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metallic niobium:

2 diagrams and 2 tables

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(Ta - 0.1%). The reproducibility of the analysis [illegible]
2 diagrams and 2 tables.

L 537[illegible]

ACCESSION NR: AP5[illegible]

ASSOCIATION: Fiziko-tekhnicheskiy institut [illegible] Physicotechnical Institute, Academy of Sciences, UkrSSR)

SUBMITTED: [illegible] ENCL: [illegible] SUB CODE: GP, MM

NO REF SOV: [illegible] OTHER: [illegible]

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKO, N.G.

Instrument for measuring the sliding of asynchronous electric motors. Ugol' Ukr. Vol.3 no.5:38 My '59. (MIRA 12:9)
(Electric motors, Induction--Testing)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKO, V.G.

Doodson's and Lecolazet's methods for harmonic analysis of tidal observations. Trudy Polt.grav.obser. 9:48-94 '61. (MIRA 14:6)

(Harmonic analysis)
(Tides)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKO, V.G.

Influence of methods of harmonic analysis of earth tides on random errors of initial ordinates. Trudy Polt. grav. obser. 10:38-43 '61. (MIRA 14:11)
(Tides)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BAIKINO, V.G.

Contribution of long-period waves to the results of harmonic analysis of monthly series of earth tide observations. Trudy Polt. grav. obser. 10:44-50 '61. (MIRA 14:11)
(Tides)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

S/169/62/000/008/020/090
E202/E-92

AUTHORS: Balenko, V.G., and Zakharchenko, S.N.

TITLE: Certain problems of comparing the methods of harmonic analysis of Earth tides

PERIODICAL: Referativnyy zhurnal, Geofizika, no.8, 1962, 21, abstract 8 A 143. (Tr. Poltavsk. gravimetr. observ. AN USSR, 10. 1961, 20-37).

TEXT: The problem of systematic error in harmonic constants of the tidal waves is discussed. This arises from incomplete elimination of the disturbance waves. The recording of the observed tides suffered due to the displacement of instrument zero and random errors, and it was not therefore possible to use it for solving this problem. In order to do so, a six-monthly theoretical curve of gravity force in tidal variations was calculated, which included 79 largest waves of the lunar-solar tide. The analysis of the results of processing the theoretical curve according to the methods of Dudson, Lekolyaze, Matveyev and Pertsev has shown that the smallest errors in harmonic constants were obtained with the method of Lekolyaze. Noticeable errors appearing in the remaining

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

methods in wave N_2 are due to disregarding small waves with frequency close to the frequency of the N_2 wave. All methods for the principal waves determined gave relative errors not greater than 1%. The problem of systematic disturbances introduced into the periodical part of the tidal ordinates by combinations stipulated by B.P. Pertsev in order to eliminate the zero shift are discussed (see Ref.zh. Geofiz. 1, 1960, 157). It was shown that: 1) longitudinally periodical waves are excluded together with the shift of zero sufficiently well; 2) as a result of incomplete attenuation of the tidal waves when the shift of zero is excluded, into the amplitudes of the determined waves is introduced a systematic error which for the waves N_2 and O_1 $<$ 1%, for M_2 $<$ 0.3%, and for S_2 and K_1 $<$ 0.2%; 3) if the zero shift may be represented as a third degree polynomial over the 49-hours interval, then this will fully exclude the combination of ordinates as stipulated by B.P. Pertsev.

[Abstractor's note: Complete translation.]

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

S/169/62/000/008/019/090
E202/E192

AUTHOR: Balenko, V.G.

TITLE: The effect of methods of harmonic analysis of Earth tides on the random errors in the derived ordinates

PERIODICAL: Referativnyy zhurnal, Geofizika, no.8, 1962, 21, abstract 8 A 142. (Tr. Poltavsk. gravimetr. observ. AN USSR, 10, 1961, 38-43).

TEXT: It was shown that according to the method given by Lekolyaze for the evaluation of the influence of random errors in derived ordinates on the tidal waves determined by means of harmonic analysis, the methods of Dudson, Dudson-Lennon, Lekolyaze, Matveyev and Pertsev are equally good, as far as the effect of random errors on the results is concerned. In the process of transformation of the derived ordinates, the ordinates of random errors lead to the formation of fictitious waves of the same period as the waves which are being determined. The author has carried out a detailed study of the effect of these fictitious waves on the results of the analysis. Selecting a large series of random

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The effect of methods of harmonic... S/169/62/000/008/019/090
E202/E192

numbers satisfying the normal Gaussian law of distribution, the author subjected the said series to harmonic analysis using various methods. The results of this analysis have shown that fictitious waves, in view of their random character and their amplitude and phase, have no effect on the transfer of the error of harmonic constants determining the waves. If random errors of the ordinates satisfy normal law, then the errors in the determined waves will also follow the same law and their magnitude would correspond to the meanings found according to the method of Lekolyaze.

[Abstractor's note: Complete translation.]

Card 2/2

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

S/169/62/000/008/021/090
E202/E192

AUTHOR: Balenko, V.G.

TITLE: Contribution of longitudinally periodical waves in the results of harmonic analysis of the monthly series of observations of terrestrial tides

PERIODICAL: Referativnyy zhurnal, Geofizika, no.8, 1962, 21, abstract 8 A 144. (Tr. Poltavsk. gravimetr. observ. AN USSR, 10, 1961, 44-50).

TEXT: The effect of incomplete exclusion of the longitudinally periodical waves of terrestrial tide on the amplitudes and phases of the principal tidal waves which determine in the harmonic analysis of the tidal variations the gravitational forces and the inclinations of Earth surface is discussed. Dudson, Lekolyaze, Matveyev and Portsev methods of harmonic analysis are discussed. It is shown that the largest error in the longitudinally periodical waves is introduced when the Dudson method is used, and the smallest when either Lekolyaze or Matveyev method is adopted. The author's conclusions are confirmed by the analysis of two

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Contribution of longitudinally... S/169/62/000/008/021/090
E202/E192

monthly series of theoretical values of longitudinally periodic tidal waves. However, the error brought into the results of the analysis by incomplete exclusion of longitudinally periodic waves was found to be negligibly small in all methods.

[Abstractor's note: Complete translation.]

Card 2/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

RAIENKO, V.G.

The Doodson-Lennon method of harmonic analysis of earth tides. Trudy Polit. grav. obser. 10:51-56 '61. (MIRA 14:11)
(Tides)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BAIENKO, V. G.

Dissertation defended for the degree of Candidate of Physicomathematical Sciences at the Institute of Earth Physics imeni O. Yu. Shmidt in 1962:

"Comparison of Harmonic Analysis Methods for Monthly Series of Terrestial Tide Observations."

Vest. Akad. Nauk SSSR. No. 4, Moscow, 1963, pages 119-145

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BAIZENKO, V.G.

Comparative evaluation of the quality of ridding determinable waves of the effect of disturbing waves in combination methods of harmonic earth tide analysis. Trudy Polt. grav. obser. 11:64-73 '62. (MIRA 15:11)

(Tides)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKO, V.G.

Contribution of the movement of the zero point to R cos δ and R siu δ of determinable waves of earth tides. Trudy Polt. grav. obser. 11:74-87 '62.

(MIRA 15:11)

(Tides)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKO, V.G.; YEVTUSHENKO, Ye.I.

Pevtsev's method for a harmonic analysis of 50-day series of observations of tidal gravity variations. Trudy Polt. grav. obser. 12: 27-47 '63. (MIRA 16:9)

(Tides)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

[illegible] EWI(l)/EWF(m)/EWG(v)/EEC(t)/[illegible]

TITLE: Comparison of the [illegible]

[illegible] the International Geophysical Year), 86-94

[illegible]

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

USSR are analyzed by the Fertnev method published in 1959 and in this paper called

Card 1/3

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

convenient of all known methods of harmonic analysis of earth tides. However, before being recommended for standard [illegible] method in accuracy by a factor of at least 1.4. This paper therefore constitutes a report of [illegible] important to determine in each method the contributions to the earth tide parameters R cos ζ and R sin ζ of the determined waves from the disturbing waves and null point drift. The first part [illegible]

[illegible] a comparison of methods 1 and 2 with respect to the error resulting from [illegible]

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

semidiurnal waves and method 2 for diurnal waves. It is concluded that both methods have practically the same accuracy.

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKO, Yu.K.

Problems of engineering psychology. Sudostroenie no.6:84 Je '65.
(MIRA 18:8)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BAL

USSR/ Chemistry Catalytic conversions

Card : 1/1 Pub. 151 - 14/33

Authors : Khromov, S. I., Balenkova, E. S., Akishin, P. A., and Kazanskiy, B. A.

Title : Contact conversions of propylcycloheptane in the presence of a platinized carbon

Periodical : Zhur. ob. khim. 24/8, 1360 - 1364, August 1954

Abstract : Contact conversions of propylcycloheptane were investigated in the presence of platinized carbon at 320°. It was established that such contact conversion reactions take place with the formation of large quantities of 1-methyl-1-propylcyclohexane and some aromatic hydrocarbons (toluene, propylbenzene, butylbenzene, o-, m- and p-methyl propyl benzenes). The approximate ratio of hydrocarbons in the total catalysate mass of contact conversion of propylcycloheptane, is described. Seven references: 6 USSR and 1 USA (1937 - 1954). Tables.

Institution : State University, Moscow

Submitted : March 6, 1954

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKOVA, YE. S.

USSR/Chemistry - Catalytic conversion

Card 1/1 : Pub. 151 - 15/42

Authors : Khromov, S. I.; Balenkova, E. S.; and Kazanskiy, B. A.

Title : Contact conversions of butylcycloheptane in the presence of platinized C.

Periodical : Zhur. ob. khim. 24/9, 1562-1566, Sep 1954

Abstract : The behavior of butylcyclopentane in conditions of dehydrogenating catalysis was investigated. Contact conversion of butylcyclopentane over platinized carbon was studied at 320°. It was established that such contact conversions result in the formation of large quantities of 1-methyl-1-butylcyclohexane and aromatic hydrocarbon mixtures consisting of toluene, butylbenzene, o-, m- and p-methylbutylbenzenes, the fractional composition of which are shown in tables. Four references: 3-USSR and 1-USA (1937-1954).

Institution : State University, Moscow

Submitted : March 6, 1954

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKOVA, Ye S

62

Contact transformations of 1-methyl-1-ethylcyclohexane in the presence of platinized carbon. S. I. Khromov, E. S. Balenkova, and B. A. Kazanskii (M. V. Lomonosov State Univ., Moscow). Doklady Akad. Nauk S.S.S.R. 96, 95-7 [illegible] passage of 1-methyl-1-ethylcyclohexane [illegible] give 27% MeP[illegible] [illegible] No MeEtCyPr was found [illegible]

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKOVA, E. S.

USSR/Chemistry

Card 1/1

Authors : Khromov, S. I., Balenkova, E. S., and Kazanskiy, B. A. Academician

Title : Contact conversions of 1-methyl-1-propylcyclohexane in the presence of platinized carbon

Periodical : Dokl. AN SSSR, 96, Ed. 2, 295 - 297, May 1954

Abstract : Synthesized hydrocarbon 1-methyl-1-propylcyclohexane was contacted at 320° with a 10%-platinized carbon, as a result an aromatic hydrocarbon and immutable basic hydrocarbon mixture was obtained. The aromatic hydrocarbons separated through chromatographic adsorption over silica gel were subjected to thorough fractionation over a column with an effectiveness of 40 theoretical plates. It was established that the trend of the contact conversion processes for 1-methyl-1-propylcyclohexane is the same as in the conversion of 1-methyl-1-ethylcyclohexane. Four USSR references, since 1937. Tables, Graphs.

Institution : The M. V. Lomonosov State University, N. D. Zelinskiy Laboratory of Organic Chemistry, Moscow.

Submitted : February 26, 1954

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

USSR/Chemistry Catalysis

Card : 1/1

Authors : Khromov, S. I., Balenkova, E. S., Akishin, P. A. and Kazanskiy, B. A., Academ.

Title : Contact conversions of 1-methyl-1-butylcyclohexane in the presence of platinum coated carbon

Periodical : Dokl. AN SSSR, 97, Ed. 1, 103 - 106, July 1954

Abstract : Formula is given showing the trend of the chemical reaction leading to the conversion of 1-methyl-1-butylcyclohexane over a platinum coated carbon catalyst. The formation of naphthalin during contact conversions of such hydrocarbons is explained by the secondary chemical conversions occurring during the catalysis of butyl benzene. The approximate ratio of aromatic hydrocarbons found in the catalysate obtained from contact conversion of 1-methyl-1-butylcyclohexane, is described. Five references: 4 USSR, 1 USA. Tables, graph.

Institution : The M. V. Lomonosov State University, The N. D. Zelinskiy Lab. of Org. Chem., Moscow.

Submitted : April 27, 1954

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKOVA E.S.

Contact transformations of 1-methyl-1-cyclopentylcyclohexane in the presence of platinized carbon. S. I. Khromov, G. V. Drazin, and E. S. Balenkova (Moscow State Univ.). *Zhur. Obshchei Khim.* 29, 792-8(1959).—Addn. of $HgCl_2$ to an ethereal soln. of $(CH_3)_2CHMgCl$ followed by slow addn. of 1-chloro-1-methylcyclohexane, and refluxing 20 hrs. in Et_2O and 15 hrs. in MePh, gave 6 [illegible] *1-methyl-1-cyclopentylcyclohexane*, b_{10} 95-6°, n_D^{20} 1.4830, d_4^{20} 0.8852. [illegible]

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

KHROMOV, S.I.; KONDRAT'YEV, D.A.; BALEZKOVA, Ye.S.; KAZANSKIY, B.A., akademik.

Contact transformations of 1, 1' - β dimethyldicyclohexyl in the presence of platinized carbon. Dokl. AN SSSR 109 no.1:109-112 Jl-Ag '56. (MIRA 9:10)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
(Dimethyldicyclohexyl)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

KHROMOV, S.I.; BALENKOVA, Ye.S.; KAZANSKIY, B.A.

Catalytic dehydrogenation conditions for transformations of 1,1-dialkylcyclanes with five and six membered rings. Vest. Mosk. un. Ser. mat., mekh., astron. fiz., khim. 12 no. 6:225-236 '57. (MIRA 11:10)

1. Kafedra khimii nefti Moskovskogo gosudarstvennogo universiteta.
(Cyclic compounds)
(Dehydrogenation)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKOVA, Ye. S.

КАТАЛИТИЧЕСКИЕ ПРЕВРАЩЕНИЯ
1,1-ДВУЗАМЕЩЕННЫХ УГЛЕВОДОРОДОВ
ЦИКЛОГЕКСАНОВОГО РЯДА

С. И. Хромов, Е. С. Калгинова, И. А. Гондова,
[illegible]

VIII Mendeleyev Congress for General and Applied Chemistry in Section of Chemistry and Chemical Technology of Fuels, publ. by Acad. Sci. USSR, Moscow 1959

abstracts of reports scheduled to be presented at above mentioned congress, Moscow, 15 March 1959.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

S/081/60/000/022/002/016
A005/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 22, pp. 174-175, # 88528

AUTHORS: Kazanskiy, B. A., Khromov, S. I., Radzhabli-Seidova, N. A., Balenkova, Ye. S.

TITLE: The Formation of Aromatic Hydrocarbons at Contact-Catalytical Transformation of Heme-Dialkyl Cyclohexanes Over an Aluminum Silicate Catalyst

PERIODICAL: Azerb. khim. zh., 1959, No. 5, pp. 3-12 (Azerbaydzhan summary)

TEXT: The transformations were studied of 1-methyl-1-alkyl-cyclohexanes: 1,1-dimethyl-cyclohexane, 1-methyl-1-ethyl-cyclohexane, 1-methyl-1-propyl-cyclohexane, and 1-methyl-1-butyl-cyclohexane in a stream system over a synthetic aluminum-silicate catalyst at 500°C and 0.23 hr^{-1} volume velocity. Hereat the following reactions proceed: detachment and rupture of the side chains, methylation in the nucleus, isomerization of the six-membered cycle to the five-membered one, and hydrogen disproportionation. Aromatic hydrocarbons are the main transformation products (output about 33-45 percentage by weight with respect to the

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

S/081/60/000/022/002/016
A005/A001

The Formation of Aromatic Hydrocarbons at Contact-Catalytical Transformation of Heme-Dialkyl Cyclohexanes Over an Aluminum Silicate Catalyst

transformed 1-methyl-1-alkyl-cyclohexane): mixtures of the isomeric xylols and trimethylbenzenes, toluene, and a small quantity of benzene; in the xylol mixture the isomers content decreases in the sequence meta > para > ortho-isomers, whereat the content of the meta-isomer is approximately twice as high as that of the para-isomer for all 1-methyl-1-alkyl-cyclohexanes. The absence among the transformation products of 1-methyl-1-propyl-cyclohexane, 1-methyl-1-butyl cyclohexane, propyl- and respectively butyl-benzene points out that the alkyl group with larger chain length detaches easier. Moreover, alkanes are formed (in the main gaseous alkanes, predominantly C_3H_8 and C_4H_{10}), six-membered naphthenes (cyclohexane, methyl-cyclohexane) and five-membered naphthenes [cyclopentane, methyl-cyclopentane, 1,2-dimethyl-cyclopentane]. With increasing side-chain length of 1-methyl-1-alkyl-cyclohexane, the degree of transformation increases from 42% for 1,1-dimethyl-cyclohexane up to 84% for 1-methyl-1-butyl-cyclohexane. The transformation of 1-methyl-1-phenyl-cyclohexane over the same catalyst proceeds easier than that of 1-methyl-1-alkyl-cyclohexane, and 85% of 1-methyl-1-phenyl-cyclohexane undergoes already at 350°C the transformation without formation of gaseous products. Among

Card 2/3

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

S/081/60/000/022/002/016
A005/A001

The Formation of Aromatic Hydrocarbons at Contact-Catalytical Transformations of Heme-Dialkyl Cyclohexanes Over an Aluminum Silicate Catalyst

the transformation products, aromatic hydrocarbons are predominant (46.5% benzene, 5% toluene) and naphthenes (about 40%): a mixture of the isomeric dimethyl-cyclopentane, ethyl-cyclopentane, and methyl-cyclohexane. Under the same conditions, the transformation degree of phenyl-cyclohexane amounts to 57%, and the transformation products are benzene (48.9%) and methyl-cyclopentane (48.5%). Assumptions are expressed on the possible ways of naphthene formation. 1,1-dimethyl-cyclohexane was obtained by the described method (Zelinskiy, N. D., Yelagina, N. V., Dokl. AN SSSR, 1950, Vol. 73, No. 3, p. 705), modified according to Khuan-Minlon, which led to increasing output of 1,1-dimethyl-cyclohexane from 58 to 78% with respect to ketone. 1-methyl-1-ethyl-cyclohexane was obtained with 38% output by the action of 1-chloro-1-methyl-cyclohexane on $(C_2H_5)_2Zn$ in tetralin. The synthesis of 1-methyl-1-propyl-cyclohexane and 1-methyl-1-butyl-cyclohexane was performed by interaction of 1-chloro-1-methyl-cyclohexane with the corresponding RMgBr (R is alkyl) with 6-12% output. 1-methyl-1-phenyl-cyclohexane was obtained with 53% output from 1-methyl-cyclohexanol-1 and benzene in the presence of $AlCl_3$.

A. Belotsvetov

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

Card 3/3

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

69792

5.3300

S/055/59/000/06/22/027
B004/B002

AUTHORS: Khromov, S. I., Balenkova, Ye. S., Sankov, B. G.

TITLE: Synthesis and Catalytic Conversions of 1,1'-Diethyldicyclohexyl and 1-Methyl-1-tertiary-butylcyclohexane Under the Conditions of Dehydrogenation Catalysis

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1959, No. 6, pp. 180 - 185

TEXT: The authors describe the synthesis of 1,1'-diethyl-dicyclohexyl produced for the first time: Cyclohexanone and ethyl magnesium bromide yielded 1-ethyl-cyclohexanol-1. This was dissolved in ether and caused to react with its organo-magnesium compound. Copper chips and CuCl were used as catalyst. Pure preparation was made chromatographically. 1-methyl-1-tert-butyl-cyclohexane was for the first time produced by the reaction of dimethylzinc and 1-Cl-1-tert-butylcyclo-hexane. The latter was obtained by dehydration of cyclohexanol into cyclohexene via Al_2O_3 at 380°, and by condensation with tert-butylchloride in the presence of BF_3. Both compounds whose physical constants are given in table 1, were de-

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69792

Synthesis and Catalytic Conversions of 1,1'-Diethyldicyclohexyl and 1-Methyl-1-tertiary-butylcyclohexane Under the Conditions of Dehydrogenation Catalysis

S/055/59/000/06/22/027
B004/B002

hydrogenated on platinized coal at 320°. The following results were obtained: 1,1'-diethyldicyclohexyl mainly develops ethylbenzene, 1-ethyl-1-phenylcyclohexane, 2-ethyldiphenyl, and low amounts of phenanthrene (Scheme and Tables 3,4). From 1-methyl-1-tert-butylcyclohexane 70% of toluene and 25% of tertiary butylbenzene were produced (Scheme and Tables1,2). These reactions indicated a weakening of the C-C bond of the two neighboring tetrasubstituted carbon atoms. There are 4 tables and 10 references, 5 of which are Soviet.

ASSOCIATION: Kafedra khimii nefti (Chair of Petroleum Chemistry)

SUBMITTED: March 30, 1959

Card 2/2

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

KHROMOV, S.I.;BALENKOVA, Ye.S.;TRESHCHOVA, Ye.G.

Synthesis and contact transformations of cyclopentylcycloheptane in the presence of platinized carbon. Vest Mosk. un. Ser. mat., mekh., astron., fiz., khim. 14 no.2:143-148 '59 (MIRA 13:3)

1. Kafedra khimii nefti Moskovskogo gosuniversiteta.
(Cycloheptane) (Carbon) (Platinum)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKOVA, Ye.S.; SOSNINA, I.Ye.; TUROVA-POLYAK, M.B.; KHROMOV, S.I.

Studying the effect of aluminum chloride on cyclodecane; brief report. Vest.Mosk.un.Ser.mat., mekh., astron., fiz., khim. 14 no.3:203-204 '59. (MIRA 13:5)

1. Kafedra organicheskogo kataliza Moskovskogo gosudarstvennogo universiteta.
(Aluminum chloride) (Cyclodecane)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

5(3) SOV/79-29-7-24/83

AUTHORS: Radzhabli-Seidova, N. A., Khromov, S. I., Gitina, R. M., Balenkova, Ye. S., Treshchova, Ye. G., Kazanskiy, B. A.

TITLE: Contact Transformations of 1,1-Dimethyl Cyclohexane and 1-Methyl-1-ethyl Cyclohexane in the Presence of an Aluminosilicate Catalyst (Kontaktnyye prevrashcheniya 1,1-dimetiltsiklogeksana i 1-metil-1-etil-tsiklogeksana v prisutstvii alyumosilikatnogo katalizatora)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2212-2218 (USSR)

ABSTRACT: The numerous Russian petroleum types contain among other cycloparaffin hydrocarbons 1,1-dimethyl cyclohexane and 1,1,3-trimethyl cyclohexane (Ref 1). According to reference 2 also the transformations of 1,1-dimethyl cyclohexane at 540° over an aluminosilicate catalyst are described. For the authors it was of interest to investigate the behavior of the most simple mixed methyl alkyl cyclohexanes in the catalytic cracking process over an aluminosilicate catalyst. For this purpose the behavior of 1,1-dimethyl cyclohexane and 1-methyl-1-ethyl cyclohexane over the above catalyst were investigated at 500°. In this connection gaseous products, a liquid condensate, and coke which separated on the catalyst were

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Contact Transformations of 1,1-Dimethyl Cyclohexane and 1-Methyl-1-ethyl Cyclohexane in the Presence of an Aluminosilicate Catalyst SOV/79-29-7-24/83

obtained. The gaseous products were first fractionated at low temperatures and then determined. The liquid condensate was subjected to an accurate rectification, chromatographic adsorption on silica gel as well as to optical and chemical investigations. The following per cent composition of the reaction products of 1,1-dimethyl cyclohexane were found: hydrocarbon 21.4%, liquid paraffin hydrocarbons 2.6%, naphthene hydrocarbons 8.4, aromatic hydrocarbons 45.2%, coke 22.4%. For 1-methyl-1-ethyl cyclohexane (in wt%): 10.8% gaseous hydrocarbons, 23.0% mixture of paraffin naphthene hydrocarbons, 40.5% aromatic hydrocarbons, 25.7% coke. Under the chosen conditions of catalysis the separation of the alkyl groups which are in the quaternary cyclic carbon atom, hydrocracking process, methylation, aromatization as well as the isomerization of the six-membered cycles into five-membered ones take place. The main products are aromatic hydrocarbons and in small quantities paraffin and

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

Contact Transformations of 1,1-Dimethyl Cyclohexane and 1-Methyl-1-ethyl Cyclohexane in the Presence of an Aluminosilicate Catalyst SOV/79-29-7-24/83

naphthene-hydrocarbons. The direction of the contact transformations of the mixed dialkyl cyclohexanes are illustrated by the scheme in the experimental part. There are 6 tables and 11 references, 6 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: June 3, 1958

Card 3/3

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

KHROMOV, S.I.; BALENKOVA, Ye.S.; SANKOV, B.G.

Synthesis and catalytic transformations of 1,1'-diethyldicyclohexyl and 1-methyl-1-tert-butylcyclohexane under conditions of dehydration catalysis. Vest.Mosk.un.Ser.mat.,mekh.,astron.,fiz., khim. no.6:180-185 '59. (MIRA 13:10)

1. Kafedra khimii nefti Moskovskogo universiteta.
(Cyclohexyl) (Cyclohexane)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

KHROMOV, S.I., BALENKOVA, Ye. S., KAZANSKIY, B.A.

Catalytic conversions of heptamethylene hydrocarbons under conditions of dehydrogenation catalysis. Vest. Mosk. un. Ser. 2: khim. 15 no.2:36-46 Mr-Ap '60. (MIRA 13:6)

1. Kafedra khimii nefti Moskovskogo universiteta.
(Hydrocarbons) (Dehydrogenation) (Catalysis)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

S/020/60/135/002/020/036
B016/B052

AUTHORS: Kazanskiy, B. A., Academician, Khromov, S. I., Liberman, A. L., Balenkova, Ye. S., Vasina, T. V., Aleksanyan, V. T., and Sterin, Kh. Ye.

TITLE: Contact Transformations of Cyclodecane in the Presence of Platinized Charcoal

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 2, pp. 327 - 330

TEXT: The authors studied the following problem: Hitherto (Refs.1,2) it has been stated that cyclodecane on platinized charcoal is directly transformed into azulene. In connection with the C_5 dehydrocyclization (Ref.4) which has been discovered in the meantime, the question arose whether the formation of azulene is a secondary process, while decahydroazulene is formed in the main reaction (transannular C_5 dehydrocyclization) and yields azulene by dehydrogenation. To prove this reaction, cyclodecane was catalyzed on platinized charcoal (5 and 20% Pt)

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

Contact Transformations of Cyclodecane in the Presence of Platinized Charcoal

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B016/B052

at 300 and 310°C and without tear gas. It was shown that the major part of cyclodecane is transformed. After rectification, the catalyzates were chromatographed on silica gel, and their Raman spectra were studied. The catalyzates proved to be complicated mixtures containing aromatic, paraffin, mono-, and bicyclic naphthene hydrocarbons. Naphthalene and o-diethyl benzene were found to be most important. Small amounts of α-methyl indan, n-butyl benzene, indan, and o-methyl benzene were detected. Approximately equal amounts of n-decane, cis-decahydroazulene, and 1,2-diethylcyclohexane, a small amount of trans-decalin. and a hydrocarbon of unknown spectrum were detected in the paraffin - naphthene part. The formation of decalin and naphthalene is obviously the result of transannular C_6 dehydrocyclization, while decahydroazulene is obtained from cyclodecane by C_5 dehydrocyclization. This indicates that C_5 and C_6 dehydrocyclizations are caused not only by the closure of open chains, but may also occur within a cycle while bicyclic systems are formed. Thus, n-decane can only have formed in the catalyzate by cleavage of the ten-membered cycle. Since hydrogenolysis has been

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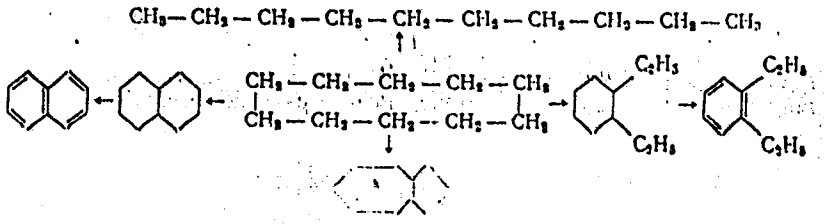
"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

achieved only in cycles with no more than 5 hydrocarbon atoms, this observation is of fundamental importance. Hitherto, the formation of o-diethyl benzene and 1,2-diethyl cyclohexane has not been explained. It is pointed out that none of the traditional reactions can be used to explain this observation. The following reaction scheme is suggested for cyclodecane on platinized charcoal:



The remaining hydrocarbons detected in the catalyzate were probably formed by secondary transformations. There are 4 tables and 9 references: 6 Soviet, 2 US, and 1 Swiss.

Card 3/4

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

Contact Transformations of Cyclodecane in the Presence of Platinized Charcoal

S/020/60/135/002/020/036
B016/B052

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova (Moscow State University imeni M.V. Lomonosov). Komissiya po spektroskopii Akademii nauk SSSR (Commission of Spectroscopy of the Academy of Sciences USSR). 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 20, 1960

Card 4/4

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

S/020/60/135/003/030/039
B016/B054

AUTHORS: Khromov, S. I., Balenkova, Ye. S., Lishenok, O. Ye., and Kazanskiy, B. A., Academician

TITLE: Catalytic Transformations of Cyclononane in the Presence of Platinized Charcoal

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 135, No. 3, pp. 627 - 630

TEXT: The authors report on their experiments to clarify what transformations cyclononane undergoes on platinized charcoal at 300°C. They found that about 96% of cyclononane are transformed. They determined in the reaction products (approximately in %): indan 68, 1-methyl-2-ethyl benzene 22, n-propyl benzene 2, and n-nonane 7. The authors conclude from these results that two main processes take place: a) dehydrocyclization of cyclononane to hydrindane, and further dehydrogenation of the latter to indan; b) direct hydrogenolysis of the nine-membered ring to form n-nonane. The enclosed diagram illustrates the transformations mentioned. The authors explain the formation of n-propyl benzene and

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

Catalytic Transformations of Cyclononane in the Presence of Platinized Charcoal

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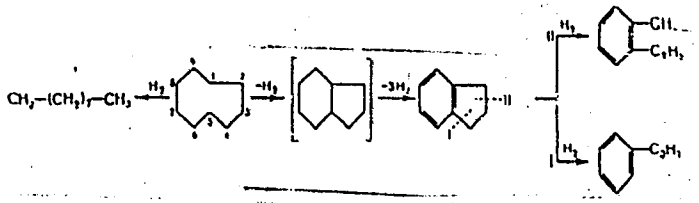
B016/B054

1-methyl-2-ethyl benzene by the following process: During the hydrogenolysis of the five-membered ring in indan, two C-C bonds are ruptured: 1) one separated from the benzene ring by another C atom, and 2) one adjacent to the benzene ring (the latter bond to a lower extent). The authors explain process a) by the formation of a new bond between C_1 and C_5 in the nine-membered ring, apparently due to the steric position of carbon atoms in the cyclononane molecule. There are 1 figure, 2 tables, and 11 references: 4 Soviet, 2 US, 1 French, 2 Swiss, and 1 German.

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

SUBMITTED: July 28, 1960



Figure

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

TUROVA-POLYAK, M.B.; BALENKOVA, Ye.S.; SOSNINA, I.Ye.; KHROMOV, S.I.; YUDKINA, T.P.

Isomerization of polymethylene hydrocarbons under the effect of aluminum chloride. Part 24: Isomerization of cyclononane and cyclodecane. Zhur.ob.khim. 31 no.6:1976-1981 Je '61. (MIRA 14:6)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova.
(Cyclodecane) (Cyclononane) (Isomerization)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKOVA, Ye.S.; KHROMOV, S.I.; SHOKOVA, E.A.; KUCHERYAVAYA, N.N.; STERIN, Kh.Ye.; KAZANSKIY, B.A.

Catalytic conversions of cycloheptane. Neftekhimiia 2 no.3: 275-279 My-Je '62. (MIRA 15:8)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova i Komissiya po spektroskopii AN SSSR.
(Cycloheptane) (Catalysis)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

SHOKOVA, E.A.; KHROMOV, S.I.; BALENKOVA, Ye.S.; BOBROV, A.V.; STERIN, Kh.Ye.; KAZANSKIY, B.A.

Catalytic conversions of cyclononane and cyclodecane in the presence of nickel catalyst. Neftekhimiia 2 no.3:280-287 My-Je '62. (MIRA 15:8)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova i Komissiya po spektroskopii AN SSSR.
(Cyclononane) (Cyclodecane) (Nickel catalysts)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKOVA, Ya.S.; ALYBINA, A.Yu.; AVDEYEVA, T.I.; KHROMOV, S.I.; KAZANSKIY, B.A., akademik

Catalytic conversions of cyclododecane in the presence of platinized carbon. Dokl. AN SSSR 155 no.1:118-121 Mr '64. (MIRA 17:4)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKOVA, Ye.S.; ALYBINA, A. Yu.; KOCHNOVA, G.P.; KHRAMOV, S.I.; KAZANSKIY, B.A.

Catalytic conversations of cyclododecane in the presence of a nickel catalyst. Neftekhimiia 4 no.1:16-20 Ja-F'64. (MIRA 17:6)

1. Moskovskiy gosudarstvennyy universitet imeni M.B. Lomonosova, Kafedra khimii nefti.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKOVA, Ye.S.; KHAFIZOVA, N.A.; FRANK, M.I.; KHROMOV, S.I.; KAZANSKIY, B.A., akademik

Transformations of methylcyclononane in the presence of a ferroplatinum catalyst. Dokl. AN SSSR 158 no.5:1112-1115 O '64.

(MIRA 17:10)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

KHROMOV, S.I.; DORZHIN CHULTEM; BALENKOVA, Ye.S.

Catalytic conversions of 1,1-dimethylcyclohexane on platinum catalysts at increased temperature and pressure of hydrogen. Neftekhimia 4 no.3:413-416 My-Je '64. (MIRA 18:2)

1. Kafedra khimii nefti Moskovskogo gosudarstvennogo universiteta.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

KHROMOV, S.I.; DORZHIN CHULTEM; BALENKOVA, Ye.S.

Catalytic transformations of 1,1'-dimethyldicyclohexyl and 1-methyl-1-phenylcyclohexane on platinum catalysts under conditions of elevated temperature and hydrogen pressure. Vest. Mosk. un. Ser. 2: Khim. 20 no.1:51-55 Ja-F '65. (MIRA 18:3)

1. Kafedra khimii nefti Moskovskogo universiteta.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENKOVA, Ye.S.; KHAFIZOVA, N.A.; KHROMOV, S.I.; KAZANSKIY, B.A., akademik

Conversions of methylcyclooctane in the presence of platinum catalysts. Dokl. AN SSSR 161 no.6:1329-1332 Ap '65. (MIRA 18:5)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BAIENKOVA, Ye.S.; KHAFIZOVA, N.A.; KHROMOV, S.I.

Conversions of cis-8-methylhyndrindan in the presence of platinized carbon. Neftekhimiia 5 no.6:797-800 N-D '65. (MIRA 19:2)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, kafedra khimii nefti. Submitted Dec. 31, 1964.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

PURKAYASTHA, R.; BALENOVIC, A.

Strecker degradation of α-amino acids with β-phenyl-α, β-dioxopropionanilide. Croat chem acta 32 no.2:109-110 '60.
(EEAI 10:4)

1. Chemical Laboratory, Faculty of Sciences, University of Zagreb, Zagreb, Strossmayerov, trg 14, Croatia, Yugoslavia.
(Amino acids)
(Phenyldioxopropionanilide)

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

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sionally shaken to give solid 2,2-dimethyl-5-imino-[illegible]

solved in 60 ml. concd. HCl at 0°, then 100 ml. H_2O were added and the mixt. let stand overnight at 0° to give 10 g. I, m. 300° (decompn.). By addn. of a satd. aq. soln. of $H_2NCONHNH_2$ to satd. EtOH solns. of various phthalimidoaldehydes (II), keeping the mixt. 48 hrs., and crystn. from 1:1 EtOH-H_2O, the following o-C_6H_4(CO)$_2$NCHRCH[illegible]

[illegible]

[illegible]

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

Synthetic studies in the chloramphenicol series. IV. Synthesis of three-DL-chloramphenicol base from DL-serine methyl ether. D. Fiel and B. Balenović (Arh. Kem. 1955 27 149—154 cf. J. A. C. Abst. [illegible] A synthesis of [illegible] [illegible] in the synthesis of DL-serine methyl [illegible] essentially the same as that previous [illegible] [illegible] I from DL-serine [illegible] [illegible]

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

Synthetic studies in the chloramphenicol series [illegible]

of 30 g tartaric acid in [illegible] ml. [illegible] added to the [illegible] the [illegible] the ext. dried and evaporated leaving 2 g crude [illegible] NCH CH[illegible] [illegible] full compdy. [illegible]

[illegible] VI m. 110-20°, analytical [illegible] from EtOH [illegible]

[illegible] during 5 min. at −20° to −15° let [illegible]

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

extd. with EtOAc [illegible]

[illegible] heating with 5% HCl, alkalinization, extn. with EtOAc and evapn. p-$O_2NC_6H_4CH(OH)CH(NH_2)CH_2OEt$, [illegible] 150-[illegible]0°. A mixt. of 13.5 ml. 48% HBr and 1.5 g. IX was heated 30 min. at 130° and 1 hr. at 120° in a sealed tube, evapd. *in vacuo*, the residue dissolved in 8 ml. H_2O, alkalinized with concd. NH_4OH, extd. with 100 ml. EtOAc, the [illegible] evapd. *in vacuo*, and the residue (0.921 g.) crystd. from [illegible] ml. H_2O to give 0.72 g. p-$O_2NC_6H_4CH(OH)CH(NH_2)CH_2OH$, m. 140-1°, which refluxed with excess Cl_2CHCO_2Me gave DL-*threo*-chloramphenicol, m. 150-1°. E. G. Stak

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BAIENOVIC, B.; FLES, D.

Synthetic studies in the chloramphenicol series. IV. Synthesis of a threo-DL-chloramphenicol base from DL-serine methyl ether. p. 149.

CROATICA CHEMICA ACTA. (Hrvatsko kemijsko drustvo, Sveuciliste u Zagrebu i Hrvatsko prirodoslovno drustvo) Zagreb, Yugoslavia. Vol. 27, no. 3, 1955. (Arhiv za kemiju) In English.

Monthly list of East European Accessions (EEAI) LC, Vol. 8, no. 8, Aug. 1959

Uncl.

APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0"

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"APPROVED FOR RELEASE: 06/06/2000 CIA-RDP86-00513R000103310003-0

BALENOVIC, K. Yugoslav

With M. Mladenovic, "Action of thiongl chloride on acetyl-a-elemolic acid," Chem. Abs., 1940.

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PROCESSES AND PROPERTIES INDEX

CA

11A

The actomyosin of rabbit muscle. K. Balcunyic and F. B. Straub. *Studies Inst. Med. Chem., Univ. Szeged, Hung.* **2**, 17-24(1942). The actin bound by the muscle was det'd. by measuring the amount of myosin which could be fully activated by 1 g. of the muscle. Thus the av. rabbit muscle contained about 25-30 mg. actin in each g. The actin content reaches about 12-13% of total protein content. Such an amount of actin can cause max. activation of the myosin present in muscle (170% activity). The alkaline salt soln. of Weber's alk. salt soln. extd. an actomyosin of 100% activity. István Finaly

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BALENOVIC, K.

Yugoslavia (430)

Technology

Contribution to the knowledge of the polyoxo-compounds. III. Sym-dibenzoyl acetone. p. 41, Arhiv Za Kemiju, Vol. 18, no. 1-4, 1946.

East European Accessions List, Library of Congress, Vol. 1, no. 14, Dec. 1952, UNCLASSIFIED.

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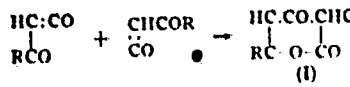
Ca 10

The origin of dehydroacetic acid and its analogs in the oxidation of α, γ, δ, ζ-tetraketones with lead tetraacetate. K. Balenović (Univ. Zagreb, Jugoslavia). *Experientia* 2, 406-7(1946)(in German).- Oxidation of α,γ,δ,ζ-tetraketones RCOCH,COCOCH,COR, with Pb(OAc)$_4$ yields dehydroacetic acid (I), and analogous compds. in good



(I)

yield. The reaction can be explained by assuming the occurrence of the α,γ,δ,ζ-tetraketone in the dienol form, RCOCH:C(OH)C(OH):CHCOR, and a glycol splitting with the formation of acyl ketenes, RCOCH:CO. Two mols. of the acyl ketene then react to form I.

S. O. Jones

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CA

10

α-Diazo ketones from phthalimido carbonyl chlorides. K. Balenović (Univ. Zagreb, Yugoslavia). *Experientia* 3, 360(1947)(in German).—Phthalimido α-diazoketones, valuable as intermediates for further syntheses, were formed by treatment of phthalimido acyl chlorides with CH_2N_2. The compds. formed were of the general formula $C_6H_4(CO)_2NCHR(CH_2)_nCOCHN_2$. The m.ps. were as follows: R = H, n = 0, 168°; R = Me, n = 0, 111°; R = H, n = 1, 122°; R = Ph, n = 0, 134°; R = $PhCH_2$, n = 0, 111°; R = Ph, n = 1, 114°. From $C_6H_4(CO)_2NCHCOCHN_2$ can be prepd. phthalimido α-acetoxy ketones, phthalimido α-HO ketones, or phthalimido α-halo-ketones. By treatment with Ag_2O, $C_6H_4(CO)_2NCH_2COCHN_2$ can be converted to phthaloyl-β-alanine. Blocking of the amino groups in amino acids with a phthaloyl group permits the convenient prepn. of amino ketones, amino glycols, β-amino acids, and α-amino acids.

Marion Horn Peskin

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1ST AND 2ND ORDERS

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CA

10

Isolation and properties of the elemic acids. Kreshimir Balenović and Milosh Mladenović. *Bull. soc. chim. Belgrade* 11, No. 3/4, 81-90(1940-46)(Pub. 1947)(in Serbian)(German summary). The Na and K salts of the elemic acids are readily salted out of aq. soln. They are sol. in benzene, phenanthrene, cholesterol, and fatty acids. The 2,4-dinitrophenylhydrazone of α-elemic acid was prepd. and analyzed. M. L. Nielsen

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The double bonds in elemic acids. Milosh Mladenović and Kreshimir Balenović. *Glasnik Khem. Drushtva Beograd* (Bull. soc. chim. Belgrade) 12, 38-50(1947). (German summary).—Ozonization of α-elemic acid, m. 281°, in $CHCl_3$ yielded a product, $C_{20}H_{40}O_6$, m. 80° (decompn.); ozonization of dihydro-α-elemic acid, m. 296°, gave $C_{20}H_{40}O_6$; the Me ester of α-elemic acid gave $C_{21}H_{40}O_6$. The γ-elemic acid remained unchanged under the action of O_3. In catalytic hydrogenation of the ozonized α-acid on Pt, one ozonized double bond is split about 15 times faster than the other; it indicates one active and one latent double bond in the α-acid. Chromatographic sepn. of the 2,4-dinitrophenylhydrazones of the catalytically hydrogenated ozonides of the α-acid, dihydro-α-acid, β-acid, and dihydro-β-acid shows that the mols. are not split, and the double bonds are probably located in the ring. Cleavage of the ozonide of acetyl-α-elemic acid with CrO_3 and treatment of the product with Ac_2O yielded a cryst. product, $C_{20}H_{40}O_6$, m. 265° [2,4-dinitrophenylhydrazone, m. 280° (decompn.)]; the product is considered to be a pyroketone (I), of acetyl-α-elemic acid.

$$AcO|C_{20}H_{40}\left\{\begin{array}{l}>CO\\>CO\\-CO_2H\end{array}\right. \qquad (I)$$

Attempts to decarboxylate the α-acid and the dihydro-α-acid were unsuccessful. N. Thon

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1ST AND 2ND ORDERS

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C 7

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Behavior of 1,3,4,6-tetraketones toward lead tetraacetate. K. Balenović (Univ. Zagreb, Jugoslavia). *Rec. trav. chim.* 67, 282-4(1948)(in German); cf. C.A. 41, 2735h.—Oxidation in HOAc by $Pb(OAc)_4$ at room temp. converted $(COCH_2Bz)_2$ into dehydrobenzoylacetic acid (50%), $PhC:CH.CO.CHBz.CO.O$, $(COCH_2Ac)_2$ into dehydroacetic acid (65%), $MeC:CH.CO.CHAc.CO.O$, and $(COCH_2COEt)_2$ into dehydropropionylacetic acid (50%), $EtC:CH.CO.CH(COEt).CO.O$. The reactions seem characteristic of 1,3,4,6-tetraketones and probably proceed according to the previous explanation (cf. C.A. 41, 2735h), which assumed formation of a ketene as intermediate product. This pattern is also similar to that of Staudinger and Becker (C.A. 12, 686) who (1) showed similar formation of a pyrone by assuming a ketene acid ester as an intermediate, 2 mols. of which join in the 1,4-position; (2) indicated analogy to the formation of dehydroacetic and dehydrobenzoylacetic acid by polymerization of the resp. ketenes. Ketenes with the formula RCOCH:C:O (R = Me, Et, Ph, OMe, OEt) are necessary for 1,4-addn.

H. L. Whidden

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γ-Benzoylacetoacetic acid (β,δ-dioxo-δ-phenylvaleric acid). K. Daković and D. Sunko (Univ. Zagreb, Jugoslavia). *Monatsh.* 79, 1-3(1948).—Dehydrobenzoylacetic acid (I) suspended in 400 cc. MeOH was treated with 200 cc. 45% KOH, in small portions and with cooling, allowed to stand 18 hrs. at 25°, 3 vols. ice H_2O added, the whole acidified to Congo red at 0°, extd. with Et_2O, the Et_2O exts. dried, the MeOH and Et_2O removed in vacuo, the crude residue (20-21 g.) dried over H_2SO_4 in a vacuum-desiccator, dissolved in 80 cc. abs. Et_2O, and 100 cc. petr. ether (b. 30-50°) added. On cooling to 0° there was obtained 8-9 g. plates, m. 85-7°. Recrystn. from Et_2O-petr. ether gave $BzCH_2COCH_2CO_2H$ (II), m. 94°, which gave a Bordeaux-red color with $FeCl_3$. II (0.30 g.) was heated 15 min. at 110°, cooled, treated with Et_2O, the Et_2O soln. washed with $NaHCO_3$ soln., concd., and the residue sublimed at 20 mm. and 110° to give 0.17 g. $BzCH_2COMe$, m. 58-9°. II (1 g.) in 10 cc. concd. H_2SO_4 let stand at 0° 10 min., then poured on ice, gave 0.6 g. O.CO.CH_2.CO.CH:CPh, m. 245° (from aq. alc.). II (5 g.) in 6% alc. HCl after 24 hrs. at room temp. gave 1.35 g. III. The reported hydrolysis of I by mild alkali to give only $BzCH_2CO_2H$ [Bayer and Perkin, *Ber.* 17, 64(1884)] could not be repeated since no exact exptl. details were given.

Harry L. Yale

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CA

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Amino acids. V. Reaction of *N*-disubstituted glycyl chlorides with diazomethane. A new synthesis of some β-alanine derivatives. K. Balenović, N. Bregant, D. Cerar, and M. Tkalčić (Univ. Zagreb, Yugoslavia). *J. Org. Chem.* 16, 1308-10(1951); cf. *C.A.* 45, 9470*h*.—Whereas *N*-monosubstituted glycyl chlorides (I) and CH_2N_2 give oxazolones, *N,N*-disubstituted I, such as RCH_2COCl (II) (R = o-$C_6H_4(CO)_2N$ throughout the abstr.), give RCH_2COCHN_2 (III). II, prepd. by refluxing 7 g. RCH_2CO_2H with 12 cc. $SOCl_2$ 1 hr., bp 190-2°, m. 84-5°. Adding gradually 7.5 g. II in 500 cc. ether to CH_2N_2 from 30 g. MeN(NO)$CONH_2$ in 500 cc. ether at 0° gives 75% III, m. 168° (decompn.). Heating 2.5 g. III in 30 cc. EtOH with 0.1 g. Ag_2O in 5 cc. EtOH gives 35% $RCH_2CH_2CO_2Et$, needles, m. 72-3°. Treating 4.6 g. III in 25 cc. AcOH with 5 cc. concd. HCl gives 87.5% RCH_2COCH_2Cl, m. 138°. Heating 6.9 g. III in 30 cc. EtOH at 60-70° and adding 25 cc. H_2O contg. 0.1 cc. concd. H_2SO_4 give 60% RCH_2COCH_2OH, m. 142°. Heating 3 g. III with 20 cc. AcOH at 50-60° gives 50.7% RCH_2COCH_2OAc, m. 135-6°. Refluxing 3 g. III in 100 cc. MeOH with 1.5 g. powd. CuO 4 hrs. gives 95% RCH_2COCH_2OMe, m. 89.5° (*semicarbazone*, m. 203°; *2,4-dinitrophenylhydrazone*, m. 207°). Heating 3 g. III in 30 g. PhOH 2-3 hrs. at 60° gives 48% RCH_2COCH_2OPh, prisms, m. 150°. Refluxing 2.29 g. III and 2.29 g. picric acid in Me_2CO 0.5 hr. gives 44% $RCH_2COCH_2OC_6H_2(NO_2)_3$-(2,4,6), pale yellow needles, m. 207°. F. E. Brauns

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BALENOVIC, K. Yugoslav

With D. Brovet-Keglevic, "Amino acids (IV) synthesis of the homology of l-leucine-------synthesis of B-amino-d-methylcoprdic acid," Chem. Abs., 1952.

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/ Preparation and properties of the amino acids L-S-homo-

have the corresponding

These methods were applied to the

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BALENOVIC, K. Yugoslav

With D. Fles, "Amino acids (VI) synthesis of L-B-amino-d-benzylthiobutyric acid," Chem. Abs., 1953.

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BALENOVIC, K. Yugoslav

With D. Fles, et al, "Synthesis of (+)-B-aminobutyric acid from L-alanine," Chem. Abs., 1953.

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Country : YUGOSLAVIA
Category: Human and Animal Physiology. Internal Secretion. Pancreas

Abs Jour: RZhBiol., No 19, 1958, 89008

Author : Fister, V.; Allegretti, N.; Balenovic, K.; Munk, R
Inst : Croatian Natural Science Society
Title : The Diabetogenic Action of Pyromecasones.

Orig Pub: Glasnik biol., sek. Hrvatsko pirodosl. drustvo, 1953 (1955) 2 B, 7, 148-149

Abstract: Pyromecasone (I) in doses of 80 mg/kg causes diabetes in rats. Glycein changes are similar to those following administration of Alloxan. I is toxic, it depresses the respiratory center, and the rats perish within 4 days. It is evident that the diabetogenic action is caused by the

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BALENOVIC, K.

(5)

The diabetogenic activity of 2,3,4-triketotetrahydropyridine. N. Allegretti, K. Balenović, V. Filter, and R. Munk (Univ. Zagreb, Yugoslavia). *Experientia* 9, 416-17(1953) (in German).—Dosages of 80 mg. 2,3,4-triketotetrahydropyridine/kg. body wt. in white rats gave diabetogenic effects comparable to similar amts. of alloxan. It is suggested that the -COCOCONH group is responsible for this activity. D. S. Farner

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
Biological Chemistry

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BALENOVIC, K.

Synthesis of aminoalkylglyoxal derivatives. II. Aminoalkylglyoxal derivatives of L-alanine, β-alanine, and L-tyrosine. K. Balenović, D. Cerar, and L. Filipović (Univ. Zagreb, Yugoslavia). *J. Org. Chem.* 18, 868-71(1953); cf. C. A. 47, 8838h.—Addn. of 5.4 cc. 48% HBr to 5 g. (−)-$C_6H_4(CO)_2NCHMeCOCHN_2$ in 275 cc. HOAc and dilu. after 1 hr. at room temp. with 300 cc. H_2O gave 98.5% (−)-*1-Br analog*, m. 68°, $[\alpha]^{18}_D$ −34.7 ± 1° (*c* 0.14, Me_2CO), converted in boiling C_5H_5N in 15 min. to 98% *pyridinium salt* (I), a hygroscopic solid, m. 85° (decompn.), $[\alpha]^{18}_D$ −7.94 ± 0.1° (*c* 0.32, abs. EtOH). (−)-*1-Bromo-3-phthalimido-4-(p-methoxyphenyl)butan-2-one*, 100%, m. 75°, $[\alpha]^{18}_D$ −177.6 ± 0.5° (*c* 3.28, C_6H_6); pyridinium salt, 92%, m. 215° (decompn.), $[\alpha]^{18}_D$ −83.3 ± 0.6° (*c* 0.18, abs. EtOH). *p-$C_6H_4(CO)_2NCH_2CH_2COCH_2(C_5H_5N)Br$*, 100%, m. 225° (decompn.). Mixing 0.014 mole I in 15 cc. H_2O and 4 cc. EtOH with 0.014 mole *p*-$Me_2NC_6H_4NO$ in 70 cc. EtOH, cooling to −5°, adding 0.014 mole *N* NaOH during 30 min., and filtering after 30 min. at −5° gave 50% L-*o-$C_6H_4(CO)_2NCHMeCOCH{:}N(\rightarrow O)C_6H_4NMe_2$-p* (II), m. 153° (from dioxane-H_2O). Similarly prepd., *o-$C_6H_4(CO)_2N(CH_2)_2COCH{:}N(\rightarrow O)C_6H_4NMe_2$-p*, 86% m. 154°, and the *α-(O-methyl-N-phthaloyl-L-tyrosinyl) analog*, 93%, m. 156°. Shaking 1.5 g. II, 3.5 g. H_2O, 15 cc. 5*N* H_2SO_4, and 15 cc. Et_2O until the II was dissolved, thoroughly extg. the aq. layer, with Et_2O, washing the ext. with 5*N* H_2SO_4 and H_2O, and chromatographing on Al_2O_3 gave 80% (−)-*(1-phthalimidoethyl)glyoxal*, a green-yellow oil, $[\alpha]^{18}_D$ −1.34 ± 0.4° (*c* 1.12, dry Et_2O), converted by refluxing 2 hrs. in HOAc with an equimolar amt. of *o*-$C_6H_4(NH_2)_2$ to 70% (+)-*2-(1-phthalimidoethyl)quinoxaline*, sublimed at 150°/0.01 mm., m. 119° (from EtOH), $[\alpha]^{18}_D$ 9.38 ± 0.1° (*c* 0.85, abs. EtOH). Similarly prepd. in 93% yield, *(2-phthalimidoethyl)glyoxal* (III), m. 96.5°, was converted to 78% *quinoxaline*, m. 143°. Soln. of 0.004 mole III and 0.01 mole $C_2H_4(SH)_2$ in 14 cc. 3% anhyd. HCl in dioxane and concn. to dryness after 4 days at room temp. gave 100% *bis(ethylene mercaptal)*, m. 212°. (+)-*[1-Phthalimido-2-(p-methoxyphenyl)ethyl]glyoxal* (76% from the nitrone), $b_{0.05}$ 160°, $[\alpha]^{18}_D$ 8.75 ± 0.5° (*c* 1.50, C_6H_6); *quinoxaline deriv.* (50%), m. 126°, $[\alpha]^{18}_D$ −42.4 ± 0.9° (*c* 0.1, abs. EtOH); *bis(ethylene mercaptal)* (82%), m. 146°, or, with 1 mol. C_6H_6, m. 72° (from C_6H_6), $[\alpha]^{18}_D$ −40 ± 0.6° (*c* 0.40, Me_2CO).

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Amino acids. X. Some derivatives of optically active α-amino aldehydes. K. Balenović, N. Bregant, D. Cerar, D. Ples, and I. Jambrešić (Univ. Zagreb, Yugoslavia). *J. Org. Chem.* 18, [illegible]; cf. C.A. 47, 8649.—A Rosenmund-Zetsche reduction of about 15 g. α-phthalimido acyl chloride in xylene at 110-30° with 5% Pd-$BaSO_4$ until 80-90% of the calcd. HCl was evolved, washing the mixt. with Et_2O, evapg. of the Et_2O from the filtrate, and cooling the xylene soln. at 0°, gave above 60% α-phthalimido aldehyde (I). Addn. of 0.01 mole NH_4Cl to 1 mole I and 1.1 mole $HCl(OEt)_3$ in the min. amt. abs. EtOH, diln., after 8 days at 20°, with H_2O and a little NH_3, and Et_2O extn. gave the di-Et acetal. Keeping 1 mole I, 1.1 moles $(CH_2SH)_2$, and 10 vols. dioxane contg. 3% dry HCl at 20° for 4 days, [illegible] at 40° [illegible] H_2O, and reconcg. gave the ethylenemercaptal, which was crystd. from MeOH. *N,N-phthaloyl-L-alanine aldehyde* (65% yield) m. 112°, $[\alpha]_D^{20}$ −29.9 ± 0.1° (c 2.16 C_6H_6); sublimation at 95-100°/0.04 mm. for 1 hr. gave partial racemization; *semicarbazone*, m. 226°; *2,4-dinitrophenylhydrazone*, m. 203-4°; di-Et *acetal* (76%), m. 53°, $[\alpha]_D^{20}$ −2.7 ± 0.3° (c 3.7 EtOH); ethylene mercaptal, m. 96° (racemate, 25% yield obtained from cold MeOH) [distn. of the mother liquor at 160-70°/0.03 mm. gave 70% active oil, $[\alpha]_D$ 48.7 ± 0.4° (c 2.16 C_6H_6)]. *S-Benzyl-N-phthaloyl-L-cysteine aldehyde* (67%) m.

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110–20°, $[\alpha]^{25}_{D}$ −5.0 ± 0.5°; distn. at 180°/0.03 mm. gave partial racemization; *semicarbazone*, m. 205–0.5°; *di-Et acetal* (97%), m. 73°, $b_{0.01}$ 200–20°, $[\alpha]^{25}_{D}$ −4.7 ± 1.4° (*c* 1.5 C_6H_6); *ethylene mercaptal* (72.3%), m. 98–100°, $b_{0.01}$ 230–°, $[\alpha]^{25}_{D}$ −60.14° ± 1° (C_6H_6). *O-Methyl-N-phthaloyl tyrosine aldehyde* (100%) m. 88°, $[\alpha]^{25}_{D}$ −150 ± 1° (*c* 0.[illegible] EtOH); *semicarbazone*, m. 227–0°, *di-Et acetal* (81%), $b_{0.01}$ 160°, $[\alpha]^{25}_{D}$ −108° ± 0.4° (*c* 2.36 Et_2O) (distn. did not change the $[\alpha]$); ethylene mercaptal (80%), m. 103°, $[\alpha]^{25}_{D}$ −105 ± 0.8° (*c* 0.[illegible]8 CH_2Cl_2). Refluxing the acetal with 1 mole $N_2H_4.H_2O$ in EtOH for 2[illegible] min. removed the *N,N*-phthaloyl group as the insol. hydrazide (II)) and concn. *in vacuo* of the filtrate gave the following compds. The mercaptals were similarly treated for 4 hrs., *N* HCl added to the mixt., and the mixt. kept at 0° to give more II; the filtrate treated with excess NH_4OH and extd. with Et_2O. *L-Alanine aldehyde di-Et acetal* (36%) b_{15} 95–105° (bath temp.), $[\alpha]^{25}_{D}$ 17.8 ± 0.3° (*c* 1.32, *N* HCl); *ethylene mercaptal* (07%), b_{12} 145–55°, $[\alpha]^{25}_{D}$ 18.5 ± 0.2° (*c* 1.98 CH_2Cl_2). *S-Benzyl-L-cysteine aldehyde di-Et acetal* (84%), $b_{0.01}$ 135–40°, $[\alpha]^{25}_{D}$ −2.6 ± 0.2° (*c* 2.49 CH_2Cl_2); *ethylene mercaptal*, $b_{0.01}$ 150–80°, $[\alpha]^{25}_{D}$ −10.2 ± 1° (*c* 0.924 C_6H_6). *O-Methyl-L-tyrosine aldehyde di-Et acetal* (80.5%) after purification on an Al_2O_3 column, $b_{0.01}$ 160°, $[\alpha]^{25}_{D}$ −79.2 ± 0.1° (*c* 0.73 $CHCl_3$).

John W. Green

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A synthesis of [illegible] hydrazoic acid [illegible] leucine. K. Balenov[illegible] [illegible] Zagreb, Yugoslavia [illegible] Chem. Soc. 1954, 2978. (−)-β-Leucine (1) has been prepd. in 48% over-all yield from D-valine through (−)-o-$C_6H_4(CO)_2NCH(CHM$[illegible] $COCHN_3$/H[illegible] [illegible]

Hydrolysis of this with HI and deionization with IR-[illegible] gave 93.2% I, m. 202–10° (decompn.), $[\alpha]^{20}_D$ −30.2° (c 0.51, H_2O), $[\alpha]^{20}_D$ −23.0° (c 0.88, N HCl), $[\alpha]^{20}_D$ 4.0° (c 0.65, N HCl).

William C. York

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γ-Aminocrotonic acid. Vinylogs of α-amino acids. I. K. Balenović, I. Jambrešić, and B. [illegible] Zagreb.

[illegible] conc'd HCl gives 89% $H_2NCH_2CH(OH)CH_2CO_2H$ [illegible]

[illegible] with stirring and the mixt adjusted with concd [illegible] 48% [illegible] (V).

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BALENOVIC, K.

10

Preparation of optically active vinylogs and methyl ketones derived from amino acids

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15 ml. for 12 hrs. but yielded no product with a pos. test on amino acids or carbohydrates. At least 6 fluorescent components having R. between ...

(Mer)

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K. Balenovic

tected by paper chromatography of A on Whatman No. 1 paper with the system PhOH [illegible] Paper electrophoresis [illegible]

[illegible] compos. with red, yellow, blue, violet, and purple fluorescence could be detected. In an attempt to sep. A into its components by the use of Craig's countercurrent distribution [illegible]

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The muscarine series. III. Isolation of quaternary bases from Amanita muscaria [illegible]

[illegible] was [illegible] and left [illegible]

[illegible] was added, left overnight at 0°, the ppt [illegible]

[illegible] was [illegible] and between fractions [illegible]

[illegible] from chloraurate following Dudley, [illegible] had an [illegible] at 20° in solvent [illegible]

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BALENOVIC, K.

YUGOSLAVIA/Organic Chemistry - Naturally Occuring Substances and Their Synthetic Analogs E-3

Abs Jour : Referat Zhur - Khimiya, No 2, 1957, 4563

Author : Balenovic, K., Bregant, N., Gasport, B., Jambresic, I., Tomasic, V.

Title : Some Derivatives of L-Cysteine Aldehyde. An Improved Preparation of S-Benzyl-N-Phthaloyl-L-Cysteine. Amino Acids. XXXI.

Orig Pub : Arhiv kemiju, 1955, 27, No 4, 207-210

Abstract : A method has been worked out for the preparation of optically active S-benzyl-N-phthaloyl-L-cystein (I), which has been converted into S-benzyl-N-phthaloyl-L-cystinealdehyde (II); a number of derivatives of II have been prepared. Mixture of finely comminuted S-benzyl-L-cystein (0.033 mole, $[\alpha]_D + 28°$) and phthalic anhydride (0.035 mole) heated (bath temperature 130-135°) while stirring, for 30 minutes, dissolved in C_6H_6 and from

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filtrate I is precipitated with petroleum ether, total yield 90%, MP 108°, $[\alpha]^{25}D$ -167 ± 0.1° (c 0.56; CH_3OH). From I of $[\alpha]$ D -150° was prepared the acid chloride, $[\alpha]^{16}D$ -136° (c 1.44; benzene), which by reduction over 5% $Pd/BaSO_4$, 10 hours at 120-125° (bath temperature) was converted to II, yield 97%, $[\alpha]^{17}D$ -103° (c 1.2; benzene). By boiling for 5 hours 0.01 mole II ($[\alpha]$ D -102°), 2.5 ml ethylene glycol and 0.1 g p-toluene sulfonic acid in 150 ml C_6H_6 and evaporating the reaction mixture, was obtained ethylene acetal of II, yield 97%, after chromatography on Al_2O_3, MP 95-97° (from CH_2Cl_2 + petroleum ether), $[\alpha]^{12}D$ -78 ± 0.5° (c2.8; benzene). By boiling of ethylene acetal of II with hydrazine hydrate in alcohol (3 hours) was obtained ethylene acetal-S benzyl-L-cystein,

Card 2/3

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