"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

VEYLENBERG, V.A.; [illegible]

Dependence of a rapid [illegible] photographic image development process on the pH. Zhur. nauch. i prikl. fot. i kin. 10 no.5:3[illegible]-3[illegible] [illegible] '65. (MIRA [illegible])

1. Gosudarstvennyy [illegible] institut [illegible] Vavilova, Leningrad.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

SILINA, Ye.I.; ZLOKAZOVA, T.M.; ZOLOTAREVA, M.G. Prinimali uchastiye: YEVTYUTOV, A.A.; LEVINA, P.I.; CHEMODANOV, V.S.; SVECHNIKOVA, L.I.; KRIVONISHCHENKO, V.V.

Experimental factory testing of polyacrylamide flocculent as a substitute for meal in the production of alumina. TSvet. met. 37 no.12:44-46 D '64 (MIRA 18:2)

1. Ural'skiy alyuminiyevyy zavod (for Yevtyutov, Levina, Chemodanov). 2. Ural'skiy nauchno-issledovatel'skiy i proyektnyy institut obogashcheniya i mekhanicheskoy obrabotki poleznykh iskopayemykh (for Svechnikova, Krivonishchenko).

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

KOZ'MINA-GONCLOVA, V.N., kand. med. nauk; LEVINA, R.M., kand. med. nauk

Dynamics of arterial and venous pressure and capillaroscopy in patients with influenza A_2. Trudy Kaf. proped. vnutr. bol. LPMI no.3:95-99 '64. (MIRA 19:1)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

LEVINA, P.M., kand. med. nauk

Changes in the electrocardiogram under the effect of speech stress in cardiovascular diseases. Trudy Kaf. proped. vnutr. bol. LPMI no.3:153-163 '64. (MIRA 19:1)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

L 59495-65 EWT(1)/FCC GW

ACCESSION NR: AT5016865 UR/2648/64/000/019/0020/0037

AUTHOR: Burkova, M. V.; Lavina, P. Z.

TITLE: Vertical wind shears in jet streams over the southern part of the USSR on the basis of IGY and IGC data

SOURCE: Tashkent. Sredneaziatskiy nauchno-issledovatel'skiy gidrometeorologicheskiy institut. Trudy, no. 19(34), 1964. Voprosy regional'noy sinoptiki Sredney Azii (Problems in regional synoptics of Central Asia), 26-37

TOPIC TAGS: jet stream, wind

ABSTRACT: This paper discusses vertical wind shears in arctic front, polar front, and subtropical jet streams in winter and summer for the period 1957-1959. The distribution of the frequencies of different gradations of vertical wind shears above and below jet streams [illegible] computed, and graphic relationships were established between the wind force on the axis of the jet stream and vertical wind shear. The study was made using data from the [illegible] Laboratoriya po struynym techeniyam Tashkentskogo gosudarstvennogo [illegible]ersiteta (Jet Streams Problem Laboratory of Tashkent University) for an area extending [illegible] Black Sea coast of the Caucasus on the west to the eastern boundaries of Kazakhstan [illegible] the east and from the southern boundaries of the [illegible] The principal types of

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L 59495-65

ACCESSION NR: AT5016865

jet streams were classified on the basis of altitude: arctic front jet streams — those whose axes are below 8.5 km, subtropical jet streams — axes at 13-15 km, and polar front jet streams — axes between 8.6 and 12.9 km. There are seven tables prepared on the basis of the extensive material collected. Table 1) Frequency of different gradations of vertical [illegible] in polar front jet streams over the southern part of the [illegible] in summer [illegible] 1959). Table 2) Same, for winter. Table [illegible] Frequency of different gradations of vertical wind shears in subtropical jet streams over the southern part of the USSR in summer [illegible] 1957-1959). Table 4) Same, for winter. Table 5) Frequency of different gradations of vertical wind shear in arctic front jet streams in winter and summer (1957-1959). Table 6) Mean weighted values of vertical wind shear in lower and upper kilometer layers of polar front and subtropical jet streams, [illegible] from the level of the maximum wind, over the southern USSR in 1957-1959, regardless of the velocity of the jet stream. Table 7) Number of cases of determination of vertical wind shear in very strong jet streams (≥ 101 m/sec) of different types observed over the southern USSR in 1957-1959. In most of these tables the data are broken down into eight gradations of vertical wind shear in m/sec/km: [illegible] 10, 11-15, 16-20, 21-25, 26-30, 31-35, 36-40, and more than 40 m/sec/km. The computations are given separately for weak (maximum velocity on axis less than

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

L 59495-65

ACCESSION NR: AT5016865

50 m/sec), moderate (velocity from 50 to 69 m/sec), and strong (velocity 70 m/sec or more) jet streams. The data in the tables are analyzed and discussed, with some generalizations drawn, and an analysis is made of the dependence between maximum velocity and vertical wind shear above and below the surface of the maximum wind. It is noted that [illegible] determined for the vertical wind shears over the southern [illegible] are far greater [illegible] previously published [illegible] [illegible] has 2 figures and [illegible]

ASSOCIATION: Sredneaziatskiy nauchno-issledovatel'skiy gidrometeorologicheskiy [illegible], Tashkent (Central Asian Hydrometeorological Scientific Research Institute)

SUBMITTED: 00 ENCL: 00 SUB CODE: ES

NO REF SOV: 002 OTHER: 000 ATD PRESS: 4053

Card 3/3

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

L 44444-66 EWT(d)/EWT(1)/EWT(m)/T-2/EWP(h) GW

ACC NR: AT6018249 SOURCE CODE: UR/3021/64/000/259/0176/0179

AUTHORS: Bilyalov, R.; Burkova, M. V.; Dzhordzhio, V. A.; Dzhurayev, A. D.; Levina, P. Z.; Myalkovskaya, N. M.; Neushkin, A. I.; Petrosyants, M. A.; Eyvazova, I. L.; Romanov, N. N.

ORG: none

TITLE: Proposal for the construction of a map AT_{250} to improve the meteorological service for aircraft TU-104

SOURCE: Tashkent. Universitet. Nauchnyye trudy, no. 259. Fizicheskiye nauki, no. 23, 1964. Fizika atmosfery i aviatsionnaya meteorologiya (Physics of the atmosphere and aviation meteorology), 176-179

TOPIC TAGS: atmosphere, weather map, weather forecasting, aircraft, meteorology

ABSTRACT: The necessity for constructing an AT_{250} map is pointed out. The authors note that in the majority of cases, the flight height of the TU-104 aircraft is 10.5 km, a height that corresponds to an absolute topography of 250 millibars. It is argued that very little additional effort would be called for from existing weather forecasting stations for the construction of the AT_{250} weather maps since these stations already routinely broadcast information on AT_{200} and AT_{300}. Examples of

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

L 44144-66

ACC NR: AT6018249

AT_{250} maps are given. The maps were constructed by interpolating between the data for AT_{300} and AT_{200} (see Fig. 1).

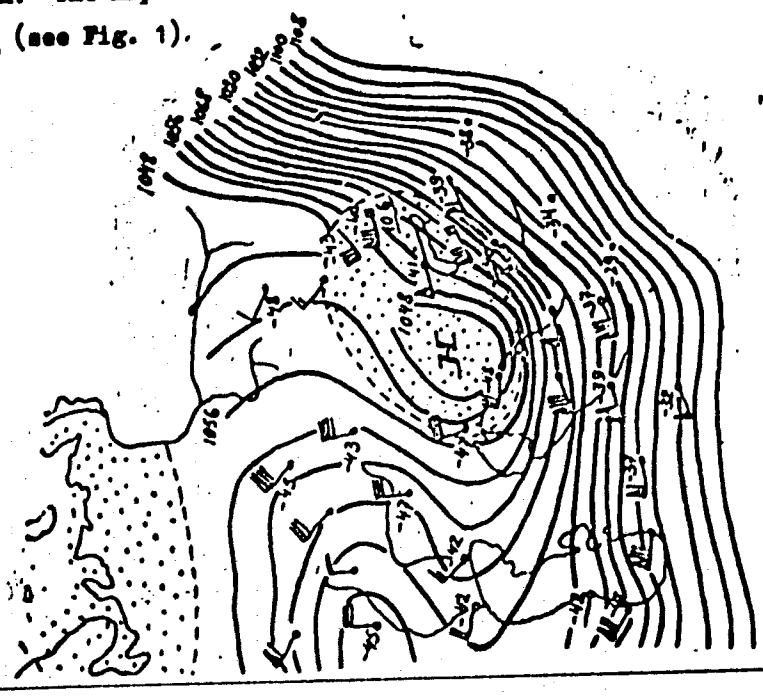

Fig. 1. Map AT_{250} at 3 p.m. on 3 August 1960. Dotted region indicates the stratospheric zone. Squares indicate reports from aircraft crews.

To Card 3/3

Card 2/3

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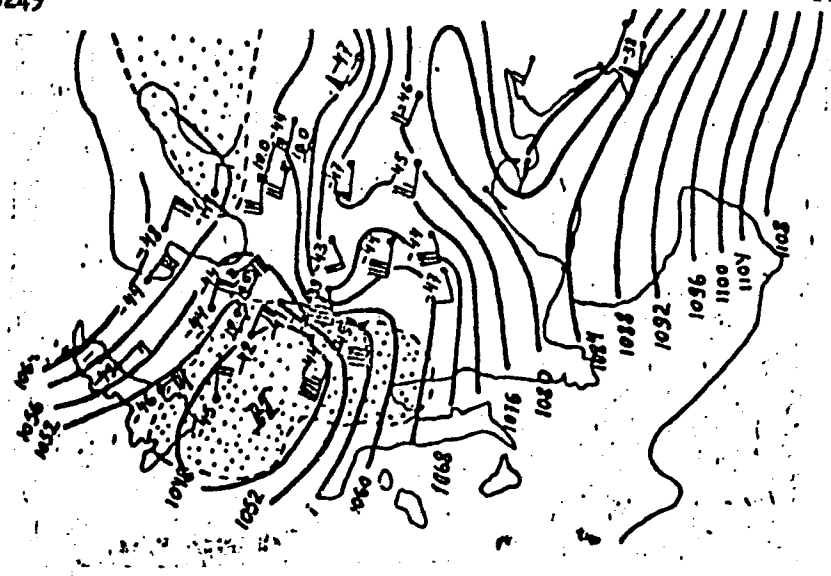
"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

L 44114-66

ACC NR: AT6018249

From Card 2/3



It is mentioned that the World Meteorological Organization also recommends a regular construction of AT_{250} maps. Orig. art. has: 2 graphs.

SUB CODE: 04/ SUBM DATE: none

Card 3/3

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

ACC NR: AT6018239 SOURCE CODE: UR/3021/64/000/259/0068/0075

AUTHOR: Levina, P. Z.

ORG: none

TITLE: Vertical shifts of the wind in extremely powerful jet streams over the southern SSSR

SOURCE: Tashkent, Universitet. Nauchnyye trudy, no. 259. Fizicheskiye nauki, no. 23, 1964. Fizika atmosfery i aviatsionnaya meteorologiya (Physics of the atmosphere and aviation meteorology), 68-75

TOPIC TAGS: radiosonde, atmospheric turbulence, atmospheric wind field, atmospheric circulation, jet stream

ABSTRACT: Extremely powerful jet streams (velocity approaching or exceeding 100 m/sec) have been investigated over the southern portion of the SSSR for the period 1957—1961, by a radiosonde and by analysis of the baric topographic charts. Within the 1-km layers above and below the levels of the maximal winds there occurs the most dangerous airplane bumping, since this is the zone of the greatest vertical wind shifts. Two maxima are observed during the annual course of the wind shifts in the strong jet streams (in January and in June), as can be seen in Fig. 1. Vertical spread and vertical shifts of the wind depend upon the character of the jet stream. Arctic-frontal jet streams have the greatest shifts and are the thinnest;

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

ACC NR: AT6018239

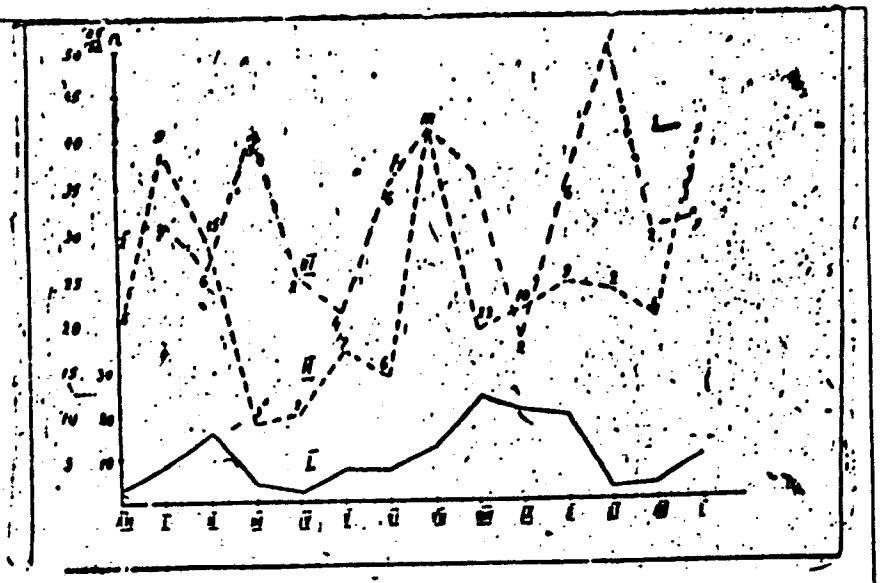

Fig. 1. Annual course of extremely powerful jet streams and of average wind shifts: I - extremely powerful jets; II - above the axis; III - below the axis.

polar-frontal jet streams are thicker and the vertical shifts in them are smaller; the maximal vertical spread is exhibited by subtropical jet stream with comparatively small vertical shifts. Vertical shifts below the jet stream are greater than above it in winter and spring, while the reverse is true for summer and fall. Orig. art. has: 4 tables, 2 figures, and 1 equation.

SUB CODE: 04/ SUBM DATE: none/ ORIG REF: 008/ OTH REF: 002

Card 2/2

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

VIASOV, L.N.; ISANINA, T.G.; LEVINA, R.G.; POLYANSKIY, V.A.

Effect of noise from motor-testing installations on the health of the population. Gig. i san. 24 no.4:68-69 Ap '59. (MIRA 12:7)
(NOISE, effects,
indust. noise on health of population in surrounding areas (Rus))

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

KRASHENINNIKOVA, Ye.N.; LEVINA, R.Ya.; POTAPOVSKIY, M.G.

Abstracts. Sov. med. 28 no.9:146 S '65. (MIRA 18:9)

1. Moskovskaya gorodskaya bol'nitsa No.63.

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

EL'BERT, B.Ya, professor, zasluzhennyy deyatel' nauki; RUBINSHTEYN, I.S., dotsent; SAKOVICH, A.O., dotsent; VILENCHIK G.Yu., kandidat meditsinskikh nauk; GUREVICH, G.TS, kandidat meditsinskikh nauk; IZRAITEL', N.A., kandidat meditsinskikh nauk; KNIGA, A.N., kandidat meditsinskikh nauk; ~~LEVINA, R.L.~~, kandidat meditsinskikh nauk; MARCHENKO,L.O., kandidat meditsinskikh nauk; RABINOVICH, Ye.M., kandidat meditsinskikh nauk; RUBINSHTEYN, B.B, kandidat meditsinskikh nauk; SAMOKHINA, Z.F., kandidat meditsinskikh nauk; KRASIL'NIKOV: A.P., kandidat meditsinskikh nauk; ZMUSHKO, L.S., nauchnyy sotrudnik; NISENBAUM, I.M., nauchnyy sotrudnik; SOLOV'YANCHIK,S.I., nauchnyy sotrudnik; SUSLOVA, M.N., nauchnyy sotrudnik; POL'SKIY, S., redaktor; KUFTINA, P., tekhnicheskiy redaktor; KALECHITS, G., tekhnicheskiy redaktor.

[Practical manual on medical microbiology and bacteriological methods of sanitation research] Prakticheskoe posobie po meditsinskoi mikrobiologii i sanitarno-bakteriologicheskim metodam issledovanii. Minsk, Ges.izd-vo BSSR, Redaktsiia nauchno-tekhn. lit-ry, 1957. 356 p. (MLRA 10:6)
(MICROBIOLOGY)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

LEVINA, P.I.; VEYDENBAKH, V.A.

Effect of the concentration of developing substances on the high speed developing process. Part 1: Properties of metol developer. Zhur.nauch.i prikl.fot.i kin. 5 no.1:20-27 Ja-F '60. (MIRA 13:5)

1. Gosudarstvennyy opticheskiy institut imeni S.I.Vavilova.
(Photography--Developing and developers)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

LEVINA, P. M.

USSR/Medicine - Influenza Feb 194[illegible]
Medicine - Blood Pressure

"Condition of the Cardiovascular System during Influenza and Influenzal Pneumonia," P. M. Levina, V. S. Trefilov, L. B. Mel'man, Ye. B. Flegontova, Preliminary Therapeutic Clinic, Leningrad State Pedagogical Med Inst, 8 pp

"Klin Medits" Vol XXVI, No 2

Discusses arterial and venal pressures, results of capillaroscopic examination, and electrocardiographic changes observed in cases of influenza and influenzal pneumonia. Deputy of Preliminary Therapeutic Clinic: Prof S. A. Kofman.

[redacted] 47763

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

LEVINA, P.M.

Amount of circulating blood in cardiovascular and pulmonary diseases. Terap.arkh. 28 no.4:44-45 '56. (MLRA 9:9)

1. Ot propedevticheskoy terapevticheskoy kliniki (zav. - prof. S.Ya.Kofman) Leningradskogo gosudarstvennogo pediatricheskogo meditsinskogo instituta.
(BLOOD VOLUME)
(CARDIOVASCULAR SYSTEM--DISEASES)
(LUNG--DISEASES)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

LEVINA, P.Ya.; SHABAROV, Yu.S.

Cyclopropanes and cyclobutanes. Vest.Mosk.un.Ser.mat., mekh., astron., fiz., khim. 14 no.3:201-202 '59. (MIRA 13:5)

1. Kafedra organicheskoy khimii Moskovskogo gosudarstvennogo universiteta.
(Cyclopropane) (Cyclobutane)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

L 36649-65 EWT(1)/FCC GW

ACCESSION NR AR5016885

SOURCE: Ref. zh. Geofizika, Abs. 2B41

AUTHOR: Burkova, M. V.; Levina, P. Z.

TITLE: Vertical wind shears in jet streams over the southern part of the SSSR on the basis of data from the International Geophysical Year and the period of International Geophysical Cooperation

CITED SOURCE: Tr. Sredneaz. n.-i. gidrometeorol. in-ta, vyp. 19(34) 1964, 26-37

TOPIC TAGS: wind, wind shear, jet stream, arctic front jet stream, polar front jet stream, subtropical jet stream

TRANSLATION: The authors have computed vertical wind shears in arctic front, polar front and subtropical jet streams at maximum wind velocities exceeding 40 m/sec, for winter and summer. The distribution of the frequency of different gradations of vertical wind shears below and above the streams has been computed and a graphic relationship has been established between wind force on the axis of the jet stream and vertical wind shears. These relationships are expressed very poorly.

SUB CODE: ES ENCL: 00

Card 1/1

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

FAINSHTEYN, B.A., zasluzhennyy vrach BSSR; LEVINA, R.I., kand.med.nauk

Observations on endemic foci of scleroma in the Polesye Lowland. Zdrav.Bel. 8 no.11:55-58 N '62. (MIRA 16:5)

1. Iz Otorinolaringologicheskogo otdeleniya Mozyrskoy gorodskoy bol'nitsy Belorusskogo nauchno-issledovatel'skogo sanitarno-gigiyenicheskogo instituta.
(POLESYE—RHINOSCLEROMA)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

LEVINA, R. I.

CA

11H

PROCESSES AND PROPERTIES INDEX

Sugar-loading effect on blood pressure. P. M. Kaplan and R. I. Levina. *Vrachebnoe Delo* 26, 890-92(1946).—Dogs and rabbits, given 1.5-2.0 g./kg. glucose per os, showed an increase of blood pressure by some 30%; the effect dies out in about 2 hrs. Rabbits given 5 g./kg. cane sugar gave an even sharper effect (shown on curves).
G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

LEVINA, R.I.

CA

112

Study of the evolution of nervous activity and of chemical factors of excitation. E. A. Kakushkina and R. Levina. *Compt. rend. acad. sci. U.R.S.S.* 83, 281-3(1952)(In French).—The dorsal muscle of the leech was used for the biol. assay of substances related to acetylcholine (I) and to cholinesterase (II) found in the entire bodies of certain invertebrates. In *Lumbricus terrestris*, *Anodonta mutabilis*, *Potamobius astacus*, *Tenebrio molitor*, and *Blatta orientalis*, the concns. of I were 0.06, 0.08, 0.036, 0.27, and 0.997 γ, resp. [the divisor of γ to obtain concn. not given], and the concns. of II were 0.84, 1.70, 0.38, 0.20, and 0.1 γ, resp. The value of the acetylcholine coeff (I/II) is correlated with the development of reflex nervous activity.

Marshall E. Deutsch

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

REUT, A.I.; LEVINA, R.I.

Detection of staphylococcal enterotoxin. Vop.pit. 14 no.3:47 My-Je '55. (MIRA 8:7)

1. Iz Belorusskogo nauchno-issledovatel'skogo sanitarnogo instituta, Minsk.
(MICROCOCCUS PYOGENES,
enterotoxin, detection)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

USSR / Microbiology. Microbes Pathogenic to Man and Animals. Bacteria of the Intestinal Group. F

Abs Jour : Ref. Zhur - Biol., No. 21, 1958, No. 95178

Author : Levina, R. I.

Inst :

Title : Bacteriology and Serology of Scleroma.

Orig Pub : V sb.: Probl. skleromn. infektsii. Minsk, Gosizdat BSSR, 1957, 30-34

Abstract : No abstract.

Card 1/1

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

LEVINA, R. I.

F-3

USSR/Microbiology. Sanitary Microbiology.

Abs Jour: Ref. Zhur.-Biol., No 7, 1958, 28946.

Author : Reut, A.I., Levina, R.I., Kagan, Ts. A.
Inst : Not given.
Title : Survival of Some Intestinal Bacteria in Water Containing Humus Substances.

Orig Pub: O vyzhivaemosti nekotorykh mikrobov kishechnoy gruppy v vode, soderzhashchey gumusovye veshchestva. Zdravookhr. Belorussii, 1957, No 1, 54-57.

Abstract: A study was conducted on the effect of humus substances on individual bacterial species in water (intestinal bacilli, typhoid, paratyphoid B bacilli, Flexner and Sonne dysentery bacilli). The water of the Ptich river, rich in humus compounds, was utilized. As a control, water from a drill hole which contained non

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APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

REUT, A.I.; LEVINA, R.I.; KAGAN, TS.A.

Viability of certain enteric bacteria in water containing humic substances. Zhur.mikrobiol.epid. i immun.,supplement for 1956:10 '57 (MIRA 11:3)
(HUMUS--PHYSIOLOGICAL EFFECT)
(INTESTINES--BACTERIOLOGY)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

PUTILIN, S.A.; LEVINA, R.I.

Prophylaxis of uterine subinvolution arising after sutures of perineal tears. Vop.okh.mat.i det. 4 no.6:90 N-D '59. (MIRA 13:4)

1. Iz Benderskogo rodil'nogo doma Moldavskoy SSR.
(UTERUS--DISPLACEMENTS)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

LEVINA, R.I.

BRAYLOVSKIY, Ya.Z. starshiy nauchnyy sotrudnik; LEVINA, R.I., starshiy nauchnyy sotrudnik; KOLIBABA, A.P., kandidat meditsinskikh nauk, direktor.

Changes in the cochleopapillary reflex in animals under differing influences on the central and peripheral nervous system. Vest.oto-rin. 15 no.5:6-12 S-O '53. (MLRA 6:11)

1. Fiziologicheskaya laboratoriya Ukrainskogo nauchno-issledovatel'skogo instituta bolezney ukha, gorla i nosa. 2. Surdologicheskoye otdeleniye Ukrainskogo nauchno-issledovatel'skogo instituta bolezney ukha, gorla i nosa. 3. Ukrainskiy nauchno-issledovatel'skiy institut bolezney ukha, gorla i nosa (for Kolibaba). (Reflexes) (Nervous system)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

LEVINA, R.I., starshiy nauchnyy sotrudnik.

Effect of bromide and of caffeine on functional changes of the auditory analysor. Vest. oto-rin. 15 no.6:17-22 N-D '53. (MLRA 7:1)

1. Iz fiziologicheskoy laboratorii Ukrainskogo nauchno-issledovatel'skogo instituta bolezney ukha, gorla i nosa (direktor - starshiy nauchnyy sotrudnik A.P.Kolibaba).
(Caffeine) (Bromides) (Hearing)

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

MYAKINNIKOVA, M.V., kand.med.nauk; LEVINA, R.I.

Materials from a study of microfoci of scleroma in Minsk. Zhur. ush., nos.i gorl.bol. 22 no.2:47-50 Mr-Ap '62. (MIRA 15:11)

1. Iz kafedry bolezney ukha, gorla i nosa (zav. - prof. N.P.Kniga) Minskogo meditsinskogo instituta i Belorusskogo nauchno-issledovatel'skogo sanitarno-gigiyenicheskogo instituta.
(MINSK--RHINOSCLEROMA)

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FAYNSHTEYN, B.A., zasluzhennyy vrach BSSR; LEVINA, R.I., kand. med. nauk

Results of prolonged observation of endemic foci of scleroma in the Polesye Lowland. Zhur. ush., nos. i gorl. bol. 23 no.1:61-65 Ja-F '63. (MIRA 17:2)

1. Iz otdeleniya bolezney ukha, gorla i nosa Mozyr'skoy gorodskoy bol'nitsy i Belorusskogo nauchno-issledovatel'skogo sanitarno-gigiyenicheskogo instituta.

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

LEVINA, R.I.

Interrelations of various species of protococcal algae and their bactericidal action on conjoint cultivation. Mikrobiologiia 33 no.1:140-147 Ja-F '64. (MIRA 17:9)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

LEVINA, R.I.

Antagonism between protococcal algae and coliform typhoid microorganisms. Mikrobiologiia 33 no.5:887-893 S-O '64. (MIRA 18:3)

1. Belorusskiy nauchno-issledovatel'skiy sanitarno-gigiyenicheskiy institut, Minsk.

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

SPIVAKOVSKIY, V.B.; LEVINA, R.L.

Rapid complexonometric determination of calcium and magnesium in silicates. Ukr. khim.zhur. 29 no.9:978-981 '63. (MIRA 17:4)

1. Kiyevskiy gosudarstvennyy universitet im. T.G.Shevchenko.

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

PUTSAY, S.A.; LEVINA, R.M.

Mental disorders in influenza during the spring-winter period of 1962. Vrach. delo no.10:150-151 O '63. (MIRA 17:2)

1. Chernigovskaya oblastnaya psikhonevrologicheskaya bol'nitsa.

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

Levine, R.S.

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

LEVINA, R.S.

USSR/ Chemistry - Glass manufacture

Card 1/1 Pub. 104 - 3/14

Authors : Okhotin, M. V., Dr. Chem. Sci., Prof.; and Levina, R. S.

Title : Effect of increasing the MgO content on the crystallization of glass.

Periodical : Stek. i ker. 11/11, 6-9, Nov 1954

Abstract : Seventeen types of glass are discussed, which differ in composition. These are divided into six groups in accordance with the maximum number of crystallic forms for each. Graphs are presented which show the speed of crystallization for all seventeen types in accordance with the formula. $V = f(t^{o})$. It is found that as the proportion of MgO is increased in substitution of CaO, the speed of crystallization is reduced. Graphs; table.

Institution: .....

Submitted: .....

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

Levina, R. S.

Effect of soda-potash mixture on the crystallization and fusion of window pane glass. M. V. Okhotin, I. D. Tykachinskii, R. S. Levina, G. S. Bogdanova, and S. Ya. Raf. *Trudy Vsesoyuz. Nauch.-Issledovatel. Inst. Stekla* 1954, No. 34, 3-9; *Referat. Zhur., Khim.* 1955, No. 841. The suitability of the soda-potash mixt. obtained as a by-product in Al_2O_3 plants operating on nepheline in glass melting was investigated. The mixt. contained K_2CO_3 32.8 and Na_2CO_3 53.8%. Exptl. glass was melted in crucibles and kept for 4 hrs. at 1420°. The glass was then poured from the crucibles, annealed, and its physicochem. properties were examd. visually. It was concluded that the soda-potash mixt. could be used in batches of sheet glass to replace soda partly or entirely; in the latter case the working temp. of the glass was raised by 40-50°. A glass contg. in its alk. component 7.5% K_2O was in its crystn. properties identical with a glass contg. only Na_2O. M. Hosch

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LEVINA, R. S.

USSR/Chemical Technology. Chemical Products and Their Application -- Silicates. Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 2, 1957, 5188

Author: Tykachinskiy, I. D., Botvinkin, O. K., Buneyeva, L. I., ~~Levina, R. S.,~~ Okhotin, M. V., Rogozhin, Yu. V., Syritskaya, Z. M.

Institution: None

Title: Development of Alkali-Free and Low-Alkali Glass Compositions and of the Technology of Their Melting and Fabrication

Original Publication: Steklo i keramika, 1956, No 6, 1-6

Abstract: Presentation of the results of work on the development of boron-free, alkali-free or low-alkali glasses, suitable for mechanized manufacture of mass production articles. Selection of the compositions was based on a four component system SiO_2-Al_2O_3-CaO-MgO, and research dealt primarily with the region of ternary eutectic, of MP 1,222°, having the composition (in % by weight): SiO_2 61.9, Al_2O_3 18.5, CaO 10.2 and MgO 9.4. To facilitate melting additions of CaF_2, B_2O_3, Na_2O,

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

OKHOTIN, M.V., doktor khimicheskikh nauk, professor; LEVINA, R.S., [redacted] kandidat tekhnicheskikh nauk.

Comparing data on the crystallisation and viscosity of the most efficiently composed industrial glasses used in the vertical drawing of sheet glass. Trudy VNIIStekla no.36:3-19 '56. (MLRA 9:11)

(Glass manufacture)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

LEVINA, R.S.

USSR/Chemical Technology - Chemical Products and Their Application. Silicates. Glass. Ceramics. Binders, I-9

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 62254

Author: Okhotin, M. V., Levina, R. S.

Institution: None

Title: Investigation of Linear Rate and Temperature of Upper Limit of Crystallization of Silicate Glasses Containing B_2O_3

Original Periodical: Tr. Vses. n.-i. in-ta stekla, 1956, No 36, 20-26

Abstract: It has been found that inclusion in the composition of sodium-calcium-magnesium alumo-borosilicate glasses of B_2O_3 in lieu of SiO_2 and CaO results, in most of the investigated instances, in a decrease in crystallization, while inclusion of B_2O_3 in lieu of Al_2O_3 and Na_2O causes increased crystallization. On replacement, in the investigated compositions, of MgO by B_2O_3 crystallization properties remain practically unchanged. Compositions are recommended for glasses suitable for industrial uses. See also Referat Zhur - Khimiya, 1955, 12175.

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LEVINA, R.S.; SMORGENSHTERN, I.

Organizing the detoxication of sewage from dwellings by means of chlorination plants. Med. zhur. Uzb. no.7:20-22 Jl '61. (MIRA 15:1)

1. Iz Kokandskoy gorodskoy sanitarno-epidemiologicheskoy stantsii.
(SEWAGE--PURIFICATION) (WATER--PURIFICATION--CHLORINATION)

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

VARICH, N.I.; KRIVUSHA, Yu.V.; LEVINA, R.V.; KOVALENKO, N.D.

Effect of lubricants on the texture of rolled metal. Izv. vys. ucheb. zav.; chern. met. 6 no.5:151-155 '63. (MIRA 16:7)

1. Dnepropetrovskiy gosudarstvennyy universitet.
(Rolling (Metalwork)) (Metalworking lubricants)

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PROCESSES AND PROPERTIES INDEX

The light fractions from shale tar. M. Ya. Levina and M. B. Turova. *Khim. Tverdogo Topliva* 2, No. [illegible] 31-31 (1931).—In the distn. of shale tar with steam only about 11% of oil b. 100-200°, S 1.1-1.1%, is obtained. Unsatisfactory results were obtained in an attempt to remove the S with Na, Cu, Cu catalyst, $HgCl_2$ and basic Hg acetate. Treatment of the 100-200° fraction with H_2SO_4 gave the following results: (1) Unsatd. compds. and sulfurous products 57% (35-40% sulfurous compds.), (2) condensation products (derived from treatment with H_2SO_4 of 1.83 sp. gr.) 20%, (3) aromatic compds. removed with fuming H_2SO_4, 10%, (4) condensation products obtained through the action of fuming H_2SO_4, 6%, (5) hexamethylene hydrocarbons 1.4-1.5%, (6) fats and pentamethylene hydrocarbons 4.6-4.8%, and (7) losses 1%. In an exptl. cracking (20% $AlCl_3$) 24% of an oil (170-200°) contg. 2.2% S was obtained. S was reduced to 0.02% and the unsatd. hydrocarbons were removed completely after treatment with H_2SO_4 of 1.83 sp. gr., giving a final yield of 21%.

A. A. Berhtlingk

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CA

Products obtained on cracking oleic acid with aluminum chloride. N. D. Zelinskii and R. Ya. Levina. *J. Applied Chem.* (U. S. S. R.) 6, 20-30(1933).—Oleic acid was heated on an oil bath with 30% $AlCl_3$ for 2-3 hrs. at 150°. The light fraction (41%, 200 g.) was then steam-distd. and the following fractions were obtained: (*a*) 25-60°, n_D^{20} 1.4100, d_4^{20} 0.706, anal. aniline pt. —, wt. 10 g.; (*b*) 60-150°, 1.4131, 0.715, 39.1, 80; (*c*) 150-200°, *b* 1.4347, 0.772, 48.9, 60; (*d*) 200-250°, 1.4483, 0.798, 51.5, 50. The distribution of the hydrocarbons in these fractions was unsatd. (*a*) 57.1, (*b*) 55.5; aromatic *a* 4.4, *b* 8.1; hexamethylene *a* 2.2, *b* 3.1, *c* 4; pentamethylene *a* 1.7, *b* 3.8, *c* 8.4; paraffin *a* 34.6, *b* 29.5, *c* 28.5%. Fraction *c* contained 50.2% unsatd. plus aromatic hydrocarbons.

A. A. Boehtlingk

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PROCESSES AND PROPERTIES INDEX

Ca

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D. Zelinskii and his scientific activities. R. Ya. Levina, and Yu. K. Yur'ev. *J. Chem. Ind.* (Moscow) No. 3, 28-37.

H. M. Leicester

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PROCESSES AND PROPERTIES INDEX

10

Contact isomerization of the dimethyl esters of maleic acid. R. Ya. Levina. *Uchenye Zapiski* (*Wiss. Ber. Moskau Staats-Univ.*) 3, 183-6(1934); (*Chem. Zentr.* 1935, II, 3497.—By heating di-Me maleate in a slow stream of CO_2 over 20% Pd-asbestos at 205-6°, *di-Me fumarate* was obtained quantitatively. A like expt. in the presence of asbestos but without Pd gave no conversion. Since here the formation of an intermediate addn. compd. is apparently excluded (cf. Meerwein and Weber, *C. A.* 19, 3251), the formation of an active form having 2 unsatd. C atoms, which is converted into the stable *trans*-isomer, is assumed.

W. A. Moore

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Irreversible catalysis of bicyclic hydrocarbons. Contact reaction of carane. R. Ya. Levina. *Uchennie Zapiski Wiss. Bv. Moskau Staats-Univ.*) 3, 187-92(1934); *Chem. Zentr.* 1935, II, 3650.—Since carane (I), under conditions of cleavage of the triatomic ring, can be dehydrogenated as well as hydrogenated, it was assumed that this satd. bicyclic hydrocarbon can also undergo irreversible catalysis. It was found that leading I in a slow stream of CO_2 over Pd-asbestos at 160-80° yielded menthane (II) and cymene (III). On the other hand, the nondehydrogenated hydrocarbons *α-fenchene* and *1,3,3-trimethylcyclohexane* remain unchanged under these conditions.

$$\xrightarrow{+2H_2} 2MeCH.CH_2.CH_2.CH(CHMe_2).CH_2.CH_2 \quad (II)$$

$$\xrightarrow{-2H_2} MeC{:}CH.CH{:}C(CHMe_2).CH{:}CH \quad (III)$$

W. A. Moore

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CA

PROCESSES AND PROPERTIES INDEX

10

The mechanism of the action of aluminum chloride on biphenyl. Yu. K. Yur'ev and R. Ya. Levina. *Uchenie Zapiski* (*Wiss. Ber. Moskau Staats-Univ.*) 3, 203-7 (1934); *Chem. Zentr.* 1935, II, 3303.—Products obtained from the cracking of biphenyl at 200-300° in the presence of $AlCl_3$ are predominantly benzene (73.5%) as well as methylpropentane (18.5%), toluene (4%), cyclohexane (4%). Paraffins and olefins were not formed.

W. A. Moore

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PROCESSES AND PROPERTIES INDEX

Methods of investigation of cracked benzine. R. Ya. Levina, Uchenye Zapiski. Wiss. Ber. Moskau. Staats-Univ. 3, 241-5(1934); Chem. Zentr. 1936, I, 480. Investigations on an artificial mixt. of hydrocarbons contg. a high content of unsatd. compds. indicated that by the use of previously suggested methods (cf. C. A. 27, 5719) it is possible to det. the unsatd. fraction of the cracked benzine with sufficient accuracy. W. A. Moore

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CH

PROCESSES AND PROPERTIES INDEX

Catalytic conversion of vinylcyclohexane, allylcyclohexane and allylbenzene. R. Ya. Levina and V. P. Tsurikov. J. Gen. Chem. (U. S. S. R.) 6, 1280-7(1936). — Zelinskii and co-workers showed that by the irreversible catalysis of unsatd. cyclic hydrocarbons 1 part of the mols. is dehydrogenated and the other hydrogenated by the liberated H_2. Z. (C. A. 19, 1201) conceived that in the catalysis of methylenecyclohexane (I) the dehydrogenation proceeds with the formation of an unstable compd. with 3 conjugated double bonds which is easily isomerized to PhMe, while the liberated H_2 converts 2 other mols. of I to MeC_6H_{11}: $I \rightarrow 2H_2 \rightarrow CH_2:CCH:CH:CH_2CH:CH \rightarrow PhMe$, and $2I + 2H_2 \rightarrow MeC_6H_{11}$. Z. and L. (C. A. 23, 5466) proposed another interpretation of the irreversible catalysis, whereby I with Pd is isomerized to methylcyclohexene, which is then converted into methylcyclohexane, MeC_6H_{11}. Similarly β-pinene is isomerized to α-pinene and this to a mixt. of pinene and cymene. Thus, in the irreversible catalysis of hydrocarbons with the double bond outside the ring, an intermediate shift of the double bond into the ring takes place. Since in I and β-pinene the double bond is directly connected with a C atom of the ring, it was interesting to study the irreversible catalysis of such hydrocarbons in which the irreversible catalysis single bond to a side chain with an ethylene bond, viz., vinylcyclohexene (II) and allylcyclohexene (III). II gave a mixt. of PhEt and EtC_6H_{11}, and III gave PhPr and PrC_6H_{11}. The mechanism of the reaction may be conceived in 2 ways: (1) At first the isomerization of the hydrocarbon with a shift of the ethylene bond into the ring takes place, followed by the normal reaction of irreversible catalysis with the formation of a cyclohexane hydrocarbon: $II \rightarrow C_6H_{11}Et$; $2EtC_6H_{11} + 2H_2 \rightarrow 2EtC_6H_{12}$ and $EtC_6H_{12} + 2H_2 \rightarrow PhEt$; $III \rightarrow PrC_6H_{11}$; $2PrC_6H_{11} + 2H_2 \rightarrow 2PrC_6H_{12}$ and $PrC_6H_{12} + 2H_2 \rightarrow PhPr$. (2) Primary dehydrogenation of II and III rings, followed by hydrogenation of the ethylene bond in the side chain of II and III and the Ph. $CH:CH_2$ and $PhCH_2CH:CH_2$: $II + 3H_2 \rightarrow PhCH:CH_2$; $2II + 2H_2 \rightarrow PrC_6H_{11}$; $PhCH:CH_2 + H_2 \rightarrow PhEt$; $III + 3H_2 \rightarrow PhCH_2CH:CH_2$; $PhCH:CH_2 + H_2 \rightarrow PhEt$; $2III + 2H_2 \rightarrow 2PrC_6H_{11}$; $PhCH_2CH:CH_2 + H_2 \rightarrow PhPr$. The 1st scheme is accepted as more probable, because a shift of the double bond into the ring, in the process of irreversible catalysis with Pd was previously observed (Z. and L., *loc. cit.*). The catalytic displacement of the double bond in the side chain of a cyclic hydrocarbon could be demonstrated in support of the 1st scheme, if the resulting isomerization product, capable of further catalytic rearrangement, could be sep.

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lated. In fact, allylbenzene subjected to irreversible catalysis at 300° produced 100% PhCH:CHMe. C_6H_{11}-CH_2CH_2OH (Hiers and Adams, *C. A.* 20, 1599) in petr. ether treated with I and P first in the cold and then by refluxing for 3 hrs., gave $C_6H_{11}CH_2CH_2I$, b_{11} 87°, n_D^{20} 1.5275, d_4^{20} 1.458, MD 50.09, MD 49.74 (calcd.). This heated with quinoline, the product twice redistd. over quinoline, worked up with $C_6O_4H_4$ to remove all traces of quinoline, dried and redistd., gave II, b_{760} 130–1°, n_D^{20} 1.453, d_4^{20} 0.8166, MD 36.55, MD 36.47 (calcd.). Ten g. II passed once over Pd-asbestos (reduced at 160° with H_2 and freed from H_2 with a CO_2 current) in a weak CO_2 current at 200° and a rate of 3–4 drops a min., gave 9 cc. catalysate which, freed from PhEt with 7% fuming H_2SO_4, gave 6 cc. EtC_6H_{11}, b_{760} 130–1°, n_D^{20} 1.4343, d_4^{20} 0.7854, MD 37.15, MD 36.95 (calcd.). Ten g. III (cf. Z. and Vainshtein, *J. Russ. Phys.-Chem. Soc.* 37, 630(1905); Braun, *C. A.* 6, 2004) treated in the presence of Pt-C as above, gave 9 cc. of a product, which, freed from PhBr with H_2SO_4, gave 6 cc. PrC_6H_{11}, b. 153–4°, n_D^{20} 1.4374, d_4^{20} 0.7946, MD 41.62, MD 41.56 (calcd.). C. Blanc

Polymerization of styrene, citral and heptaldehyde. Howard E. Thompson and Robert E. Burk. *J. Am. Chem. Soc.* 57, 711–13(1935).—Citral and heptaldehyde are stable in the substantial absence of O_2; styrene continues to polymerize under these conditions but at a diminished rate; the polymerization is probably still governed by catalysts. The effect of certain catalysts and inhibitors is reported. C. J. West

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Investigating the chemical composition of cracked gasoline from the Winkler-Koch and the Dubrovai units. N. D. Zelinskii and R. Ya. Lavina. *Neftyanoe Khoyaistvo* 26, No. 9, 47-51; *Foreign Petroleum Tech.* 3, 177-92(1935)(Translation). The Dubrovai (vapor-phase) unit produces a cracked gasoline higher in aromatic compds. than that produced by the Winkler-Koch (liquid-phase) cracking unit. The former gasoline is also much higher in pentamethylenes and lower in paraffins and unsatd. compds. Dubrovai gasoline contains 70-80% and the Winkler-Koch 30-40% of cyclic compds., and 37 and 24% unsatd. cyclic compds., resp. The analytical method is described.

A. A. Boehtlingk

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PROCESSES AND PROPERTIES INDEX

BC

Isomerization of m-xylene and hexahydro-m-xylene during bromination. R. J. LEVINA (Sci. Rep. Moscow State Univ., 1936, No. 6, 267—268).—The chief product of bromination of m-xylene or hexahydro-m-xylene in presence of $AlBr_3$ is tetrabromo-p-xylene. R. T.

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Catalytic conversion of allylcyclohexene, cyclohexylallene and cyclohexylallylene. R. Ya. Levina and D. M. Trakhtenberg. *J. Gen. Chem.* (U. S. S. R.) 6, 764-73 (1936); cf. *C. A.* 29, 3314[4]. $CH_2.(CH_2)_3.CH:CHCH_2.CH:CH_2$ (I), $CH_2.(CH_2)_4.CHCH:C:CH_2$ (II), and $CH_2.(CH_2)_4.CHCH_2C:CH$ (III) conducted over Pt-C (30%) catalyst at 200-5° in a weak CO_2 current at a rate of 3-4 drops a min., are completely catalyzed into a mixt. of 65% PhPr and 35% propylcyclohexane (IV). Freed from PhPr with 7% fuming H_2SO_4, washed, dried and redistd., IV b_{760} 153-4°, d_4^{20} 0.7971, n_D^{20} 1.4382, M. R. 41.53 (calcd. 41.56). Thus all 3 hydrocarbons with allene and acetylene side chains gave identical products of irreversible catalysis. The general scheme of conversion is: $3\ C_nH_{2n-4} \rightarrow C_nH_{2n} + 2\ C_nH_{2n-6}$. The mechanism of conversion is explained by isomerization with a transposition of the double bond into the ring. The intermediate cyclohexene or cyclohexadiene hydrocarbons immediately undergo irreversible catalysis. The cyclic hydrocarbons with an acetylene group in the side chain are first isomerized into the allene compds. and then react as above. Allylcyclohexanol (V), b_5 69-71°, d_4^{20} 0.9307, n_D^{20} 1.476, M. R. 42.52 (calcd. 42.62), was obtained in 31% yield by condensing cyclohexanone with $CH_2:CHCH_2Cl$ (VI) and Mg (cf. Matzurevich, *C. A.* 6, 490). V (20 g.) was twice redistd. with 10 g. of cryst. $(CO_2H)_2$ under a dephlegmator at 100-20°. The distillate, after washing with H_2O and drying with $CaCl_2$, was distd. over Na, giving 30% I, b_{760} 158-9°, d_4^{20} 0.8426, n_D^{20} 1.477, M. R. 40.96 (calcd. 40.63). $C_6H_{11}Cl$, b. 141-3°, n_D^{20} 1.4572, resulted by heating concd. HCl with $C_6H_{11}OH$ (obtained by hydrogenation of PhOH in an autoclave) in a pressure bottle at 105-10° (Markovnikov, *Ann.* 302, 11 (1898)). This, treated with VI and Mg and then redistd. over Na, gave $C_6H_{11}.CH_2CH:CH_2$, b. 149-51°, d_4^{20} 0.8156, n_D^{20} 1.454, M. R. 41.2 (calcd. 41.09). This, treated with Br in Et_2O at 0° and redistd., gave $C_6H_{11}CH_2CHBrCH_2Br$ (VII), b_{15} 140-1°, b_{20} 163°, d_4^{20} 1.5248, n_D^{20} 1.528, M. R. 57.35 (calcd. 57.09). VII (35 g.) in 35 cc. alc. and 70 g. KOH in 225 cc. alc., digested on a water bath, gave 27% III, b_{760} 157.5-60°, d_4^{20} 0.8449, n_D^{20} 1.4605, M. R. 39.62 (calcd. for C_9H_{14} with a triple bond 39.56). The same procedure was followed for the prepn. of II, only the cleavage of 2 HBr from VII was effected not with alc. KOH but by distg. twice 65 g. VII with 150 g. quinoline (VIII) at 160-70°. The distillate was freed from VIII with $(CO_2H)_2$, then washed, dried and redistd., giving II, b_{760} 155-6°, d_4^{20} 0.8239, n_D^{20} 1.4658, M. R. 40.99 (calcd. for C_9H_{14} with 2 double bonds 40.63). Chas. Blanc

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Catalytic isomerization of biallyl and eugenol. R. Va. Levina. *J. Gen. Chem.* (U. S. S. R.) 6, 1092-5(1936); *C. A.* 29, 3314[illegible]. Biallyl (I) recirculated 3 times over 30% Pd asbestos (reduced at 100° and freed from H_2 with CO_2) in a weak CO_2 current at 200° and 300° at a rate of 2-3 drops a min. gave 73.4% bipropenyl. Eugenol (II) treated in the presence of Pt-C at 300° as above gave nearly 100% isoeugenol. Thus Pd and Pt are able to catalyze the isomerization of I and II with a shift of the double bonds from the α,β-position to the β,γ-position (cf. Zelinskii and Levina, *C. A.* 23, 5400). Chas. Blanc

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a-3

Mechanism of irreversible catalysis of unsaturated cyclic hydrocarbons with a double linking in the side-chain. P. J. Levina, D. A. Petrov, and D. M. [illegible] (J. Gen. Chem. Russ., 1936, 6, 1400–1409).—The mixtures cyclohexene-diallyl, [illegible]-heptene, and dimethylcyclohexene-[illegible] and -allylbenzene are converted by Fe-C catalyst at 200–300° into saturated products. Formation of cyclohexenes as intermediate products is postulated. R. T.

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The action of aluminum chloride on bicyclohexyl. Yu. K. Yur'ev, R. Ya. Levina and A. I. Kudryavtsev. *J. Gen. Chem.* (U. S. S. R.) 6, 1700-5(1936); cf. *C. A.* 30, 8191.—Cracking bicyclohexyl (I) at 160-200° in the presence of $AlCl_3$ gives a product, b. 15-135°, contg. cyclohexane 32, cyclopentane 12.5 and methane hydrocarbons 55.5%. The latter are composed of 41% isoparaffins, b. 15-32°. Aromatic compds. and olefins are not formed. I results in nearly 100% yield from recrystd. biphenyl, m. 71°, by hydrogenating it in the presence of Ni (60%) on Al_2O_3 (Zelinskii and Komarovskii, *C. A.* 18, 2895) at an initial temp. of 100° and 90 atm. The exothermic reaction is regulated at 160° by addns. of H_2 every 15-20 min. The results depend on energetic stirring (300 r. p. m.) of the reaction mixt. Chas. Blanc

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Action of sodium acetylide on cyclic ketones. I. Synthesis of 1-ethynylcyclohexanol. R. Ya. Levina and K. I. Vinogradova. *J. Applied Chem.* (U. S. S. R.) 9, 1200-1202(1936).—Abs. Et_2O (100 g.) was added with const. stirring and cooling to a soln. of Na (6.5 g.) in liquid NH_3 (120 cc.) in a flask provided with a reflux condenser (closed with a NaOH tube), extg. funnel, stirrer and inlet tube for gases. After the addn. of pure, dry C_2H_2, which was allowed to pass into the above mixt. for 2-3 hrs., and the formation of a white ppt., more abs. Et_2O was introduced. The flask was removed from the cooling bath and the non-reacted NH_3 distd. off at room temp. A soln. of freshly distd. cyclohexanone (25 g.) in abs. Et_2O (50 cc.) was added in small portions to the contents of the flask with const. mixing and cooling in an ice-NaCl bath. After 1 hr. of stirring, the flask was allowed to stay overnight at room temp. Then the reaction mixt. was decompd. with dil. AcOH while cooling with ice. The ether layer was sepd. and treated in the usual manner. The residue, after the removal of the Et_2O, was distd. in vacuo. The product (55.5% of theoretical) b_{16-17} 74-6°, n_D^{20} 1.4830, d_4^{20} 0.9809, M. R.$_D$ = 36.13, i. e., it was pure 1-ethynylcyclohexanol. On dissolving the residue from the vacuum distn. with Et_2O white crystals (2 g.) of dihydroxycyclohexylacetylene, m. 104-5°, sepd. Addn. of C_2H_2 to the Na-NH_3 soln. without Et_2O yielded an unidentified compd. b_{16} 72°, n_D^{20} 1.4695. Heating of 1-ethynylcyclohexanol with solid $(CO_2H)_2$ yielded 1-acetylcyclohexene-1 b_{16} 80°, n_D^{20} 1.4880, d_4^{20} 0.9665. Twenty-eight references. A. A. P.

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Isomerization of bicyclohexyl by the action of aluminum chloride. R. Ya. Levina, Yu. K. Yur'eva and A. I. Loshkomolnikov. *J. Gen. Chem.* (U. S. S. R.) 7, 341-9 (1937); cf. C. A. 31, 2171. Previous study of the action of $AlCl_3$ on bicyclohexyl (I) is continued at lower temps. I (200 g.) with 30.0 g. $AlCl_3$ stirred at 100° for 50 hrs. formed 75% of a satd. compd. $C_{12}H_{22}$, b. 21-19°, d_4^{20} 0.8502, n_D^{20} 1.4063. From the consts. and dehydrogenation tests, it is identified as *trans-trans* I. The reaction at 15-20° for 200 hrs. resulted in little of *cis-trans* I with the greater part of I unchanged. Aromatic compds. and olefins are not formed. About 25 references.

Chas. Blanc

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LN

Catalytic conversion of cyclohexylacetylene. R. Ya. Levina and A. A. Potapova. *J. Gen. Chem.* (U. S. S. R.) 7, 353-6(1937); cf. *C. A.* 30, 6339[8].—*Cyclohexylacetylene* (I) conducted once over platinized charcoal (25% Pt) at 200-5° in a weak CO_2 current at a rate of 3-4 drops a min. is completely transformed into a mixt. of 65% PhEt and 35% ethylcyclohexane (II). Freed from PhEt with 7% fuming H_2SO_4, washed, dried and redistd., II b_{10} 131-2°, d_4^{20} 0.785, n_D^{20} 1.434. The mechanism of the irreversible catalysis is explained by the isomerization of I into ethylcyclohexadiene, probably with the intermediate formation of vinylidenecyclohexane and vinylcyclohexene, which is then converted into PhEt and II (cf. *loc. cit.*). Cyclohexylethanol, b_6 85-7°, d_4^{20} 0.9148, n_D^{20} 1.467, prepd. from $C_6H_{11}MgCl$, treated with P and I_2 by the Freundeler method (*Bull. soc. chim.* 35, 548(1906)) gave $C_6H_{11}CH_2CH_2I$, b_{10} 97-8°, d_4^{20} 1.45, n_D^{20} 1.5235, M. R. 50.19 (calcd. 49.47). This on cleavage with HI gave 28% vinylcyclohexane, b_{10} 130-2°, d_4^{20} 0.8134, n_D^{20} 1.4546, M. R. 36.45 (calcd. 36.47). This with Br_2 in the cold afforded $C_6H_{11}CHBrCH_2Br$ (III), b_{10} 130-5°, and a low-boiling fraction contg. some $C_6H_{11}CBr:CH_2$ (IV). The addn. of III to powd. KOH at 150° resulted in crude I. The fraction, b. 133-40°, is added dropwise to powd. $NaNH_2$ in kerosene (b. 220-50°) and then digested in an oil bath at 160°. The reaction mixt. is treated with H_2O and HCl to an acid reaction. The kerosene layer is washed neutral with H_2O, dried with $CaCl_2$ and twice redistd., giving pure I, b_{10} 130-2°, d_4^{20} 0.8401, n_D^{20} 1.4563, M. R. 35.09 (calcd. 34.94) (cf. Egorova, *C. A.* 6, 854).

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Catalytic conversion of γ-butenylcyclohexane (4-cyclohexyl-1-butene). R. Ya. Levina and M. I. Chernyak. *Ibid.* 403-4; cf. *C. A.* 29, 3314[4].—*γ-Butenylcyclohexane* (I) passed over Pt-C at 210° as above gave 65% PhBu and 35% butylcyclohexane, b_{10} 176-7°, d_4^{20} 0.7987, n_D^{20} 1.4426. The collective exptl. evidence shows that the reaction of irreversible catalysis proceeds independently of the distance of the double bond from the cycle: vinyl-, allyl- and butenyl-cyclohexanes react with equal ease and complete conversion into a mixt. of an aromatic and cyclohexane hydrocarbon with a corresponding satd. side chain. Hexahydrobenzyl alc, b_{10} 81-2°, d_4^{20} 0.9297, n_D^{20} 1.466, obtained from $C_6H_{11}MgCl$ with CH_2O, treated with P and I_2 gave the iodide, b_6 73-4°, d_4^{20} 1.5285, n_D^{20} 1.544. The Grignard mixt. of the iodide with Mg in Et_2O is treated with allyl chloride soln. After refluxing for 8 hrs. and the usual subsequent treatment, 25-30% I resulted. It b. 174.5-5°, d_4^{20} 0.8131, n_D^{20} 1.453, M. R. 45.42 (calcd. 45.67).

Chas. Blanc

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Contact transformation of Δ^{γ}-butenylcyclohexane (δ-cyclohexyl-Δ^{α}-butene). R. J. LEVINA and M. I. TSCHERNIAK (J. Gen. Chem. Russ., 1937, 7, 402—404).—δ-cyclohexyl-Δ^{α}-butene yields PhBu$^{\alpha}$ and n-butylcyclohexane when passed over Pt–C at 210° in CO_2. R. T.

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PROCESSES AND PROPERTIES INDEX

Preparation of m- and p-allyltoluene and p-propenyltoluene. R. Ya. Levina. *J. Gen. Chem.* (U. S. S. R.) 7, 684-7 (1937). p-MeC_6H_4MgBr and allyl chloride (I) gave *p-allyltoluene*, b_{10} 180-2°, n_D^{20} 1.5085, d_4^{20} 0.8[illegible], M. R.$_D$ 44.67 (calcd. 44.31) (cf. Hurd and Bollman, C. A. 28, 1669[illegible]). m-MeC_6H_4MgBr and I gave *m-allyltoluene* (new compd.), b_{11} 60-0.5°, n_D^{20} 1.5[illegible], d_4^{20} 0.8795, M. R.$_D$ 44.61. p-MeC_6H_4MgBr and MeCHO gave p-$MeC_6H_4CH(OH)Et$, b_{11} 115-16°, n_D^{20} 1.5175, d_4^{20} 0.[illegible], M. R.$_D$ 46.27 (calcd. 46.3). This decompd. with moist Al_2O_3 at 330-50° gave p-propenyltoluene, b_{10} 195-7°, n_D^{20} 1.5[illegible], d_4^{20} 0.8[illegible], M. R.$_D$ 46.40 (calcd. 44.3).

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Ca

Catalytic isomerization of unsaturated hydrocarbons with a double bond in the α,β-position. R. Ya. Levina and D. A. Petrov. *J. Gen. Chem.* (U. S. S. R.) 7, 747-9 (1937); cf. *C. A.* 29, 3314[4], and preceding abstr. *p*-Allyltoluene passed over 30% Pt-C at 300° at a rate of 2-3 drops a min. gave a catalyzate contg. 84% *p*-propenyltoluene. γ-Butenylbenzene (from $PhCH_2MgCl$ and allyl chloride), b_{12} 62.5°, n_D^{20} 1.5064, d_4^{20} 0.9015, M. R. 44 (calcd. 44.31), gave β-butenylbenzene ($PhCH_2C$ CH Me), n_D^{20} 1.5101, d_4^{20} 0.9033. Twenty references.

Chas. Blanc

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The cracking of decahydroanthracene in the presence of anhydrous aluminum chloride R. Ya. Levina, Yu. K. Yur'ev and A. I. Lashkomolnikov. J. Gen. Chem. (U. S. S. R.) 7, 1085-8(1937). The cracked product contains 16-35% aromatic hydrocarbons, 64-77% naphthenes and a small amt. of paraffins. This shows that when double bonds occur in 6-membered rings, $AlCl_3$ cracking can produce aromatic compds. H. M. L.

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Cracking bicyclopentyl in the presence of anhydrous aluminum chloride. Yu. K. Yur'ev, R. Ya. Levina and M. I. Spektor. *J. Gen. Chem.* (U. S. S. R.) 7, 1381-6 (1937); cf. C. A. 31, 2174[1]. Cracking bicyclopentyl under the conditions previously used gives 35.5% hexamethylene compds., 46.0% pentamethylenes and 18.5% paraffin hydrocarbons. The pentamethylene ring is more stable toward splitting by $AlCl_3$ than the hexamethylene ring, but it is less stable toward isomerization. The higher homologs of cyclopentane are more easily isomerized to cyclohexyl derivs. than is methylcyclopentane.

H. M. Leicester

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Ca

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The contact isomerization of ethylenic hydrocarbons. R. Ya. Levina. *J. Gen. Chem.* (U. S. S. R.) 7, 1587-91 (1937); cf. *C. A.* 30, 8102[2].—Allylbenzene and stoluene are fully isomerized to the corresponding propenyl compds. at 220-5° over Al_2O_3. Under the same conditions, bi-isobutylene gives biisocrotyl. Bialkyl is harder to isomerize, but at 300-60° it gives 60-83% bipropenyl. No polymers are formed in any case. Ni is a much less effective catalyst than Al_2O_3, but at 360°, it transforms allylbenzene into propenylbenzene in 28% yields.

H. M. Leicester

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Contact transformation of 4-cyclohexyl-1-butyne. R. Ya. Levina and A. I. Ivanov. *J. Gen. Chem.* (U. S. S. R.) 7, 1866-7(1937); cf. *C. A.* 31, 4652[1,2].—Bromination of 4-cyclohexyl-1-butene gives *1,2-dibromo-4-cyclohexylbutane*, b_{10} 155°, n_D^{20} 1.5220, d_4^{20} 1.4706, M. R.$_D$ 61.79. When this is treated with $NaNH_2$ and then AcOH it gives 4-cyclohexyl-1-butyne. When this is passed over platinized C it gives butylcyclohexane and BuPh. Thus the reaction is the same as for the cases studied earlier and the position of the triple bond does not affect the reaction. H. M. Leicester

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Contact transformation of 3-vinyl-1-cyclohexene and 3-ethynyl-1-cyclohexene. R. Ya. Levina and S. Ya. Levina. *J. Gen. Chem.* (U. S. S. R.) 8, 1776-9(1938); cf. C. A. 32, 507[illegible]. When 3-vinyl-1-cyclohexene is passed once over platinized C (25% Pt) in a CO_2 current at 200°-5° at the rate of 3-4 drops per min., it gives PhEt and ethylcyclohexane, b_{100} 130.1°, d_4^{20} 0.7857, n_D^{20} 1.4[illegible]. In a similar reaction, 3-ethynyl-1-cyclohexene (I) undergoes irreversible isomerization to PhEt. I, b. 145.6°, d_4^{20} 0.88, n_D^{20} 1.4078, M. R.$_D$ 35.31, is obtained in 15% yield by cleaving 1 mol. H_2O from 3-ethynyl-1-cyclohexanol (cf. C. A. 31, 2587[illegible]) with anhyd. Al_2SO_4 by the method of Carothers and Coffman (C. A. 20, 6181). Chas. Blanc

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The catalytic conversion of 5-cyclohexyl-1-pentene and 5-cyclohexyl-1-pentyne. R. Ya. Levina, G. B. Gelub and K. M. Smirnov. *J. Gen. Chem.* (U. S. S. R.) 9, 825-8(1939); cf. *C. A.* 31, 4632[1]. — β-Cyclohexylethyl alc., b_{10} 106-7°, d_4^{20} 0.9180, n_D^{20} 1.4676, obtained from $C_6H_{11}CH_2MgI$ and CH_2O, was transformed to $C_6H_{11}CH_2CH_2I$, b_{11} 98-100°, d_4^{20} 1.4530, n_D^{20} 1.5230. 5-Cyclohexyl-1-pentene (I), b_{16} 83.4°, d_4^{20} 0.8168, n_D^{20} 1.4520, was obtained from $C_6H_{11}CH_2CH_2MgI$ on reaction with $CH_2:CHCH_2Br$. I conducted over platinized charcoal (25% Pt) at 200-5° in a weak CO_2 current at a rate of 2-3 drops a min. is completely transformed into a mixt. of amylcyclohexane (II), b_{760} 198.9°, d_4^{20} 0.8018, n_D^{20} 1.4438, and amylbenzene (III), in the ratio 2:1. 5-Cyclohexyl-1-pentyne, b_6 73.4°, d_4^{20} 0.8464, n_D^{20} 1.4627, prepd. by the method of Bourguel (cf. *C. A.* 19, 3470) via the intermediates $C_6H_{11}CH_2C:CH \rightarrow C_6H_{11}CH_2C(:CMe) \rightarrow C_6H_{11}CH_2CH_2C:CH \rightarrow C_6H_{11}CH_2CH_2C:CMe \rightarrow C_6H_{11}CH_2CH_2CH_2C:CH$, when conducted over platinized charcoal under the same conditions as I, yielded II and III in the ratio 1:2.

Gertrude Berend

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CA

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The contact isomerization of ethylene hydrocarbons over metallic oxides. I. Isomerization of biallyl over chromium oxide. R. Ya. Levina and P. Ya. Kiryushov. J. Gen. Chem. (U. S. S. R.) 9, 1834-40(1939); cf. C. A. 31, 8516. If Cr_2O_3 instead of Al_2O_3 is used in the previous procedure, biallyl is fully isomerized without polymerization to bipropenyl at 225-50°. Bipropenyl, b. 80.5-2°, n^{20} 1.4519, d^{20} 0.7174, M. R. 30.8, when condensed with

[illegible] by the method of Diels, et al. (C. A. 23, 3082), gave p-dimethyltetrahydro-o-phthalic anhydride, m. 94°. Chas. Blanc

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The contact isomerization of ethylene hydrocarbons over metallic oxides. III. Comparative action of certain contact substances in the isomerization of allylbenzene. R. Ya. Levina. *J. Gen. Chem.* (U. S. S. R.) 9, 2287-90 (1939); cf. *C. A.* 34, 4051[9].—When $PhCH_2CH\ CH_2$ (I), b. 156-7°, d_4^{20} 0.8023, n_D^{20} 1.5135, M. R.$_D$ 30.68°, is passed at a rate of 2-3 drops/min. in a weak CO_2 current over 30-cm. layers of Cr_2O_3 and Fe_2O_3 at 220°, it is isomerized to give 72% PhCH CHMe (II), b. 1[illegible]-3°, d_4^{20} 0.913, n_D^{20} 1.549. II with Br in ether forms 1-phenyl-1,2-dibromopropane, m. 65.5-6.5°. According to Agees (*J. Russ. Phys.-Chem. Soc.* 37, 662(1905)), I gives a liquid di-Br deriv., 1-phenyl-2,3-dibromopropane, b. 130-7°. The reaction at 300° over activated clay, silica gel and charcoal gave II in 35, 58 and 42% yields, resp. Powd. glass formed no II. Chas. Blanc

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PROCESSES AND PROPERTIES INDEX

Ca

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Contact isomerization of unsaturated hydrocarbons over metallic oxides. IV. Isomerization of p-diallylbenzene and 1-allylnaphthalene over aluminum oxide. R. Ya. Levina, L. E. Karelova and I. A. El'yashberg. *J. Gen. Chem.* (U. S. S. R.) 10, 913-16(1940); cf. *C. A.* 34, 4730F.—p-Diallylbenzene (I), b_{10} 87-8°, d_4^{20} 0.9152, n_D^{20} 1.5250, when passed over Al_2O_3 heated at 300° with a CO_2 stream at a velocity of 2-3 drops/min. is isomerized to p-dipropenylbenzene, m. 63-4°, and p-propenylallylbenzene, b_{10} 107 9°, d_4^{20} 0.9160, n_D^{20} 1.5340, in the ratio 1 5. 1-Allylnaphthalene (II), b_{10} 130 30°, d_4^{20} 1.0228, n_D^{20} 1.6140 (picrate, m. 68.5 9.5°), obtained by the action of allyl chloride on an ether soln. of 1-$C_{10}H_7MgBr$ (III), yields on bromination in ether while cooling 1-$C_{10}H_7CH_2CH_2CHBrCH_2Br$, b_{10} 212-13° (decompn.), d_4^{20} 1.6402, n_D^{20} 1.6555, and, on hydrogenation in alc. in the cold in the presence of Pt black, 1-$C_{10}H_7Pr$, b_{10} 114-15°, d_4^{20} 0.9804, n_D^{20} 1.5028 (picrate, m. 88-90°). Isomerization of II when carried out as described for I, gives 1-propenylnaphthalene (IV), b_{10} 143-4°, d_4^{20} 1.0195, n_D^{20} 1.6315 (picrate, m. 108-10°), which gives 1-naphthoic acid on oxidation with $KMnO_4$ in Me_2CO. IV, synthesized for comparison by reacting EtCHO and III and dehydrating the resulting 1-$C_{10}H_7CH(OH)Et$ (b_{10} 171°, d_4^{20} 1.0000, n_D^{20} 1.5008) by passing repeatedly its soln. in xylene with a N stream over Al_2O_3 heated at 180-200°, b_{10} 145-6°, d_4^{20} 1.0190, n_D^{20} 1.6310 (picrate, m. 109-11°). G. B.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

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The decalin series. I. Synthesis of 2-substituted cis and trans decalins with saturated or unsaturated three-carbon side chains. R. Ya. Levine and S. O. Kulikov. J. Gen. Chem. (U. S. S. R.) 10, 1189-98(1940).—cis-2-

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Decalol, m. 106°, and its *trans*-isomer, m. 75°, are heated in sealed tubes with excess concd. HCl and give, resp., 79.8% of the corresponding *cis*-chloride, b_{10} 112°, n_D^{20} 1.5020, d_4^{20} 1.0421, M. R. calcd., 48.85, found, 48.87, and 88.5% of the *trans*-chloride, b_{10} 106-6°, n_D^{20} 1.4930, d_4^{20} 1.0236, M. R. calcd., 48.85, found, 49.02. These compds. react with Mg and CH_2CHCH_2Cl to give 47.7% *cis-2-allyldecalin* (I), b_{10} 109°, n_D^{20} 1.4888, d_4^{20} 0.8971, M. R. calcd., 57.37, found, 57.37, $PhNH_2$ point, 20.0°, sp. viscosity 3.4, and 51.5% *trans-2-allyldecalin* (II), b_{10} 105°, n_D^{20} 1.4820, d_4^{20} 0.8808, M. R. calcd., 57.37, found, 57.65, $PhNH_2$ point 23.7°, sp. viscosity 2.6, resp. As by-products in these reactions, bi-2-*cis*-decalin, m. 167-8°, and bi-2-*trans*-decalin, m. 106-7°, are obtained. The literature reports these as high-boiling oils. I and II are oxidized by BzO_2H at almost the same rate. I and II add Br to form, resp., 84% of the *cis-dibromide*, b_5 181-3°, n_D^{20} 1.5418, d_4^{20} 1.4407, M. R. calcd., 73.36, found, 73.35, and 98% of the *trans-dibromide*, b_5 171-3°, n_D^{20} 1.5360, d_4^{20} 1.4237, M. R. calcd., 73.36, found, 74.03. $NaNH_2$ splits HBr from these and forms 76.8% *cis-2-decalylpropyne*, b_{10} 124-5°, n_D^{20} 1.4912, d_4^{20} 0.9140, M. R. calcd., 55.83, found, 55.83, and 85.9% *trans-2-decalylpropyne*, b_{10} 116°, n_D^{20} 1.4855, d_4^{20} 0.8976, M. R. calcd., 55.83, found, 56.03. Reduction of I and II with H_2 and platinized charcoal gives, resp., *cis-2-propyldecalin*, b_{10} 106°, n_D^{20} 1.4774, d_4^{20} 0.8834, M. R. calcd., 57.83, found, 57.67, $PhNH_2$ point, 45.3°, sp. viscosity 3.7, solidifies at −71°, and *trans-2-propyldecalin*, b_{10} 102°, n_D^{20} 1.4716, d_4^{20} 0.8660, M. R. calcd., 57.83, found, 58.21, $PhNH_2$ point 57.3°, sp. viscosity 3.0, solidifies at −64°. There is no tendency toward interconversion of the cis and trans isomers in any of these reactions.

H. M. Leicester

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PROCESSES AND PROPERTIES INDEX

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Synthesis of olefinic and paraffinic hydrocarbons of iso structure with a quaternary carbon atom. I. Reaction between the hydrobromides of isoprene and 1,1,3-trimethylbutadiene and cyclohexylmagnesium chloride. R. Ya. Levina, A. M. Pazyushkina, N. A. Shcherglova, N. A. Smirnova, K. D. Shcherbakova and N. I. Shor. *J. Gen. Chem.* (U. S. S. R.) 11, 411-22(1941).—The action of the hydrobromide of isoprene on $C_6H_{11}MgCl$ yielded 2-methyl-4-cyclohexyl-2-butene (γ,γ-dimethylallylcyclohexane), b_{10} 101.2°, n_D^{20} 1.4770, d_4^{20} 0.8550, MR_D 50.55. The expt. procedure for the prepn. of 1,1,3-trimethylbutadiene (I) from mesityl oxide and MeMgI is described. By slowly decompg. the reaction mixt. dild. with HOAc the chief product is the *dimer* of I, b_{10} 95-98°, n_D^{20} 1.4560, d_4^{20} 0.8237, MR_D 64.08. The product of the reaction between the hydrobromide of I and $C_6H_{11}MgBr$ is 2,4-dimethyl-4-cyclohexyl-2-pentene.

B. Z. Kamish

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1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

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Synthesis of olefinic and paraffinic hydrocarbons of iso structure, containing a quaternary carbon atom. II. Reaction between the hydrobromide of 1,1,3-trimethylbutadiene and alkylmagnesium halides. R. Ya. Levina and Yu. B. Kagan. *J. Gen. Chem.* (U. S. S. R.) 11, 523-6(1941).—On the basis of previous work (C. A. 35, 5862[9]) the authors conclude that the hydrobromide of 1,1,3-trimethylbutadiene (I) is 1,1,3,3-tetramethylallyl bromide (II), i. e., a tertiary bromide readily reactive with RMgX. In order to confirm this structure of I, its reaction with MeMgI was investigated. The reaction was carried out analogously to the previously reported reaction with cyclohexylmagnesium chloride. A 30% yield of a hydrocarbon (III) was isolated, b_{100} 102.4°, n_D^{20} 1.4130, d_4^{20} 0.7191; these consts. are close to the known values for 2,4,4-trimethyl-2-pentene (IV). Ozonization of III in $CHCl_3$ yielded acetone (isolated as the peroxide) and Me_2CCO_2H, thus further confirming the identity of III and IV. Catalytic hydrogenation of III yielded 2,4,4-trimethylpentane, which was identified by the phys. consts. and the Raman spectrum. The information thus collected proves the identity of I and II. The reaction between I and RMgX should be a convenient prepn. method for satd. and unsatd. hydrocarbons of iso structure and contg. a quaternary C atom, this is especially true for relatively little studied isoparaffins, $Me_2CHCH_2CMe_2R$. By this reaction between I and EtMgBr there was prepd. *2,4,4-trimethyl-2-hexene*, b_{100} 132°, n_D^{20} 1.4261, d_4^{20} 0.7437, its hydrogenation (platinized charcoal) gave *2,4,4-trimethylhexane*, b_{100} 129-30°, n_D^{20} 1.4081, d_4^{20} 0.7196. Reaction of I with PrMgBr gave *2,4,4-trimethyl-2-heptene*, b_{100} 152.5-53.5°, n_D^{20} 1.4307, d_4^{20} 0.7500, hydrogenation of the latter yielded *2,4,4-trimethylheptane*, b_{100} 151.2°, n_D^{20} 1.4143, d_4^{20} 0.7346.

G. M. Kosolapoff

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Isomerization of unsaturated hydrocarbons in contact with metallic oxides. V. Isomerization of 4-phenyl-1-butene and 5-phenyl-1-pentene on oxides of aluminum and chromium. R. Ya. Levina and N. A. Shcherglova. *J. Gen. Chem.* (U. S. S. R.) 11, 827-33(1941); cf. *C. A.* 35, 2479[9]. One of the authors previously reported the isomerization of allyl-substituted aromatic hydrocarbons in contact with oxides of Al, Cr and Fe, as well as with Pt and Pd, at the low temps. of 200-300°, with a double-bond shift from the gamma to the beta position; a shift to the alpha position was reported on a Pt surface. In the present work the latter type of isomerization was studied on the surfaces of oxides of Al and Cr. *4-Phenyl-1-butene* was passed over Al_2O_3 at the rate of 0.1 cc./min. in a weak stream of CO_2 at 250° (a few expts. at 225° and 300°). The condensate yielded a fraction, b_{10} 71-4°, n_D^{20} 1.5375; dibromide, m. 69.5-70.5° (from EtOH). In further expts. the hydrocarbon was passed under similar conditions over Cr oxide at 250° (1 run at 225°); after fractionating and recycling of the product over Cr oxide the main fraction of the condensate had the properties of *4-phenyl-1-butene*, b_{10} 65.5-66°, n_D^{20} 1.5378, d_4^{20} 0.9000; dibromide m. 70-1°. These expts. show the isomerization with double-bond shift from the 1- to the 3-position. Treatment as above of *5-phenyl-1-pentene* (from CH_2CHCH_2Cl and $PhCH_2CH_2MgBr$) at 250° on Cr oxide yielded *5-phenyl-3-pentene*, b_{10} 101-1°, n_D^{20} 1.5330, d_4^{20} 0.9025; dibromide, m. 60-1.5°. The latter hydrocarbon was synthesized by reaction of BzH with BuMgBr followed by dehydration of the carbinol by Al_2O_3 at 300-350°, b_{10} 99-100°, n_D^{20} 1.5300, d_4^{20} 0.9025; dibromide, m. 61-2°. Comparison of the phys. properties of the isomerized and synthetic hydrocarbons established their identity. Thus, in this case a 1-double bond was shifted to a 4-position, an isomerization not previously reported in the literature. In both cases it should be noted that the final position of the double bond is that of conjugation with the benzene ring. VI. **Isomerization of 4-phenyl-1-butyne on chromium oxide.** R. Ya. Levina and E. M. Panov. *Ibid.* 831-6. — The previous work on the isomerization of the double bond in alkylated benzenes was extended to the acetylenic compds. In the present work the isomerization of *4-phenyl-1-butyne* in contact with Cr oxide at 250° was investigated. The starting material was synthesized by bromination of the corresponding ethylenic compd., followed by dehydrobromination with $NaNH_2$. The hydrocarbon was passed over Cr oxide at the rate of 0.1 cc./min. in a weak stream of CO_2. Considerable difficulty was experienced because of polymer formation. The distillate (25-30% of the original) was purified by $AgNO_3$ treatment and the unreacted portion on distn. yielded a hydrocarbon, $C_{10}H_{10}$, b_{10} 78-80°, n_D^{20} 1.5462, d_4^{20} 0.9235. *4-Phenyl-3-butyne* was then prepd. from BrI and PhC:CNa, b_{10} 80°, n_D^{20}

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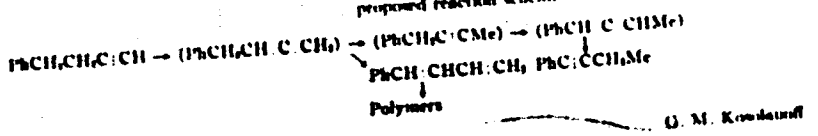
1.3480, d^{4} 0.9261. To establish the identity of the 2 hydrocarbons both were oxidized by identical treatment with $KMnO_4$ to yield BzOH. The only other hydrocarbons $C_{10}H_{10}$ capable of yielding BzOH on such oxidation are 1-phenyl-1,2-butadiene and 1-phenyl-1,3-butadiene, both of which have phys. consts entirely different from those of the hydrocarbons in question. However, it is highly probable that the polymers formed during the isomerization were those of 1-phenyl-1,3-butadiene. The proposed reaction scheme is:



G. M. Kosolapoff

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Reaction of organomagnesium compounds with ketone acetals. R. Ya. Levina, S. G. Kulikov and S. G. Parshikov. *J. Gen. Chem.* (U. S. S. R.) 11, 30[illegible] (1941).—This work deals with the attempted prepn. of hydrocarbons contg. a quaternary C atom by means of the reaction of RMgX with ketone acetals. $Me_2C(OEt)_2$ treated with PhMgBr with continuous distn. of Et_2O, followed by treatment with 15% AcOH, yielded 7% of *ethoxydimethylphenylmethane*, b_{10} 68°, n_D^{20} 1.4730, d_4^{20} 0.8973. Attempts to isolate Me_2CPh_2 from the higher-boiling fractions were unsuccessful. Similar reaction between $Me_2C(OEt)_2$ and cyclohexylmagnesium chloride yielded *ethoxydimethylcyclohexylmethane*, b_{10} 74-5°, n_D^{20} 1.4346, d_4^{20} 0.8801 (7%). Isolation of the hydrocarbon was again unsuccessful. It was thus concluded that the reaction yields only the ethers of tertiary alcs. Further study was made of acetals of cyclic ketones. Cyclohexanone di-Et acetal was prepd. in 87% yield by treatment of the ketone with $HC(OEt)_3$ in the presence of a trace of H_2SO_4. The yield is conditioned by the use of pure reagents, only a trace of H_2SO_4, and neutralization of the acid by a little EtONa about 40-50 min. after the start of the reaction. In a similar manner *di-Et acetals* of cyclopentanone, *cis-2-decalone* and *trans-2-decalone* were prepd. The last 2 acetals are new: b_{10} 132-3°, n_D^{20} 1.4759, d_4^{20} 0.9062, and b_{10} 134-6°, n_D^{20} 1.4695, d_4^{20} 0.9532, resp. Cyclohexanone di-Et acetal was treated with MeMgI under a variety of conditions, yielding only cyclohexanol as an identifiable product.

G. M. Kosolapoff

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

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[illegible] transformation (irreversible [illegible] hydrocarbons with [illegible] catalysis [illegible] the double [illegible] atom. [illegible] Rev., 1945, [illegible] — NO. 7-8. [illegible] of the mechanism of irreversible catalysis [illegible] the irreversible transformation of cyclohexene [illegible] C_6H_6 [illegible], in the presence of Pt or Pd at 200°, which was [illegible] extended by Levina to include transformations of [illegible] (and cyclohexanes) with double (or triple) bonds in [illegible], e.g., $2C_6H_{11}\cdot CH_2\cdot CHXCH_3 \rightarrow PhPr + 2C_6H_{12}Pr$, is provided. In the latter case it is supposed that the double bond is initially transferred from the side-chain to the ring and that the intermediate compound is then, in part, hydrogenated to the substituted cyclohexane and, in part, dehydrogenated to the substituted C_6H_6. Such a transference of the double bond would be impossible, however, if in the original hydrocarbon it were separated from the ring by a C atom which had no free H, e.g., $CH_3R\cdot CHXCH_3$ [illegible] (R = cyclohexyl) and it is shown experimentally that (I) in fact [illegible] under the conditions for irreversible catalysis while $CH_3R\cdot CHXCH_3$ behaves normally. It is concluded, therefore, that the transformation is not by direct simultaneous hydrogenation-dehydrogenation but takes place through the intermediate isomerization [illegible]. G. S. S.

Moscow State Univ. im. M.V. Lomonosov. 1941 — Lab. Org. Chem. im. Acad. N.D. Zelinskiy.

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Ca

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Decalin series. II. 2-Methyl- and 2-ethyldecalins. R. Ya. Levina and S. G. Kulikov (Moscow State Univ.). *J. Gen. Chem.* (U.S.S.R.) 16, 117-24(1946); cf. *C.A.* 35, 2881[9].—2-Chloro-*cis*-decalin (121 g.) was converted conventionally into the Grignard reagent, using 17.5 g. Mg, after which 21 g. paraform was added and the mixt. stirred for 14-15 hrs.; decompn. with 10% AcOH gave 51 g. *2-cis-decalylcarbinol* (I), b_{10} 133-4°, n_D^{20} 1.5010, d_4^{20} 0.9931. Similarly, 98 g. 2-chloro-*trans*-decalin gave 42 g. *2-trans-decalylcarbinol* (II), b_{10} 126.5-7.5°, n_D^{20} 1.4950, d_4^{20} 0.9765. The high-boiling residues in the above prepns. gave on standing unspecified amts. of the corresponding bidecalyls: *2,2'-cis-bidecalyl*, m. 167-8° (from ligroin), and *2,2'-trans-bidecalyl*, m. 105-6° (from Me_2CO). I (35 g.) and 4 g. red P treated slowly with intermittent heating with 27 g. iodine, followed by 4 hrs. at 125°, gave 46 g. *2-cis-decalylmethyl iodide*, b_7 145-6°, n_D^{20} 1.5543, d_4^{20} 1.4500; similarly, the trans isomer gave 76% *2-trans-decalylmethyl iodide*, b_7 138.5-9.5°, n_D^{20} 1.5450, d_4^{20} 1.4194. Conversion of these into Grignard reagents and treatment with dil. AcOH yielded 76-81% of the hydrocarbons: *2-methyl-cis-decalin*, b_{12} 84°, n_D^{20} 1.4751, d_4^{20} 0.8846, and *2-methyl-trans-decalin*, b_{12} 76°, n_D^{20} 1.4698, d_4^{20} 0.8693. The decalylmethyl iodides were converted into Grignard reagents and were treated as above with paraform to yield 29.5-31.5% *decalylethanols*: *1-(2-cis-decalyl)ethanol*, b_7 135-6°, n_D^{20} 1.4957, d_4^{20} 0.9771, and *1-(2-trans-decalyl)-ethanol*, b_7 130-1°, n_D^{20} 1.4910, d_4^{20} 0.9622; these were converted into the iodides, as above, in 73.5-80% yields: *1-(2-cis-decalyl)ethyl iodide*, b_5 155-6°, n_D^{20} 1.5450, d_4^{20} 1.3974, and *1-(2-trans-decalyl)ethyl iodide*, b_5 151-2°, n_D^{20} 1.5390, d_4^{20} 1.3740. Conversion of these into Mg compds. and treatment with dil. AcOH gave 70.4-71% of the hydrocarbons: *2-ethyl-cis-decalin*, b_{12} 91-1.5°, n_D^{20} 1.4762, d_4^{20} 0.8830, and *2-ethyl-trans-decalin*, b_{12} 85-6°, n_D^{20} 1.4708, d_4^{20} 0.8678.

G. M. Kosolapoff

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LEVINA R. Ya.

Isomerization of unsaturated hydrocarbons in contact with metal oxides. VII. Isomerization of allylbenzene, diallyl, and 4-phenyl-1-butene in the presence of chromic oxide deposited on aluminum oxide. R. Ya. Levina, L. A. Derendyaeva and A. A. Fainzil'berg (Moscow State Univ.). *J. Gen. Chem.* (U.S.S.R.) 16, 817-20(1946); cf. C.A. 35, 6036[3].—At 225-300° Al_2O_3-Cr_2O_3 catalyst is effective in isomerizing allylbenzene, diallyl, and 4-phenyl-1-butene into *propenylbenzene* (60%), *bipropenyl* (73%), and *4-phenyl-2-butene* (57%), with best results being obtained at 250° and a flow rate of 0.12-0.15 g./min. Thus the isomerization from α- to γ-olefin is readily achieved.

G. M. Kosolapoff

Moscow Order Lenin State Univ. im. N. D. Zelinskiy. -1946-

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LEVINA R. Ya.

Synthesis of olefinic and paraffinic hydrocarbons of forked structure. III. Reaction between 2,4-dimethyl-pentadiene hydrobromide and alkylmagnesium halides. (R. Ya. Levina and S. A. Igorova (Moscow State Univ.)

J. Gen. Chem. (U.S.S.R.) 16, 621-[illegible]; cf. C.A. 35, [illegible]. 2,4-Dimethyl 1,3-pentadiene hydrobromide (4) gave, with an excess of BuMgBr (6 hr. refluxing), [illegible] 2,4,4-trimethyl 2-octene, b[illegible] [illegible], b[illegible] [illegible], n_D^{20} 1.[illegible], d_4^{20} 0.[illegible]; hydrogenation over Pt-charcoal gave 2,4,4-trimethylocane, b[illegible] [illegible], n_D^{20} 1.[illegible], d_4^{20} 0.[illegible]. Use of iso-BuMgBr gave [illegible] 2,4,4,6-trimethyl-2-heptene, b[illegible] 59.5-60.5°, d_4^{20} 0.[illegible], n_D^{20} 1.[illegible], which yielded 2,4,4,6-trimethylheptane, b[illegible] [illegible], n_D^{20} 1.[illegible], d_4^{20} 0.[illegible]. Reaction of I with Mg gave [illegible] dimethyl-pentadiene dimer. G. M. Kosolapoff

Moscow Order Lenin State Univ., Lab. Organic Chem. im. N. D. Zelinskiy, -1945-.

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CA

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Synthesis of olefin and paraffin hydrocarbons with iso structure. IV. Use of mesityl oxide as the starting material for the synthesis of paraffin hydrocarbons with iso structure. R. Ya. Levina, L. S. Klelmenova, and N. P. Strusherina (Moscow State Univ.). *J. Gen. Chem.* (U.S.S.R.) 17, 117-21(1947)(in Russian); cf. *C.A.* 41, 1506d.—A no. of 2,4-dimethylalkanes were prepd. by hydrogenation of dienes obtained by dehydration of unsatd. tertiary alcs. derived from Grignard reagents and I as mesityl oxide (I). The interaction of EtMgI and I as described in the earlier paper yielded a mixt. of I with *2,4-dimethyl-2-penten-4-ol* and its *dehydration product*, the ale. underwent further dehydration during fractional distn. and the diene was isolated by drying the distillate and further distn.; it bns 114-15°, n_D^{20} 1.4530, d_4^{20} 0.7030. It is either *2-ethyl-4-methyl-1,3-pentadiene* or *2,4-dimethyl-2,6-hexadiene* and was readily hydrogenated to *2,4-dimethylhexane* either over platinized C at 180° or over Ni-Al_2O_3 at room temp. and 40 atm. H; the product bns 108.5-9°, n_D^{20} 1.3987, d_4^{20} 0.7032, was obtained in 34% over-all yield, which could be raised to 38% when the Grignard reaction mixt. was heated 4 hrs., and to 49% when a 1:2 mol. ratio of I and EtMgBr was used. Reaction of a 1:1 mol. ratio of I and PrMgBr with 4-5 hrs. heating of the mixt. gave a mixt. of *2,4-dimethyl-2-hepten-4-ol* and its *diene dehydration product*, redistn. gave the crude diene, b. 125-37°, which was hydrogenated, without further purification, over platinized C, and the product after washing with 85% H_2SO_4 was distd. over Na to give 35%, *2,4-dimethylheptane*, bns 132.2-2.7°, n_D^{20} 1.4133, d_4^{20} 0.7158. (In a sep. expt. a small amt. of the diene was carefully distd until the product bns 135.5-6.5°, n_D^{20} 1.4508.) Reaction of I, as described above, with BuMgBr, dehydration of the product by atm. distn. (no b.pt. given) and hydrogenation over platinized C at 140° gave 35% *2,4-dimethylnonane*, bns 156.3-6.8°, n_D^{20} 1.4113, d_4^{20} 0.7319. Similar reaction using iso-BuMgBr gave 24% *2,4,6-trimethylheptane*, bns 146-6.5°, n_D^{20} 1.4100, d_4^{20} 0.7287. The dienes in the last 2 cases bns 165-7°, n_D^{20} 1.4500, and bns 152-4°, n_D^{20} 1.4490, resp. G. M. Kondakov

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PROCESSES AND PROPERTIES INDEX

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CA

Decalin series. III. Stereoisomeric decalin hydrocarbons with saturated and unsaturated side chains. R. Ya. Levina and S. G. Kukkov (Moscow State Univ.). J. Gen. Chem. (U.S.S.R.) 17, 1189-96(1947) (in Russian); cf. C.A. 41, 1154.—*cis*-Decahydro-2-naphthylmethyl chloride (46 g.), 4.2 g. Mg, and 18 g. allyl chloride in Et_2O gave 12 g. 4-(*cis-decahydro-2-naphthyl*)-*1-butene*, b_{11} 125-6°, n_D^{20} 1.4870, d_4^{20} 0.8936. Similarly the trans analog gave 41% 4-(*trans-decahydro-2-naphthyl*)-*1-butene*, b_{11} 121-2°, n_D^{20} 1.4803, d_4^{20} 0.8782; a by-product isolated in this instance was *1,2-bis(trans-decahydro-2-naphthyl)ethane*, m. 120° (from EtOH). Bromination in Et_2O with ice-cooling gave, resp., 86% 4-(*cis-decahydro-2-naphthyl*)-*1,2-dibromobutane*, b_{11} 180-90°, n_D^{20} 1.5385, d_4^{20} 1.4116, and 86% 4-(*trans-decahydro-2-naphthyl*)-*1,2-dibromobutane*, b_{11} 182-4°, n_D^{20} 1.5327, d_4^{20} 1.3922. The bromides, added over 4 hrs. to a kerosene suspension of 3 mols. $NaNH_2$ at 170°, followed by addn. of dil. AcOH gave, resp., 80% 4-(*cis-decahydro-2-naphthyl*)-*1-butyne*, b_{11} 131.5-2°, n_D^{20} 1.4920, d_4^{20} 0.9158, and 55% 4-(*trans-decahydro-2-naphthyl*)-*1-butyne*, b_{11} 122.5-4°, n_D^{20} 1.4888 d_4^{20} 0.9012; these were purified through the Na derivs. in Et_2O, followed by liberation by dil. AcOH. (This purification, applied to the propyne derivs. described in a previous communication, changed their constts. to: 4-(*cis*-decahydro-2-naphthyl)-1-propyne, b_{11} 124-5°, n_D^{20} 1.4927, d_4^{20} 0.9186; 4-(*trans*-decahydro-2-naphthyl)-1-propyne, b_{11} 117°, n_D^{20} 1.4870, d_4^{20} 0.9123.) Hydrogenation of the butynes over platinized C at 170-80° gave, resp., 85% *cis-2-butylidecahydronaphthalene*, b_{11} 123-3.5°, n_D^{20} 1.4770, d_4^{20} 0.8872, aniline point 59.5°, sp. viscosity 5.02, and 80% *trans-2-butylidecahydronaphthalene*, b_{11} 118-19°, n_D^{20} 1.4707, d_4^{20} 0.8641, aniline point 64.2°, sp. viscosity 4.11, which were purified by distn. from Na. All trans forms of decahydronaphthalene derivs. show exaltation of mol. refraction and have lower b.pts., n, and d. than the cis forms. O. M. Kosolapoff

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CA

Synthesis and catalytic reactions of aliphatic and alicyclic hydrocarbons. R. Ya. Levina (Moscow Univ.) *Vestnik Moskov. Univ.* 3, 123-40(1948); cf. C.A. 35, 6023[1]; 37, 3050[2]. By the method given in C.A. 44, 1030[1] for *1,1,2,2-tetramethylcyclopropane* were prepd. *1,1,2-trimethylcyclopropane*, b_{100} 53.4°, n_D^{20} 1.3841, d_{20} 0.6801, MR_D found 28.68, calcd. 27.70, and *1,1,2-trimethyl-2-ethylcyclopropane*, b_{100} 104°, n_D^{20} 1.4160, d_{20} 0.7408, MR_D found 37.92, calcd. 36.94. The catalytic isomerization of olefinic and acetylenic compds. (C.A. 43, 6152f) was applied to the prepn. of *conjugated dienes* and of *styrene homologs* from $PhCH_2CH:CH_2$ or its homologs. Alkenes (and from them alkanes) with quaternary C atoms were prepd. by the action of a Grignard reagent on unsatd. tertiary bromides obtained by the addn. of HBr to unsym. alkadienes with conjugated double bonds (C.A. 43, 3344g); these products were of the type $Me_2C:CHC:Me_2R$ and $EtMeC:CHCEtMeR$ (R = Me, Et, Pr, Bu, iso-Pr, iso-Bu, iso-Am, Ph, C_6H_{11}). No exptl. data are given.

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L[illegible], [illegible]

Levina, R. Ya. "A [illegible] aliphatic and alicyclic hydrocarbons", Vestnik mosk. un-ta, 194[illegible], No. 1[illegible], p. 1[illegible], -
Bibliog: 35 items.

SO: U-30A2, 11 March 53, (Letopis 'nykh Statey, No. 10, 1949).

APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3"

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LEVINA, R. IA.

R. Ia. Levina, A. A. Feinzil'berg and N.P. Shusherina, "Synthesis of the isostructure of olefin and paraffin hydrocarbons. V. 2, 4-di-methyl-penta-diene-1, 3 in the synthesis of hydrocarbons with a quarternary carbon atom." p. 1475

The method of synthesis of 2, 4-di-methyl-pentadiene-1,3 was perfected which increased its yield to 62.5% of the theoretical.

The Zelinskii Lab. of Organic Chem, of the Moscow State University, Holder of the Lenin Order, October 8, 1947

SO: Journal of General Chemistry (USSR) 18, (80) No. 10 (1948):

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LEVINA, R YA

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614.61
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Sintez i kontakhtnyye prevrashcheniya nepredel'nykh uglevodorodov (Synthesis hydrocarbons) Moskva, Izd-vo Moskovskogo Universiteta, 1949.
253 p.
At head of title: Moskovskiy Ordena Lenina Gosudarstvennyy Universitet Imeni M. V. Lomonosova.

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LEVINA R YA

~~LYEVINA, R. Ya.~~ I SKVARCHYENKO, V. R.

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Myetody sintyesa etilyenovykh uglyevodorodov (Alkyenov).
Uspyekhi Khimii, 1949, Vyp. 5, S. 515-45. Bibliogr: S. 541-45

SO: LETOPIS' NO. 40

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

LEVINA, R. YA.

23006 Sintez olefinovykh. Parafinovykh i tsikloparafinovykh uglevodorodov (soovshch) 7. R. Ya. Levina, B. M. Gladshteyn i P. A. Akishin. Prevrashcheniye dienovykh uglevodorodov v obshchey khimii, 1949, vyp. 6, C. 1077-82. - Bibliogr: C. 1082

SO: LETOPIS' NO. 31, 1949

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F

K

3277. METHODS FOR SYNTHESIS OF ETHYLENE HYDROCARBONS (ALKENES). Levina, R.Y. and Skvarchenko, V.P. (Uspekhi Khim. (Progr. in Chem.), 1949, vol. 18, 515-545). A review (315 references).

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USSR/Chemistry - Synthesis Jan 49
Chemistry - Bonds

"Synthesis of Aliphatic and Paraffin Hydrocarbons: VI, Diene Hydrocarbons in the Synthesis of Olefin Hydrocarbons With the Double Bond in the Center," R. Ya. Levina, V. R. Skvarchenko, Yu. B. Kagan, Ye. G. Treshchova, Lab of Org Chem imeni N. D. Zelinskiy, Moscow State Ord of Lenin U, 6 1/2 pp

"Zhur Obshch Khim" Vol XIX, No 1

In the reaction between allyl halides and organomagnesium compounds used for preparing [redacted] 58/49T42

USSR/Chemistry - Synthesis (Contd) Jan 49

1-alkenes, the double bond causes an exchange of the halogen for a radical. In present study, 1,4-dichloro-2-butene and its bromine analogue, prpeared by halogenation of 1,3-butadiene, reacted with methylmagnesium bromide or iodide. Both halogens of these compounds were substituted by methyls theoretically forming 10% 3-hexane in the case of dibromide and up to 40% in the case of dichloride; 1,3-butadiene was formed as a by-product. The 1,2-dichloride of butadiene undergoes an allyl rearrangement to a 1,4-compound, and subsequently forms an [redacted] 58/49T42

LEVINA, R. Ya.

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

USSR/Chemistry - Isomerization Feb 49
Chemistry - Hydrocarbons

PA 46/49T18

"Contact Isomerization of Nonsaturated Hydrocarbons Over Metal Oxides," P. Ya. Levina, Ye. A. Viktorova, V. I. Eykhfel'd, Moscow Ord of Lenin State U, Lab Org Chem imeni Acad N. D. Zelinskiy, 4 pp

"Zhur Obshch Khim" Vol XIX, No 2

Studied contact isomerization of alpha-acetylene hydrocarbons over mixed contact-chromic and aluminum oxides. Established that chromic and aluminum oxides have isomerization ability not

46/49T18

USSR/Chemistry - Isomerization (Contd) Feb 49

only for diene hydrocarbons with an isolated system of double bonds and to aromatic hydrocarbons with unsaturated side chains, but also for alpha-acetylene hydrocarbons with an open carbon chain. Submitted 15 Nov 47.

46/49T18

LEVINA, P. YA.

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

PA 46/49T14

USSR/Chemistry - Decalin
Chemistry - Synthesis

Feb 49

"Research in the Decalin Series: IV, Beta-Methyl-Cis-Decalin," R. Ya. Levina, S. G. Kulikov, Yu. A. Bedov, Moscow Ord of Lenin State U, Lab Org Chem imeni Acad N. D. Zelinskiy, 4 pp

"Zhur Obshch Khim" Vol XIX, No 2

Synthesis of beta-methyl-cis-decalin occurs in three stages: interaction of methyl magnesium iodide with beta-cis-decalon, dehydration of tertiary alcohol obtained, and hydrogenation of methyl-cis-octalin which forms during process.

46/49T14

USSR/Chemistry - Decalin (Contd)

Feb 49

Describes beta-methyl-beta-cis-decalol and beta-methyl-cis-octalin for first time. Submitted 15 Nov 48.

46/49T14

LEVINA, R. YA.

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"APPROVED FOR RELEASE: 07/12/2001 CIA-RDP86-00513R000929610010-3

C A

Decahydronaphthalene series. V. Irreversible catalysis of decahydronaphthalene hydrocarbons with unsaturated side chains. R. Ya. Levina and S. G. Kulikov. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 19, 1724-9(1949), cf. *C.A.* 43, 6007e; 33, 4900f. 2-Allyl- and 2-(3-butenyl)decahydronaphthalenes are catalytically transformed into a mixt. of corresponding naphthalene and decahydronaphthalene derivs. with satd. side-chains. No difference in behavior between the cis and trans derivs. was observed. The allyl derivs. (prepn., cf. *C.A.* 35, 2981f) passed over platinized (25%) charcoal at 200-5° in a slow CO_2 stream at 0.1 ml./min. gave products unreactive with Br H_2O; treatment with H_2SO_4 and fuming H_2SO_4 left behind 80% of the catalyzate which, after washing, was sepd. into *cis-2-propyldecahydronaphthalene*, b_{10} 100°, n_D^{20} 1.4771, d_4^{20} 0.8936, from the *cis* compd., and the *trans isomer*, b_{10} 95-6°, n_D^{20} 1.4711, d_4^{20} 0.8658, from the *trans* compd. The sulfonation soln. yielded too small an amt. for pos. identification, but the hydrocarbon obtained by hydrolysis appeared to be *2-propylnaphthalene*, n_D^{20} 1.5963 (authentic sample, n_D^{20} 1.5922, by catalytic dehydrogenation of 2-propyldecahydronaphthalene). The decahydronaphthylbutenes (prepn., cf. *C.A.* 42, 4561b) similarly gave the corresponding *cis-2-butyldecahydronaphthalene*, b_{12} 123-4°, n_D^{20} 1.4775, d_4^{20} 0.8799, and the *trans analog*, b_{12} 118.5-19°, n_D^{20} 1.4710, d_4^{20} 0.8643; the presence of 2-$C_{10}H_7Bu$ was indicated by soly. of some 20% of catalyzates in H_2SO_4. Dehydrogenation of the propyldecahydronaphthalenes at 305° over Pt-C in a slow CO_2 stream at 0.15 ml./min. feed rate gave after 2 cycles a small amt. of $C_{10}H_8$ (some 5%), and *2-propylnaphthalene*, b_{10} 120-1°, n_D^{20} 1.5922, d_4^{20} 0.9854; *picrate*, m. 93-4° (from MeOH).

G. M. Kosolapoff

Mkr., Moscow Order Lenin State Univ. im. M. V. Lomonosov, Lab. Organic Chemistry im. N. D. Zelinskiy. – c. 1949.

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1ST AND 2ND ORDERS

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3RD AND 4TH ORDERS

B

Synthesis of Olefinic and Paraffinic Hydrocarbons. VI. Diene Hydrocarbons in the Synthesis of Olefinic Hydrocarbons With Centrally Located Double Bonds. (In Russian.) R. Ya. Levina and others. *Zhurnal Obshchei Khimii* (Journal of General Chemistry). v. 19(81), Jan. 1949, p. 62-68.

22 references.

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