskovskiy gosudarstvennyy universitet, kafedra organicheskogo kataliza.

(Thorium oxide)
(Dehydrogenation)
(Dehydration (Chemistry)

TOLSTOPYATOVA, A.A.; BALANDIN, A.A., akademik

Regularities in the catalytic properties of rare earths. Dokl.AN SSSR 138 no.6:1365-1368 Je '61. (MIRA 14:6)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR i Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Rare earths) (Catalysis)

BALANDIN, A.A.; STSHIZHEVSKIY, V.; TOLSTOPYATOVA, A.A.

Thermal effect of the reaction of alcohol dehydration affecting the results of kinetic measurements. Vest.Mosk. un. Ser.2:khim. 17 no.1:30-33 Ja-F '62. (MIRA 15:1)

1. Moskovskiy gosudarstvennyy universitet, kafedra organicheskogo kataliza.
(Alcohols) (Heat of denervation) (Catalysis)

BALANDIN, A.A.; TOLSTOPYATOVA, A.A.; DUDZIK, Z.

Catalytic properties of thorium dioxide in the dehydrogenations and dehydration of alcohols, and in the dehydrogenation of cyclic hydrocarbons. Kin.i kat. 2 no.2:273-284 Mr-Ap '61. (MIRA 14:6)

1. Moskovskiy gosudartsvennyy universitet, kafedra organicheskogo kataliza.

(Thorium oxide) (Dehydrogenation)
(Dehydration (Chemistry))

TOLSTOPYATOVA, A.A.; BALANDIN, A.A.; MATYUSHENKO, V.Kh.; PETROV, Yu.I.

Kinetics of the dehydrogenation and dehydration of alcohols, and of the dehydrogenation of hydrocarbons over WS_2 and MoS_2 catalysts. Izv. AN SSSR Otd.khim.nauk no.4:583-590 Ap '61. (MIRA 14:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.
(Dehydrogenation) (Dehydration (Chemistry))
(Molybdenum sulfide) (Tungsten sulfide)

TOLSTOPYATOVA, A.A.; KONEKO, I.R.; BALANDIN, A.A.

Catalytic properties of yttrium oxide. Conversions of alcohols and hydrocarbons. Kin. i kat. 2 no.1:135-143 Ja-F '61. (MIRA 14:3)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.
(Yttrium oxide)
(Alcohols)
(Hydrocarbons)

BALANDIN, A.A.; TOLSTOPYATOVA, A.A; KONENKO, I.R.

Study of the catalytic conversions of isopropyl alcohol and cyclic hydrocarbons on titanium dioxide (anatase) by means of a differential thermocouple. Izv. AN SSSR.Otd. khim. nauk no.12:2096-2102 D '60. (MIRA 13:12)

1. Institut organicheskoy khimii im.N.D.Zelinskogo AN SSSR.
(Isopropyl alcohol) (Hydrocarbons)
(Anatase)

TOLSTOPYATOVA, A.A.; KONENKO, I.R.; BALANDIN, A.A.

Kinetics of dehydrogenation and dehydration of isopropyl alcohol over titanium dioxide (Anatase). Izv. AN SSSR. Otd. khim. nauk no. 1:38-44 Ja '61. (MIRA 14:2)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.
(Anatase) (Isopropyl alcohol)

BALANDIN, A.A.; KOMENKO, I.P.; TOLSTOPYATOVA, A.A.

Effect of the preparation method on the catalytic properties of titanium dioxide in reactions of ethyl and isopropyl alcohol and cyclohexane. Izv. AN SSSR. Otd. khim. nauk no. 1:45-50 Ja '61. (MIRA 14:2)

1. Institut organicheskoy khimii im.N.D. Zelinskogo AN SSSR.
(Titanium oxide) (Ethanol) (Isopropyl alcohols)
(Cyclohexane)

TOLSTOPYATOVA, A.A.; BALANDIN, A.A.; KONENKO, I.R.

Energies of the bonds between reacting organic compounds and the catalytic active centers of titanium dioxide. Izv. AN SSSR. Otd. khim. nauk no.2:214-217 F '61. (MIRA 14:2)

1. Institut organicheskoy khimii im.N.D.Zelinskogo AN SSSR.
(Titanium oxide) (Chemical bonds)

S/062/61/000/001/004/016
B101/B220

AUTHORS: Tolstopyatova, A. A., Konenko, I. R., and Balandin, A. A.

TITLE: Kinetics of dehydrogenation and dehydration of isopropyl alcohol on titanium dioxide (anatase)

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, no. 1, 1961, 38-44

TEXT: By way of introduction the authors offer a survey of reports dealing with the catalytic efficacy of TiO_2, and then report on the dehydrogenation and dehydration of isopropyl alcohol on anatase. Regarding the production of the catalyst they refer to another report published by them. For the verification of the kinetics of monomolecular heterogeneous-catalytic reactions they proceed from the equation $k = A_1(Z_2-Z_3)\ln A_1/(A_1-m)-(Z_2+Z_3-1)m$ (1). A_1 is the volume of alcohol converted per minute, which is introduced at the rate v; m is the volume of propylene (or hydrogen) formed per minute; Z_2, Z_3 are the relative adsorption coefficients of the reaction products (hydrogen and acetone

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in the case of dehydrogenation; propylene and water in the case of dehydration); Z_2 and Z_3 were calculated from $Z = (m_o/m-1)/(100/p-1)$ (2), where m_o, m are the amounts of the reaction products resulting on the passage of pure alcohol (m_o) and on the passage of a p molar mixture with the reaction product. Since Z is the equilibrium constant of the displacement of the isopropyl alcohol from the catalytic centers by the reaction products, it was possible to calculate also ΔF of the free energy, ΔS of entropy, and ΔH of the heat content. The adsorption coefficient Z_{ac} of acetone was found to be highly dependent on temperature and much less so on the degree to which the catalyst was covered with carbon. The following is indicated for not carbonized TiO_2: Z_{ac} = 2.4 at 282°C; 1.7 at 294°C; 1.2 at 310°C. For carbonized TiO_2 these values amounted to 2.7, 1.8 and 0.9. The adsorption coefficient Z_{H_2} of the hydrogen remains constantly 0.9 in the range of 276-306°C. Moreover, it was found that Z_{H_2O} = 1.9 at 282°C, 1.4 at 294°C, and 0.9 at 310°C, whereas $Z_{propylene}$ remains a constant 0.2 in the temperature range of 300-330°C. A. M. Rubinshteyn and S. G. Kulikov are mentioned.

There are 1 figure, 8 tables, and 24 references: 8 Soviet-bloc and 13 non-Soviet-bloc.

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

SUBMITTED: June 29, 1959

S/062/61/000/001/005/016
B101/B220

AUTHORS: Balandin, A. A., Konenko, I. R., and Tolstopyatova, A. A.

TITLE: Effect of the method of production on the catalytic properties of titanium dioxide in the reaction with ethyl alcohol, isopropyl alcohol, and cyclohexane

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, no. 1, 1961, 45-50

TEXT: The authors were concerned with the investigation of the catalytic properties of titanium dioxide. Here, they studied the dependence of those properties on the method of TiO_2 synthesis. Four specimens were used. Catalyst 1 (anatase), whose production is described in Ref. 1, a previous report of the authors; catalyst 2, obtained by hydrolysis of $TiCl_4$ by means of ammonia solution in a weakly acid medium at room temperature; catalyst 3, obtained by precipitation of $Ti(OH)_3$ from $TiCl_3$ by means of ammonia at room temperature and conversion to $Ti(OH)_4$ which occurred automatically

while washing the precipitate; catalyst 4, obtained by hydrolysis of ethyl orthotitanate by means of distilled water at room temperature. The further treatment of the hydroxides for the purpose of obtaining TiO_2 was performed according to Ref. 1. Ethanol reacted with these catalysts according to three reactions: a) dehydrogenation, b) dehydration, c) hydrogenation of the resulting ethylene. Moreover, up to 2% ethyl acetate was formed on all four catalysts. The reaction of isopropanol corresponded to data mentioned in Ref. 1. Due to the growing accumulation of carbon on the catalyst, the rate of dehydration increases, whereas that of dehydrogenation decreases. Cyclohexane is dehydrogenated on all four catalysts. The differences between the catalysts regarding the activation energy ε and the factor k_o of the Arrhenius equation are listed in Table 8. The linear function $\log k_o = a\varepsilon + b$ (a, b = constants) is conserved for all reactions. A. M. Rubinshteyn and S. G. Kulikov are mentioned. There are 2 figures, 8 tables, and 6 references: 4 Soviet-bloc and 2 non-Soviet-bloc.

Effect of the method of production... S/062/61/000/001/005/016
B101/B220

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

SUBMITTED: July 9, 1959

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S/062/61/000/001/005/016
B101/B220

Влияние способа приготовления катализатора TiO_2 на величины энергий активации

1 Состояние поверхности катализатора *	2 Реакции	E, ккал/М				k_0			
		3 катализатор				3 катализатор			
		1	2	3	4	1	2	3	4
4 ч. о.	7 Дегидрогенизация этилового спирта	22,8	20,4	0,4	12,4	$1,0 \cdot 10^{6}$	$1,9 \cdot 10^{7}$	$1,4 \cdot 10^{2}$	$1,2 \cdot 10^{4}$
4 ч. о.	8 Дегидратация этилового спирта	25,0	25,4	0,9	12,5	$1,5 \cdot 10^{9}$	$5,6 \cdot 10^{8}$	$3,7 \cdot 10^{3}$	$4,4 \cdot 10^{4}$
5 п. о.	9 Дегидратация изопропилового спирта	22,9	9,1	26,2	17,2	$3,7 \cdot 10^{9}$	$9,1 \cdot 10^{8}$	$1,0 \cdot 10^{14}$	$2,8 \cdot 10^{7}$
4 ч. о.	10 Гидрогенизация этилена	21,2	24,2	13,0	16,8	$1,8 \cdot 10^{7}$	$1,0 \cdot 10^{8}$	$1,3 \cdot 10^{4}$	$2,7 \cdot 10^{6}$
4 ч. о.	11 Дегидрогенизация циклогексана	19,0	14,7	21,0	15,0	$8,7 \cdot 10^{9}$	$5,1 \cdot 10^{8}$	$1,3 \cdot 10^{6}$	$3,5 \cdot 10^{4}$
4 ч. о.	12 Дегидрогенизация изопропилового спирта	9,1	10,4	—	—	$1,0 \cdot 10^{4}$	$2,2 \cdot 10^{4}$	—	—
4 ч. о.	9 Дегидратация изопропилового спирта	24,4	15,3	—	—	$4,5 \cdot 10^{9}$	$6,9 \cdot 10^{5}$	—	—
6 н. о.	12 Дегидрогенизация изопропилового спирта	11,9	—	—	—	$1,9 \cdot 10^{3}$	—	—	—
5 п. о.	11 Дегидрогенизация циклогексана	25,2	—	—	—	$4,9 \cdot 10^{7}$	—	—	—
4 ч. о.	13 Дегидрогенизация пропилового спирта	19,4	—	—	—	$2,3 \cdot 10^{6}$	—	—	—
4 ч. о.	14 Дегидратация н.пропилового спирта	12,1	—	—	—	$4,5 \cdot 10^{4}$	—	—	—

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Effect of the method of

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3 катализатор			
1	2	3	4
2,84	2,81	3,01	3,05
2,73	2,90	2,70	2,70
2,39	2,28	2,54	2,31
2,91	3,01	3,01	3,10
3,20	3,12	3,53	3,30
2,24	2,40	—	—
2,53	2,62	—	—
2,25			
3,27	—	—	—
2,71	—	—	—
3,05	2,73	2,96	2,89
2,60			

Legend to Table 8: Effect of the method of preparing the TiO_2 catalyst on the amounts of activation energies. 1) Condition of catalyst surface; 2) reaction; 3) catalyst; 4) partially carbonized; 5) completely carbonized; 6) not carbonized; 7) dehydrogenation of ethanol; 8) dehydration of ethanol; 9) dehydration of isopropanol; 10) hydrogenation of ethylene; 11) dehydrogenation of cyclohexane; 12) dehydrogenation of isopropanol; 13) dehydrogenation of propanol; 14) dehydration of n-propanol.

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TOLSTOPYATOVA, A.A.

A.A.Balandin's work in the field of heterogeneous catalysis. Vest.Mosk.un.Ser.mat., mekh., astron., fiz., khim. 14 no.3: 159-169 '59. (MIRA 13:5)
(Catalysis) (Balandin, Aleksei Aleksandrovich, 1898)

81725
S/020/60/133/01/36/070
B011/B003

5.1190

AUTHORS: Tolstopyatova, A. A., Balandin, A. A., Academician, Konenko, I. K.

TITLE: Catalytic Transformations of Alcohols and Cyclic Hydrocarbons on Titanium Dioxide

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No.1, pp. 130 - 133

TEXT: Although titanium dioxide is easily available, it belongs to the little investigated catalysts. The authors wanted to study its catalytic properties with various modes of preparation, in reactions with ethyl-, isopropyl, and n-propyl alcohol as well as with cyclohexane, cyclohexene, and 1,4-cyclohexadiene. Moreover, they wanted to investigate the kinetics of these reactions and the energies of the bonds of C-, H-, and O-atoms with the TiO_2 surface. The method of the differential thermocouple is used for the study of the catalytic reactions. Fig. 1 shows the position of the catalyst in relation to the thermocouple. The electromotive force (emf) was uninterruptedly recorded on

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Catalytic Transformations of Alcohols and Cyclic Hydrocarbons on Titanium Dioxide

S/020/60/133/01/36/070
B011/B003

a potentiometer of the type ЭПП-09 (EPP-09). Apparatus and methods are described in Ref. 4. By combining the above method with analytical methods the authors found that in isopropyl alcohol the surface of the catalyst is coated by carbon-containing sediments. In this way, the relation between dehydrogenation and dehydration of the alcohol is considerably influenced. Within the first 2 - 5 min it is only dehydrogenated. Subsequently, the two processes mentioned take place, and after 20-25 min there occurs dehydration only. Meanwhile, the total amount of the gas liberated per unit of time remains unchanged. All this proves that the centers that are active for dehydrogenation, are poisoned after decarbonization with respect to this reaction, but at the same time are capable of dehydrating the alcohol at the same rate (Table 1). Also the regeneration conditions of the catalyst were determined with the same apparatus: The carbon film was removed after each experiment by means of a strong air current, with the catalyst being previously brought to a temperature exceeding the one of the experiment by 40-50°C. Regeneration usually took 20-30 min. The authors studied the influence of the mode of preparation of TiO_2 on the catalytic properties on four samples: No. 1 - by precipitation of the hydroxide from $TiCl_4$ with

Catalytic Transformations of Alcohols and Cyclic Hydrocarbons on Titanium Dioxide

water, No. 2 - the same with ammonia. No. 3 by oxidation of freshly prepared $Ti(OH)_3$ (precipitated from $TiCl_3$ with ammonia) with air, and No. 4 by hydrolysis of orthoethyl titanate. It was established by X-ray structural analysis that anatase resulted in No. 1. Table 2 shows the reactions studied in certain temperature ranges, the activation energies E as well as K_0 of the Arrhenius equation; furthermore, the degree of decarbonization of each sample surface. It may be seen from these data and Table 4 that the mode of preparation exerts a great influence on the above-mentioned values and the binding energy. Table 3 shows the dependence of the adsorption coefficient z on ΔH° (heat content), the entropy ΔS°, and the change in free energy ΔF°. The binding energy values were calculated for the first time (Table 4). There are 1 figure, 4 tables, and 11 references: 10 Soviet.

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

SUBMITTED: April 2, 1960

Card 3/3

S/195/60/001/004/008/015
B017/B055

5.4300

AUTHORS: Tolstopyatova, A. A., Balandin, A. A., Stshizhevskiy, V.

TITLE: The Kinetics of Alcohol Dehydration on Tungsten Oxide and the Energy of Carbon, Hydrogen, and Oxygen Bonds With Catalysts

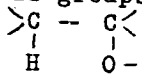
PERIODICAL: Kinetika i kataliz, 1960, Vol. 1, No. 4, pp. 558-565

TEXT: The kinetics of the dehydration of ethyl, isopropyl, n-butyl and tert-butyl alcohol and cyclohexanol on W_2O_5 were investigated under isothermal conditions. This catalyst was also used to study the dehydrogenation of methyl alcohol and 1,2,3,4-tetrahydro naphthalene. The catalyst was prepared by subjecting the yellow tungsten oxide WO_3 to heat treatment in air at 350-450°C for 5-6h, and subsequent treatment with alcohol vapors at 200-390°C. Thermal effects in dehydration reactions of n-butyl alcohol are shown in Table 1. Table 2 gives the apparent activation energies of alcohol dehydration on the tungsten-oxide catalyst. A relation was found to exist between the apparent activation energy and

The Kinetics of Alcohol Dehydration on Tungsten Oxide and the Energy of Carbon, Hydrogen, and Oxygen Bonds With Catalysts

S/195/60/001/004/008/015
B017/B055

the structure of the alcohol. For ethyl and n-butyl alcohol, the apparent activation energy of dehydration is 30 kcal/mole, for isopropyl alcohol, 24 kcal/mole and for tert-butyl alcohol, 18 kcal/mole. The true activation energies of alcohol dehydration (isopropyl and butyl alcohols) were determined at 26.1 kcal/mole for isopropyl alcohol and 33.4 kcal/mole for n-butyl alcohol by means of the kinetic equation by Balandin (Ref. 20). The relative adsorption coefficients of the dehydration products from $n\text{-}C_4H_9OH$ and $iso\text{-}C_3H_7OH$ as a function of temperature are given in Table 3. From this it may be seen that the relative adsorption coefficients are independent of temperature. Results obtained in the kinetic determination of the dehydration of n-butyl and isopropyl alcohol are shown in Table 5. The true activation energy is 3 kcal/mole higher than the apparent activation energy. The alcohols to be dehydrated are oriented with their functional groups towards the surface of the catalyst:



The kinetic method was used to determine the energies of the bonds of the

The Kinetics of Alcohol Dehydration on Tungsten Oxide and the Energy of Carbon, Hydrogen, and Oxygen Bonds With Catalysts

S/195/60/001/004/008/015
B017/B055

carbon, hydrogen, and oxygen atoms with the active centers of the W_2O_5 surface. The bond energies were found to be a function of the structure of the alcohol. The energies of the bonds of reacting atoms and molecules with the surface of the W_2O_5 catalyst are given in Table 6.

Table 6

Alcohol	Activation Energy of Dehydration	Bond Energies $Q_{H\text{-}Cat}$	$Q_{C\text{-}Cat}$	$Q_{O\text{-}Cat}$
n-Butyl	29.9	56.7	24.1	39.4
Ethyl	29.4	56.4	24.5	39.7
Isopropyl	23.7	52.6	27.6	43.5
Cyclohexanol	21.9	51.5	29.5	44.6
Tert-butyl	17.8	48.7	32.2	47.5

I. Ye. Adadurov and P. Ya. Krayniy are mentioned. There are 6 tables and 25 references: 24 Soviet and 1 German.

Card 3/4

88360

The Kinetics of Alcohol Dehydration on Tungsten Oxide and the Energy of Carbon, Hydrogen, and Oxygen Bonds With Catalysts

S/195/60/001/004/008/015
B017/B055

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: May 13, 1960

Card 4/4

TOLSTOPYATOVA, A.A.; BALANDIN, A.A.; STSHIZHEVSKIY, V.

Kinetics of dehydration of alcohols on tungsten oxide, and energies of the bonds between the catalyst and carbon, hydrogen, and oxygen. Kin. i kat. 1 no. 4:558-565 N-D '60. (MIRA 13:12)

1. Moskovskiy gosudarstvennyy universitet.
(Dehydration (Chemistry)) (Tungsten oxide)
(Chemical bonds)

S/062/60/000/008/014/033/XX
B013/B055

AUTHORS: Tolstopyatova, A. A., Balandin, A. A., and Matyushenko, V. Kh.

TITLE: Determination of the Bonding Energies of the Atoms of Organic Molecules Reacting With the MnO Catalyst Surface

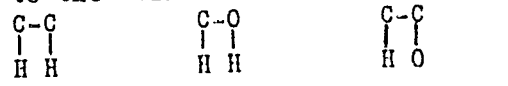
PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 8, pp. 1333-1336

TEXT: The present paper is a continuation of the investigation into the transformation of alcohols on manganous oxide begun in Refs. 1 and 2. The experimental methods and catalyst preparation have been described previously (Ref. 2). Dehydration was carried out between 330° and 380°C. The gaseous products consisted of unsaturated hydrocarbons only. The first series of experiments was performed to determine the apparent activation energy (Table 1, Fig. 1). The activation energy calculated by means of the Arrhenius equation from the relation log m = f(1/T) was 24.1 kcal/mol. Relative adsorption coefficients of isobutylene (Table 2) and water (Table 3) were determined. The determination of the relative adsorption coeffi-

Determination of the Bonding Energies of the Atoms of Organic Molecules Reacting With the MnO Catalyst Surface

S/062/60/000/008/014/033/XX
B013/B055

cients and their temperature dependence permitted calculation by the method described in Ref. 5 of the changes in free energy, enthalpy and entropy produced by displacement of trimethylcarbinol from the active centers of the catalyst by isobutylene and water (Table 4). The true activation energy for the dehydration of trimethylcarbinol, calculated from the relation log k = f(1/T) (ε = 31.0 kcal/mol) was found to be 6.9 kcal higher than the apparent activation energy (ε' = 24.1 kcal/mol). On the strength of this investigation, the authors were able to determine the bonding energies of the atoms reacting with the catalyst surface according to the well-known method (Ref. 6). These reactions are:



(I) (II) (III)

(I) dehydrogenation of hydrocarbons; (II) dehydrogenation of alcohols; (III) dehydration of alcohols. The following bonding energies were found: Q_{H-k} = 50.75, Q_{C-k} = 26.7 and Q_{O-k} = 38.8. V. N. Kondrat'yev is mentioned.

Card 2/3

Determination of the Bonding Energies of the Atoms of Organic Molecules Reacting With the MnO Catalyst Surface

S/062/60/000/008/014/033/XX
B013/B055

There are 1 figure, 4 tables, and 8 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov). Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy of the Academy of Sciences USSR)

SUBMITTED: January 14, 1959

Card 3/3

S/081/60/000/021/005/018
A005/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 21, p. 50, # 83983

AUTHORS: Tolstopyatova, A. A., Balandin, A. A.

TITLE: The Determination of the Energy of Bonding With Oxide Catalysts by the Kinetic Method for Developing a Theory of Catalyst Selection

PERIODICAL: Probl. kinetiki i kataliza, 1960, Vol. 10, pp. 351-355

TEXT: The authors determined by the kinetic method the bonding energies of hydrogen, carbon, and oxygen with various oxides and show that, in accordance with the theory, the molecular structure, the catalyst's nature, and the mode of the catalyst's preparation affect the values mentioned.

Summary of the authors

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

S/062/60/000/010/019/031/XX
B002/B060

AUTHORS: Balandin, A. A., Ferapontov, V. A., and Tolstopyatova, A.A.

TITLE: Ability of Cadmium Oxide to Dehydrogenate Hydrocarbons by Catalysis

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 10, pp. 1751-1758

TEXT: The authors based on experimental work made on the dehydrogenation and dehydration of alcohols by means of oxides to make a theoretical study of the ability of beryllium oxide, magnesium oxide, zinc oxide, and cadmium oxide to dehydrogenate hydrocarbons. For this purpose, the activation energy was calculated on the basis of the multiplet theory (Table 1). The average value found for the adsorption potential of hydrocarbon dehydrogenation was 51.3 for beryllium oxide, 70.7 for magnesium oxide, 116.2 for zinc oxide, and 132.3 kcal/mole for cadmium oxide. The catalytic properties of cadmium oxide were studied experimentally. Cadmium oxide was synthesized by precipitating a cadmium nitrate solution with ammonia, and causing hydroxide to glow at 500°C in air free from CO_2, and was examined by X-rays. Dehydrogenation of cyclohexane was studied between 458° and 540°C (Table 3).

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The reaction starts at 487°C; at 522°C the catalyst is completely reduced, and dehydrogenation stops. Dehydrogenation of cyclohexene to benzene takes place between 470° and 520°C (Table 3 B). No cyclohexadiene is formed in this connection. Conversion of butylene to butadiene in nitrogen atmosphere takes place between 575° and 605°C (Table 4). The degree of conversion was 5.6% at most. Conversion of piperidine to pyridine was examined between 465° and 520°C (Table 5), and is believed to take place over piperideine. Methane does not reduce cadmium oxide between 500° and 595°C. It was concluded from results that two different types of reactions take place:

I) a) $C_4H_8 \longrightarrow C_4H_6 + H_2$

b) $CdO + H_2 \longrightarrow Cd + H_2O$

II) $CdO + C_4H_8 \longrightarrow Cd + H_2O + C_4H_6$

O. V. Krylov, S. Z. Roginskiy, and Ye. A. Fokina are mentioned. There are 1 figure, 5 tables, and 26 references: 24 Soviet, 1 US, and 1 British.

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

SUBMITTED: June 15, 1959

S/062/60/000/012/002/020
B013/B055

AUTHORS: Balandin, A. A., Tolstopyatova, A. A., Konenko, I. R.

TITLE: Investigation of Catalytic Transformations of Isopropyl Alcohol and Cyclic Hydrocarbons on Titanium Dioxide (Anatase) Using a Differential Thermocouple

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 12, pp. 2096-2102

TEXT: The authors of the present paper investigated the dehydrogenation and dehydration of isopropyl alcohol (Tables 1-4) and the dehydrogenation and irreversible catalysis of hydrocarbons, cyclohexane (Table 5), cyclohexene (Tables 6 and 7) and 1,4-cyclohexadiene (Table 8) - on a modification of titanium dioxide (anatase) using a differential thermocouple (Chromel - copro nickel). The latter had 10 junctions each at both sides of the mica sheet to which it was attached. All the 20 junctions were on the one half of the sheet. The distribution of the catalyst in the quartz tube containing the thermocouple is shown in Fig. 1. A continuous reaction vessel was used for the kinetic experiments (Refs. 4 and 5). The temperature was maintained with

an accuracy of $\pm 5^{\circ}$. The evolution rate and quantity of gaseous products were measured and recorded by a ГСП-10 (GSP-10) gas meter (Fig. 2). X-ray analysis of the catalyst prepared from titanium tetrachloride showed it to be anatase. The transformation of isopropyl alcohol on TiO_2 was accompanied by a marked change in thermal effect during the first 15-20 min(Table 1, Fig.3a). The analysis of the gaseous products formed in the reaction showed that the alcohol is practically only dehydrogenated during the first 7-8 min. After this period dehydrogenation and dehydration take place simultaneously and after 15-20 min dehydration occurs alone. From a comparison of the thermocouple data with the analytical data of the reaction products and the degree of carbon deposition on the catalyst surface it can be seen that the rates of dehydrogenation and dehydration, and the carbon content of the surface run parallel. The change in selectivity at otherwise unchanged general activity of TiO_2 is probably due to the accumulation of carbon on the surface. Deposition of carbon on the surface of Cr_2O_3 (Fig. 3b), however, was found to have no effect on its activity and selectivity. Summarily, the

Investigation of Catalytic Transformations of Isopropyl Alcohol and Cyclic Hydrocarbons on Titanium Dioxide (Anatase) Using a Differential Thermocouple

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B013/B055

authors conclude that a gradual accumulation of carbon on the anatase surface almost entirely suppresses the dehydrogenation of the alcohol and promotes its dehydration, but does not affect the total activity of the catalyst. The catalyzed irreversible transformation of cyclohexene and cyclohexadiene is suppressed by the accumulation of carbon on TiO_2, whereas the dehydrogenation of cyclohexene, cyclohexane, and cyclohexadiene is promoted by this process. There are 3 figures, 7 tables, and 12 Soviet references.

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

SUBMITTED: June 26, 1959

Card 3/3

S/020/60/134/003/030/033/XX
B004/B064

AUTHORS: Balandin, A. A., Academician, Tolstopyatova, A. A., and Stshizhevskiy, V.

TITLE: The Catalytic Activity of Tungsten Pentoxide

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 3, pp. 625 - 628

TEXT: The authors investigated the dehydration of ethanol, isopropanol, t-butanol, cyclohexanol, methanol, and Tetralin with W_2O_5 under isothermal conditions. Blue W_2O_5 was obtained from tungstic acid at 350 - 400°C in an air current. First, WO_3 was formed and then reduced to W_2O_5 during the reaction with the alcohols at 200 - 300°C. The reaction apparatus operated continuously, and the liquid substances were automatically added. The gaseous products were collected in an automatic Patrikeyev gasometer, and analyzed with a ВТИ (VTI) apparatus or chromatographically. In the liquid product of catalysis, the amount of

unsaturated hydrocarbons was determined by the method of Kaufman-Gal'pern. Since the endothermic effect of reaction affected the results of measurement, the catalyst was diluted in a ratio of 2 : 3 with quartz of the same grain size, the alcohol with water or with the corresponding unsaturated hydrocarbon. Under these conditions, the process was isothermal. By determining the apparent activation energy (Table 1) it was found that the primary alcohols were dehydrated with the same energies (approximately 30 kcal/mole), that the activation energy of the secondary alcohols was about 6 kcal/mole lower than that of the primary ones, and that the activation energy of the tertiary alcohol was approximately 6 kcal/mole lower than that of the secondary ones. The reaction constant and the relative adsorption coefficients z_2 and z_3 of water and the unsaturated hydrocarbon were computed (Table 2) by Balandin's method (Ref. 3) with reference to the adsorption coefficient of alcohol. Checking by introduction of the experimental data into Balandin's equation confirmed the validity of this equation (Table 3). Table 4 gives the actual activation coefficients for isopropanol and n-butanol, which are approximately 3 kcal/mole higher than the apparent ones. For the binding

energies Q_{HC}, Q_{CC}, Q_{OC} of the H, C, and O atoms reacting with the surface of W_2O_5, the following was computed from Balandin's kinetic equation: Table 5:

Alcohol	Activation energy of dehydration [kcal/mole]	Binding energy Q_{HC}	Q_{CC}	Q_{OC}
n-butanol	29.9	56.7	15.9	39.2
ethanol	29.4	56.4	16.3	39.5
iso-propanol	23.7	52.3	19.4	43.3
cyclohexanol	21.9	51.5	21.3	44.4
t-butanol	17.8	48.7	24.0	47.3

Although the hydrogen atoms and the radicals substituting them do not directly take part in the reaction:

The Catalytic Activity of Tungsten Pentoxide

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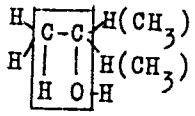
B004/B064



, they affect the binding energy between the C, H, and O atoms and the catalyst. The authors mention a paper by I. Ye. Adadurov and P. Ya. Krayniy. There are 5 tables and 8 Soviet references.

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

SUBMITTED: May 17, 1960

Card 4/4

TOLSTOPYATOVA, A.A.; BALANDIN, A.A., akademik; KONENKO, I.R.

Catalytic conversions of alcohols and cyclic hydrocarbons on titanium dioxide. Dokl.AN SSSR 133 no.1:130-133 Jl '60. (MIRA 13:7)

1. Institut organicheskoy khimii imeni N.D.Zelinskogo Akademii nauk SSSR.
(Alcohols) (Hydrocarbons) (Titanium oxide)

TOLSTOPYATOVA, A.A.; BALANDIN, A.A.; MATYUSHENKO, V.Kh.

Dehydrogenation of alcohols and cyclohexene on MnO. Izv.AN SSSR Otd.khim.nauk no.5:787-793 My '60. (MIRA 13:6)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova i Institut organicheskoy khimii imeni N.D.Zelinskogo Akademii nauk SSSR.
(Cyclohexene) (Cyclohexanol) (Isopropyl alcohol)

TOLSTOPYATOVA, A.A.

PHASE I BOOK EXPLOITATION SOV/4164

Vsesoyuznoye soveshchaniye po splavam redkikh metallov. 1st, Moscow, 1957

Redkiye metally i splavy; trudy... (Rare Metals and Alloys; Transactions of the First All-Union Conference on Rare-Metal Alloys) Moscow, Metallurgizdat, 1960. 438 p. 3,150 copies printed.

Sponsoring Agencies: Akademiya nauk SSSR. Institut metallurgii; USSR Komissiya po redkim metallam pri nauchno-tekhnicheskom komitete.

Ed.: I.K. Shapovalov; Ed. of Publishing House: O.M. Kamayeva; Tech. Ed.: P.G. Islent'yeva.

PURPOSE: This collection of articles is intended for metallurgical engineers, physicists, and workers in the machine-building and radio-engineering industries. It may also be used by students of schools of higher education.

COVERAGE: The collection contains technical papers which were presented and discussed at the First All-Union Conference on Rare-Metal Alloys, held in the Institute of Metallurgy, Academy of Sciences USSR in November 1957. Results of investigations of rare-metal alloys, titanium, and copper-base alloys with additions of rare metals are presented and discussed along with investigations of rhenium, vanadium, niobium, and their alloys. The effect of rare-earth metals on properties of magnesium alloys and steels is analyzed. The uses of rhenium as a dehydrating catalyst, electroplating material, and material suitable for making plugs for automobile electrical systems are discussed. Also, the effect of the addition of certain elements on the properties of heat-resistant steel is examined and alloys with special physical properties (particularly semiconductive alloys) are discussed. No personalities are mentioned. Soviet and non-Soviet references accompany some of the articles.

SOV/4164

Rare Metals (Cont.)

Card 4/8

Tolstopyatova, A.A.

PHASE I BOOK EXPLOITATION SOV/3921

Akademiya nauk SSSR. Institut fizicheskoy khimii

Problemy kinetiki i kataliza. [t] 10: Fizika i fiziko-khimiya kataliza (Problems of Kinetics and Catalysis. [vol.] 10: Physics and Physico-Chemistry of Catalysis) Moscow, Izd-vo AN SSSR, 1960. 461 p. Errata slip inserted. 2,600 copies printed.

Eds.: S.Z. Roginskiy, Corresponding Member of the Academy of Sciences USSR, and O.V. Krylov, Candidate of Chemistry; Ed. of Publishing House: A.L. Bankvitser; Tech. Ed.: O.A. Astaf'yeva.

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 Otdel 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 catalysts." 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.

TOLSTOPYATOVA, N.S. (Leningrad, P-49, ul. Lizy Chaykinoy, d.18, kv.1)

Occupational epicondylitis of the arm. Vest. rent. i rad. 36 no.5: 46-51 S-O '61. (MIRA 15:1)

1. Iz rentgenologicheskogo otdeleniya (rukovoditel' - prof. A.V. Grinberg) Leningradskogo nauchno-issledovatel'skogo instituta gigiyeny truda i professional'nykh zabolevaniy (dir. - prof. Z.E.Grigor'yev).
(ELBOW--DISEASES) (OCCUPATIONAL DISEASES)

TOLSTOPYATOVA, N.V.

Work experience with parafin in the preparation of orthopedic apparatus. Med. sestra, Moskva no. 9:29-30 1951 (CLML 21:1)

1. Author is a plaster-of-paris cast technician belonging to the Bone Division (Head -- A.P. Sokol'skaya) of Ivanovo Oblast Tuberculosis Sanatorium No 2 (Head Physician -- Honored Physician RSFSR A. L. Gal'perin).

5.3200
5.1190

67260

5(3)

SOV/20-129-4-22/68

AUTHORS: Balandin, A. A., Academician, Karpeyskaya, Ye. I., Tolstopyatova, A. A.

TITLE: On the Irreversible Catalysis in the Presence of Metallic Rhenium

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 4, pp 795-798 (USSR)

ABSTRACT: Metallic rhenium, applied to active carbon dehydrogenates the cyclic 6-membered hydrocarbons. On an ammonium perrhenate (Re-1) catalyst small quantities of cyclohexene and also benzene are produced from cyclohexane (Ref 3). This is not the case on a catalyst of a dioxane complex of rhenium-acid-anhydride (Re-2). The authors investigated the transformation of cyclohexene on Re-1 and Re-2 to find the reasons for cyclohexene formation on Re-1. Moreover, the capability of rhenium to bring about irreversible catalysis (expression by N. D. Zelinskiy) was to be investigated. The gaseous reaction products were collected in the gasometer by V. V. Patrikeyev. They consisted of hydrogen with 6-8% methane. The experiments were made between 215° and 465°C. For both catalysts a temperature range was distinctly observable in which no gas is formed and the process takes place according to equation $3C_6H_{10} = C_6H_6 + 2C_6H_{12}$. At higher temperatures hydrogen is separated.

Card 1/3

On the Irreversible Catalysis in the Presence of Metallic Rhenium

SOV/20-129-4-22/68

Catalysates of several experiments with Re-1 and Re-2 were poured together. After the removal of the incompletely reacted cyclohexene benzene was chromatographically separated from cyclohexane. Figures 1 and 2 show the results of various experiments which were well reproducible. It may be seen from a comparison of the kinetic data on dehydrogenation of cyclohexene and the disproportionation of hydrogen on Re-1 and Re-2 that the activation energies of the processes are in agreement on both catalysts. Apparently both processes stop at the same stage of reaction. Table 3 shows that on Re-2 benzene is formed from cyclohexene twice as rapidly as from cyclohexane. According to M. Ya. Kagan and N. A. Shcheglova (Ref 6) cyclohexane is dehydrogenated on Pt by 4500 times more slowly than is the transformation rate of cyclohexene. On the basis of these data and according to M. Ya. Kagan and R. M. Flid (Ref 7) the mentioned researchers draw the conclusion that the dehydrogenation of the cyclic hydrocarbons takes place step-wise (see Scheme). The results obtained by the authors are in contradiction with this conclusion: cyclohexane is dehydrogenated on rhenium not according to a step-mechanism but according to a sextet mechanism. Benzene was formed on Re-1 from cyclohexene about twice as rapidly (Table 4).

67260

On the Irreversible Catalysis in the Presence of Metallic Rhenium SOV/20-129-4-22/68

It may hardly be assumed that the dehydrogenation of cyclohexane on two catalysts of the same chemical properties and on the same carrier should proceed according to two different mechanisms. Cyclohexene is no intermediate (in contradiction to the scheme of references 6, 7) since it was not obtained in the reaction on Re-2. Cyclohexene thus results from a side-reaction which takes place to a small degree besides the sextet dehydrogenation. There are 2 figures, 4 tables, and 8 references, 7 of which are Soviet.

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

SUBMITTED: July 24, 1959

Card 3/3

VIKSNE, A.; VIKSNE, J.; DENISOVA, U.[translator]; KASPARSONA, G. [translator]; LEGZDINA, Zh. [Legzdina, Z.] [translator]; POISHA, Ya. [Poisa, J.] [tranalator]; TOLSTOPYATOVA, R. [translator]; ALKSNE, B., red.; BERZINA, K., red.; SILINS,V., tekhn. red.

[Riga Zoological Garden] Rizhskii zoologicheskii sad. Riga, Latvijas Valsts izdevnieciba, 1957. 1 v. (chiefly illus). (MIRA 14:12)

(Riga--Zoological gardens)

TOLSTOSHEV, A.V., student V kursa OMF

Methods of testing central photographic shutters. Trudy MIIGAIK no.36:117-122 '59. (MIRA 13:4)

1. Studencheskoye nauchnoye obshchestvo Moskovskogo instituta inzhenerov geodezii, aerofo os"yemki i kartografii.
(Shutter, Photographic--Testing)

TOLSTOSHEY, A.N., assistent

Analytical method for determining the basic norms for switching operations. Nauch.trudy KHIIT no.55:39-50 '62.

Device for recording the parameters of the movement of switcher locomotives (electric switcher recorder). 81-87 (MIRA 16:10)

KON'KOV, P.S., , kand. tekhn.nauk, dots.; DONTSOV, A.Ya., inzh.;
YURCHENKO, I.F., inzh.; ANGELEYKO, V.I., retsenzent;
BABENKO, V.I., retsenzent; ZAPREVSKIY, G.S., retsenzent;
KRIMNUS, G.Kh., retsenzent; MANIN, I.I., retsenzent;
NAUMOV, G.K., retsenzent; TOLSTOSHEY, A.N., retsenzent;
TUCHKEVICH, T.M., retsenzent; FEDORETS, V.M., retsenzent;
FEL'DMAN, M.F., retsenzent; FRANKOV, N.Ya., retsenzent;
USENKO, L.A., tekhn. red.

[Establishing work norms in railroad transportation] Tekhnicheskoe normirovanie truda na zheleznodorozhnom transporte. Moskva, Transzheldorizdat, 1963. 366 p. (MIRA 16:9)
(Railroads—Production standards)

LEBEDEVA, A.P.; TOLSTOSHEY, O.N.

Contamination of soil with hexachloran from its use in agriculture. Gig. i san. 26 no.11:15-18 N '61. (MIRA 14:11)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta kommunal'noy gigiyeny.

(CYCLOHEXANE) (SOIL POLLUTION)

TOLSTOSHEY, O.N.

Enlarged conference on sanitary protection of the sea near the shoreline. Gig. i san. 24 no.1:88-89 Ja '59. (MIRA 12:2)
(SEA WATER--POLLUTION)

BARAN, N.A.; TOLSTOSHEY, O.N.

Hygienic problems of sewage and waste disposal in towns of the Donets Basin [with summary in English]. Gig. i san. 24 no.2:22-26 F '59. (MIRA 12:3)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta kommunal'noy gigiyeny.

(SANITATION
hyg. problems of sewage & waste disposal of towns of Donbas (Rus))

TOLSTOSHEY, O.N.

Hygienic features of garbage disposal in Kiev. Gig. i san. 23 no.12:60-62 D '58. (MIRA 12:1)

1. Iz Ukrainskogo nauchno-issledovatel'skogo instituta kommunal'noy gigiyeny.
(SANITATION
garbage disposal in Russia (Rus))

TOLSTOSHEY, O.N. (Kiyev)

Significance of a regular trash pick-up service for the public health in cities. Vrach.delo no.6:621-624 Je '58 (MIRA 11:7)

1. Ukrainskiy institut kommunal'noy gigiyeny.
(KIEV--REFUSE AND REFUSE DISPOSAL)

TOLSTOUKHOV, A.S.

TITLE: Scientific-technical Conference of the MIIGA i K in 1959 (Nauchno-tekhnicheskaya konferentsiya MIIGA i K 1959 g.)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1959, Nr 3, pp 144 - 146 (USSR)

ABSTRACT: The periodic scientific-technical conference of the Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii (Moscow Institute of Geodetic, Aerial Survey and Cartographic Engineers) was held on April 22-24, 1959, with the participation of 500 persons. 31 lectures were delivered. The introductory speech was held by Professor A. A. Izotov. Candidate of Philosophical Sciences A. I. Ivanov lectured on "The Outstanding Work of Materialistic Philosophy"; Candidate of Technical Sciences A. V. Kondrashkov on "Radioelectronics and Geodesy"; Candidate of Technical Sciences G. V. Bagratuni on "Accuracy of the Solution of the Inverse Position Computation With Coordinates of Different Geodetic Systems"; Candidate of Technical Sciences P. P. Shokin reported on "Gravimetry in Today's Stage of Development"; Candidate of Technical Sciences

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V. D. Bol'shakov on "Investigation of the Rules Governing the Distribution of Errors When Generalizing the Relief in Photography"; Post-graduate Student Yu. V. Kokhov on "The Influence of the Rounding Error on the Accuracy of Solutions of Linear Equation Systems". Post-graduate Student N. D. Drozdov reported "On the Solution of Linear Systems in the Compensation of Geodetic Nets". Docent V. M. Korolevtsev dealt with "The Experience in the Application of Parallactic Polygonometry With Short Basis and Constant Vertical Basis". Doctor of Physical and Mathematical Sciences A. M. Faynzil'berg lectured on "Some Integrals From the Theory of Surfaces and Their Application to the Mechanics of Artificial Earth Satellites"; Candidate of Technical Sciences A. S. Valuyev on "The Stereocomparator With Correctors". Assistant M. I. Burov spoke on "Photogrammetric Method of Determining the Altitudes of Luminous Clouds". Candidate of Technical Sciences N. N. Veselovskiy reported on "The Generalization of the Formulas for the Plane Aerial Survey and the Altitudinal Aerial Survey". Candidate of Technical Sciences B. N. Rodionov and Candidate of Technical Sciences N. P. Zakasnov dealt with "Central Shutters of Band Type Aerial Cameras". Can-

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didate of Technical Sciences B. N. Rodionov spoke on the "Stroboscopic Collimator Visor"; Engineer V. I. Yerkhov reported on a "Computing Gear for the Automatic Entry of the Airplane in the Aerial Photography Path". Post-graduate Student Yu. N. Kuznetsov spoke on the "Application of the Instantaneous Photography for Aerial Camera Testing". Assistant Ye. P. Arzhanov spoke on the "Computation of the Aerial Camera Constants"; Engineer V. I. Grushin, Chief Technician of the Geotekhkontora Gosplana RSFSR on "Some Results and Tasks Related to Large-scale Phototheodolite Surveying Operations"; Doctor of Technical Sciences V. I. Sukhov on "The Problem Concerning the Contents of the New Map on the Scale of 1 : 2500000"; Doctor of Technical Sciences A. I. Preobrazhenskiy on "Mineral Deposits in the USSR and Their Reproduction on Economic Maps"; Assistant S. S. Sudakova on the "Method of Geographic Investigation on the Field During the Preparatory Editorial Work on the Cartographing Object (From the Working Experience Acquired by the Meshcherskaya ekspeditsiya (Meshcherskaya Expedition of the MIIGA i K 1958)". Assistant A. S. Tolstoukhov dealt with "The Problem of Improving the Relief Representation of a Flat Inhabited Territory on the Topographic Map on the Scale of 1 : 10000". Candidate of Technical Sciences Yu. S. Bilich spoke on "Maps of Cultivated Areas in the Comprehensive Atlantes of the Oblast'". Candidate of Technical Sciences I. I. Men'shikov dealt with "A. S. Popov - Scientist, Inventor, Pedagogist (On the 100th Birthday of A. S. Popov)". Senior Lecturer N. V. Yakovlev lectured on "Mirror Lens Objectives With Great Luminous Intensity". Professor I. G. Sarkin reported on "The Problem of Compensating the Variations and the Increase of Accuracy in the Measurement of Physical Quantities". Candidate of Technical Sciences V. A. Afanas'yev dealt with "Methods of Measuring Investigations Concerning Optical Main Characteristics of Aerial Camera Objectives With Dropping Atmospheric Pressure and Temperature". Engineer V. M. Nazarov lectured on "Vertical Axis Systems of High-precision Optical Theodolites". Assistant V. S. Usov spoke on "Sighting by the Aid of Telescopes With Zone Plates". Post-graduate Student P. P. Zakharov dealt with "The Automation of Measurements on a Pair of Stereoscopic Pictures". At the Plenary Session held on April 24 the Chief of the Glavnoye upravleniye geodezii i kartografii MVD SSSR (Chief Administration of Geodesy and Cartography of the Ministry of Internal Affairs of the USSR), A. N. Baranov lectured on "The Seven-year Plan and the Development of Topographic-geodetic and Cartographic Work".

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3(2),3(4)

SOV/6-59-6-21/22

AUTHOR: None Given

TITLE: Chronicle (Khronika)

PERIODICAL: Geodeziya i kartografia, 1959, Nr 6, pp 74-75 (USSR)

ABSTRACT: At the Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii (Moscow Institute of Geodetic, Aerial Survey and Cartographic Engineers), the Ordinary Scientific Conference took place on April 22-24. A. I. Ivanov, Docent, Candidate of Philosophic Sciences, spoke on "The Outstanding Work of Materialistic Philosophy". A. N. Baranov, Chief of the Glavnoye upravleniye geodezii i kartografii (Main Administration of Geodesy and Cartography) spoke "On the Seven-year Plan for the Development of Topographic-geodetic and Cartographic Work". The following reports were delivered in the geodetic section: A. M. Faynzil'ber, Professor, "Some Integrals of the Surface Theorems and Their Application to the Mechanics of Artificial Satellites of the Earth".- A. V. Kondrashkov, Docent, "Radio-electronics and Geodesy".- G. V. Bagratuni, Docent, "Accuracy in the Solution of Inverse Position Computations by the Coordinates of Different Geodetic Systems".- P. P. Shokin, Docent, "Gravimetry in the Present Stage of Development".- Yu. V. Mokhov, Assistant, reported on the influence of rounding errors on the accuracy of solution of linear equation systems.- V. D. Bol'shakov, Candidate of Technical Sciences, spoke on the "Investigation of the Rules of Distribution of Errors in Generalising the Relief in Surveys".- N. D. Drozdov, Post-graduate Student, reported on the solution of linear systems for the adjustment of geodetic networks.- V. M. Korolevtsev, Docent, demonstrated an apparatus designed by him for parallactic traversing with a short constant vertical basis.- The following reports were delivered in the aerophotogeodetic section: A. S. Valuyev, Docent, reported on a parallactic reducer, an additional device to the stereo-comparator.- M. N. Veselovskiy, Docent, spoke on the possibility of generalising the formulae for the air survey of outlines and altitudes.- B. N. Rodionov and N. P. Zakaznov, Docents, reported on a band-shaped central shutter for aerial cameras, B. N. Rodionov on a stroboscopic collimator sight, B. N. Rodionov and Engineer V. I. Yerkhov on the scheme of a computing device for the automatic entry of the airplane into the route for air surveys.- Ye. P. Arzhanov presented some simplifications for the computation of constants of aerial cameras.- Yu. N. Kuznetsov,

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Post-graduate Student, spoke on the use of rapid film recording for the investigation of aerial-camera shutters.- V. I. Grishin, Engineer of the Geotekhkontora Gosplana RSFSR, spoke "On Some Results and Tasks in the Execution of Large-scale Photo-theodolite Surveys".- The following reports were delivered in the cartographic section: Professor V. I. Sukhov spoke on the content of the new map on a scale of 1 : 2,500,000.- Professor A. I. Preobrazhenskiy spoke on "Mineral Resources of the USSR and Their Representation on Economic Maps".- S. S. Sudakova, Assistant, reported on the method of geographic field research during the preparatory editorial work at the object of cartography.- A. S. Tolstonokhov, Assistant, reported on the improvement of relief representation of wooded flat country on the topographic map on a scale of 1 : 10,000.- Yu. S. Bilich, Assistant, reported on maps of apartment building in the atlases of the oblast'.- In the section of building of apparatus, I. I. Men'shikov, Docent, spoke on the life of A. S. Popov.- N. V. Yakovlev, Assistant, reported on reflecting lenses, Professor I. G. Sarkin on the increase in accuracy in measuring physical magnitudes, Engineer V. M. Nazarov on vertical axial systems for highly accurate optic theodolites, V. S. Uvev, Assistant, on sighting with telescopes with zone plates,

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P. P. Zakharov, Assistant, on the automatization of evaluation of image couples.

TOLSTOUKHOV, A.S.

Practice of conducting preliminary topographic and geographic investigations. Geod. i kart. no.2:49-53 F '63. (MIRA 16:3)
(Topographic maps)

AUTHOR: Tolstoukhov, A. S., Graduate Student SOV/154-58-1-16/22

TITLE: Some Peculiarities in Representing the Relief of Plains on Topographic Maps on a Scale of 1 : 10 000 - Shown in the Case of the Terek Delta (Nekotoryye osobennosti izobrazheniya ravninnogo rel'yefa na topograficheskikh kartakh masshtaba 1 : 10 000 - na primere del'ty reki Tereka)

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1958, Nr 1, pp 123-131 (USSR)

ABSTRACT: Topographic maps are used to a large extent in studying the characteristics of various geographical areas in the USSR. This is true especially of maps on a scale of 1 : 10 000. These maps in use today do,however, no longer meet all requirements. Above all, the representation of the relief with the micro-forms in the plains on topographic maps (large scale) has not yet been sufficiently developed. The author and his collaborators therefore selected the delta of the Terek River for their investigations. One of the peculiarities amongst others of the delta is the elevated position of the central river bed in the delta (up to four meters). On both sides of this river bed the terrain gradually falls.

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SOV/154-58-1-16/22

Some Peculiarities in Representing the Relief of Plains on Topographic Maps on a Scale of 1 : 10 000 - Shown in the Case of the Terek Delta

The numerous other branches of the Terek therefore are situated lower than the central river bed. Innumerable small elevations, dome-shaped and overgrown, are characteristic of this delta region, as well as the amorphous salt soil. The author discusses in detail the methods of relief representation developed by him. The combination of the micro relief (the ground with small dome-shaped elevations), of the flora on the one hand and of the semi-arid area on the other hand, requires a comprehensive and uniform representation. The author proposes new topographic symbols as marks of the small dome-shaped elevations. With respect to the flora the author suggests the method already developed by K. A. Borodina. The elevation marks and figures should be printed on topographic maps in a way that they follow the turns of the contours. The present density of topographic marks within one square decimeter has been insufficient and should therefore be increased considerably. There are 11 figures and 5 references, 5 of which are Soviet.

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SOV/154-58-1-16/22

Some Peculiarities in Representing the Relief of Plains on Topographic Maps on a Scale of 1 : 10 000 - Shown in the Case of the Terek Delta

ASSOCIATION: Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii
(Moscow Engineering Institute of Geodesy, Aerophotography and Cartography)

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TOLSTOUKHOV, A. S.

SOV/154-58-2-17/22

AUTHOR: Bol'shakov, V. D., Candidate of Technical Sciences

TITLE: Scientific and Technical Conference of the MIIGA i K (Nauchno-tekhnicheskaya konferentsiya MIIGA i K) II

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka, 1958, Nr 2, pp 114-115 (USSR)

ABSTRACT: G. A. Ginzburg, Docent, Candidate of Technical Sciences, spoke on "The Relations Between Distortions in Cartographic Projections." L. A. Bogomolov, Candidate of Technical Sciences, reported on "Topographical Deciphering From the Airplane and Helicopter of Aerial Photographs in Cartographing Inaccessible Regions." A. S. Tolstoukhov, Assistant, spoke on: "The Relief Reproduction of Planes on Topographical Maps (Scale 1 : 10 000 000)." O. D. Rikhter, Professor, Doctor of Geographical Sciences, dealt with the basic geographic structure of Antarctica and the consequent cartographical peculiarities of the region.

Engineer Ye. M. Feklistov reported on the conference held in the MIIGA i K (Moscow Engineering Institute of Geodesy, Aerophotography, and Cartography) from May 6 to 10. The participants discussed various questions in relation with the design of geodetical and cartographical instruments. More than 500 delegates from many universities and scientific institutions, as well as 82 representatives of different agencies in Leningrad, Kiyev, Sverdlovsk, and other cities, participated in this conference. The Deputy Head of the GUGK, M. D. Kon'shin, read a paper on "Scientific Research in Aerial Camera Design." S. V. Yeliseyev, Docent, reported on "The Present State of Production of Geodetical Instruments, and Development of New Instruments." F. V. Drobyshev, Professor, gave a lecture on the construction of photogrammetrical instruments in the USSR and on developments in this field. In the different sections questions relating to the design of geodetical and photogrammetrical instruments as well as instruments for aerial photography were discussed. Docent S. V. Yeliseyev and Engineer Ye. T. Zdobnikov reported on geodetic anglemeasuring instruments. Engineer S. V. Meshcheryakov dealt with the new Markshedyer-instruments. V. M. Nazarov, Candidate of Technical Sciences, reported on optical range finders of greater precision. V. A. Velichko, Candidate of Technical Sciences, on optical range finders of medium accuracy. Engineer I. I. Andrianova and Yu. P. Popov, Candidate of Physical-Mathematical Sciences, spoke on modulators of optical range finders. Engineer L. V. Rabinovich spoke on the use of light alloys in the manufacture of geodetical instruments. Docent S. M. Murav'yev and Engineer V. K. Sayenko reported on new developments in the production of geodetical instruments. Professor D. Yu. Gal'perin dealt with the optical systems in geodetical instruments. Engineer A. N. Burago, Engineer B. A. Shilin, Docent V. A. Kruselis, Docent I. N. Pirson, and Engineer A. V. Ushakov informed the participants on the results of the Scientific and Technical Conference held in Kiyev (Planning and Production of Geodetical Instruments).

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TOLSTOUKHOV, A. S., Ass't.

"On the Representation of Reliefs of Plane Areas on Topographic Maps"

report presented at a Scientific-Technical Conference at Moscow Inst. of Geodesy, Aerial Photography and Cartography Engineers, 24-26 April 1958.
(Geodeziya i kartografiya, no. 6, pp. 79-80, 1958)

TOLSTOUKHOV, A.S., aspirant

Certain peculiarities in representing lowland relief on topographic maps as exemplified by the Terek Delta. Izv. vys. ucheb. zav.; geod. i aerof. no. 1:123-131 '58. (MIRA 11:7)

1. Moskovskiy institut inzhenerov geodezii, aerofotos"yemki i kartografii.
(Terek Valley--Topographical surveying)

TOLSTOUKHOVA, L.I.; BYKHOVSKAYA, A.M.

I-131 treatment of postoperative recurrences of thyrotoxicosis. Med.rad. 7 no.11:5-9 N'62. (MIRA 16:9)

1. Iz kafedry rentgenologii i radiologii (zav. - prof. Ye.L. Kevesh) Kuybyshevskogo meditsinskogo instituta.
(HYPERTHYROIDISM)
(IODINE ISOTOPES--THERAPEUTIC USE)

UZHANSKIY, Ya.G., prof., KACHANOVA, S.G., dots., TOLSTOUKHOVA, L.I., dots.

Fifth conference of the Ural branch of the All-Union Society of Pathophysiologists. Pat.fiziol. i eksp.terap 2 no.3:60-62 My-Je '58 (MIRA 11:7)

(PHYSIOLOGY, PATHOLOGICAL)

UZHANSKIY, Ya.G., professor, predsedatel' pravleniya; TOLSTOUKHOVA, L.I., dotsent, sekretar'.

At the Ural branch of the All-Union Society of Pathophysiologists; on the organization and the first conference of the Ural branch of the All-Union Society of Pathophysiologists. Arkh.pat. 15 no.2:90-92 Mr-Ap '53. (MLRA 6:5)

1. Ural'skiy filial Vsesoyuznogo obshchestva patofiziologov. (Ural Mountain Region--Physiology, Pathological) (Medical societies)

BYKHOVSKAYA, A.M.; TOLSTOUKHOVA, L.I.

Treatment of thyrotoxicosis with radioactive iodine. Med. rad. 8 no.12:9-13 D '63. (MIRA 17:8)

1. Iz kafedry rentgenologii i radiologii (zav. - prof. Ye.L. Kevesh) Kuybyshevskogo meditsinskogo instituta.

UZHANSKIY, Ya.G., professor, predsedatel'; TOLSTOUKHOVA, L.I., dotsent, sekretar'.

Second conference of the Ural Branch of the All-Union Society of Pathophysiologists. Arkh.pat. 15 no.3:88-90 My-Je '53. (MLRA 6:11)

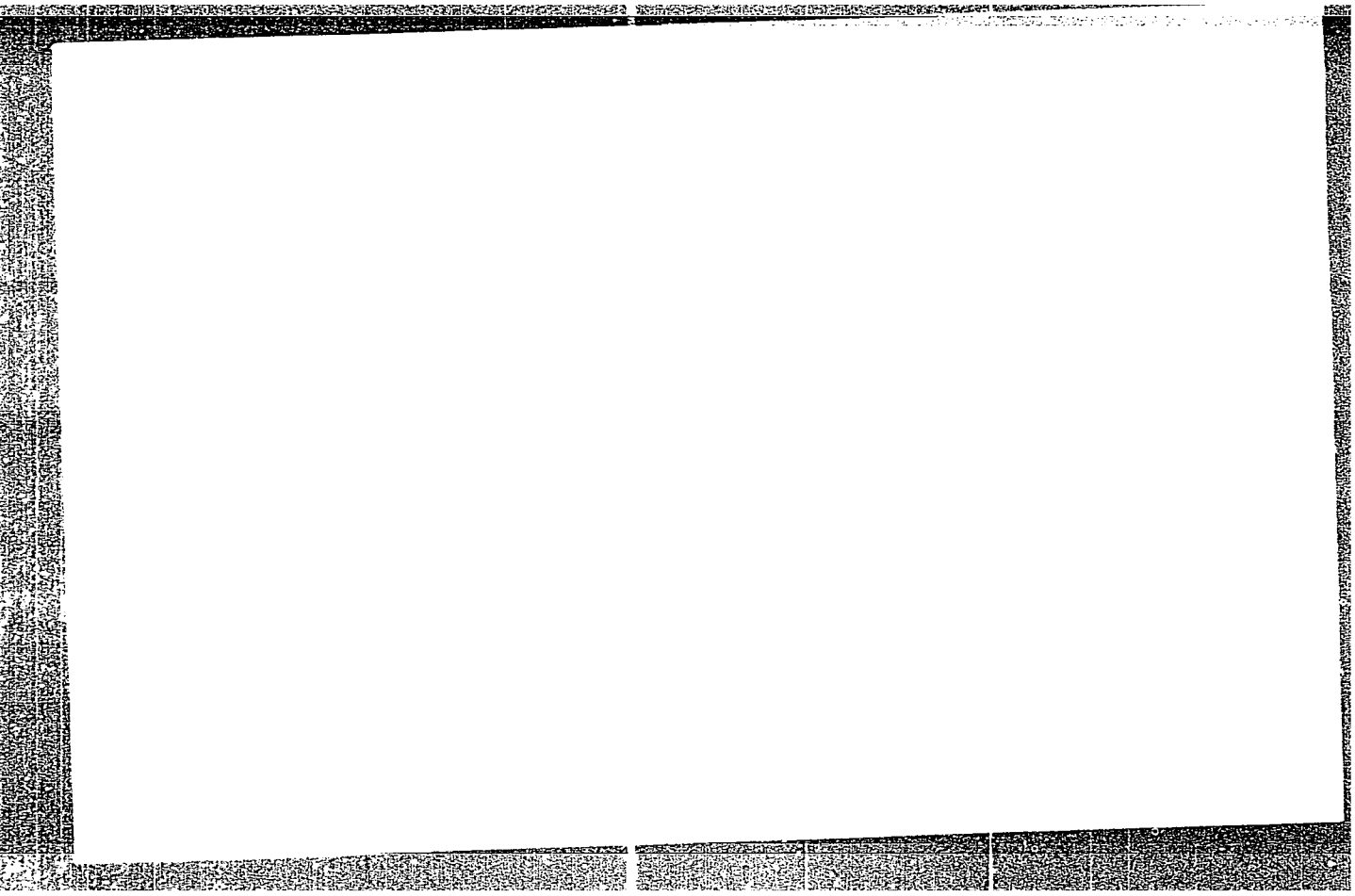
1. Pravleniye Ural'skogo filiala Vsesoyuznogo obshchestva patofiziologov. (Ural Mountain region--Pathology--Societies) (Societies--Pathology--Ural Mountain region) (Ural Mountain region--Physiology--Societies) (Societies--Physiology--Ural Mountain region)

TOLSTOUKHOV, A. S.: Cand Master Tech Sci (diss) -- "Representation of relief of a lowland plain on topographic maps on a scale of 1:10,000 (On the example of the delta of the river Terek)". Moscow, 1958. 15 pp (Min Higher Educ USSR, Moscow Inst of Engineers of Geodesy, Aerial Photography, and Cartography), 150 copies (KL, No 2, 1959, 123)

TOLSTOUKHOV, A.S.

Editing tasks in the representation of flatland reliefs on 1:10,000 scale topographic maps. Geod.i kart. no.9:61-67 S '57. (MIRA 10:11)

(Relief maps) (Topographical drawing)



APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001756120011-7"

TOLSTOUSOV, V. P., Cand Agric Sci (diss) -- "The soils of the Yelan'-Kolemovskiy sugar-beet sovkhoz, Voronezh Oblast: their genesis, properties, and ways of increasing their fertility". Voronezh, 1960. 22 pp (Min Agric RSFSR, Voronezh Agric Inst), 150 copies (KL, No 11, 1960, 136)

TOLSTOUSOV, V.P.

Ways of increasing the fertility of brown Solonetz-type spots of the Chernozem complex. Pochvovedenie no.10:102-107 '60. (MIRA 13:10)

1. Voronezhskiy sel'skokhozyaystvennyy institut.
(Solonetz soils) (Soil fertility)

J

USSR/Soil Science - Genesis and Geography of Soils.

Abs Jour : Ref Zhur Biol., No 22, 1958, 99985

Author : Tolstousov, V.P.

Inst : Voronezh Agricultural Institute

Title : Characteristics of the Soil Cover of Yelan'-Kolenov Sugar Beet State Farm ofthe Voronezhskaya Oblast' in Connection with Topography of the Area.

Orig Pub : Zap. Voronezhsk. s.-kh. in-ta, 1957, 27, No 2, 339-342

Abstract : Yelan'-Kolinov Sugar Beet State Farm is situated in the eastern part of the Voronezhskaya Oblast'. Here soil-formation rocks exhibit a considerable influence on the character of soil formation. Among the former predominate the parti-colored soft rocks, usually the salt-containing sea deposits of the Tertiary Age. The soil cover of the described territory, a plateau with a

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TOLSTOUSOVA, Z. A.
A. A. KOPEV, USSR 69,941, Dec. 31, 1947

TOLSTOUSOVA, Z. A.

23348 Tsellyuloznyy Nesmyvayemyy Appret L i Ego Primeneniye. Tekstil, Prom-St', 1949, No. 6, c. 23-25.