LUTSEK, V.P.; BUSLAYEV, R.V.

[redacted]

A table for microanalytic scales. Zav.lab.22 no.11:1371-1372 '56.
(MLRA 10:2)

1. Institut organicheskoy khimii Akademii nauk SSSR.
(Laboratories--Furniture, equipment, etc.)

8(2) SOV/32-25-4-54/71

AUTHORS: Buslayev, R. V., Lavrov, I. A., Lutsek, V. P., Rozengart, M. I.

TITLE: Impulse Timing Relay for Rectifying Columns (Impul'snoye rele vremeni dlya rektifikatsionnykh kolonok)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 4, pp 493 - 494 (USSR)

ABSTRACT: An impulse timing relay was designed for the purpose of automating the removal of distillates from laboratory rectifying columns. Impulses may be altered over a wide range, from 40 impulses per minute to one impulse every three minutes, the impulse duration ranging up to 38 seconds. The apparatus is fed with 127 v alternating current. It is 24 cm long, 15 cm wide, and 16 cm high. The relay is actuated through mechanical switches operated by a reversible electric motor which periodically changes the sense of rotation. It can be seen from the schematic illustration of the relays (Fig), and the description that the electric motor is of the type RD-09, and that an intermediate relay of the type RPT-100 is used. There is 1 figure.

Card 1/2

Impulse Timing Relay for Rectifying Columns SOV/32-25-4-54/71

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

Card 2/2

LUTSENKO, A., master sporta

Beneath the rotor. Kyrl.rod. 12 no.6:23-24 Je '61. (MIRA 14:6)

(Helicopters)

LUTSENKO, A.

Behind a drawn curtain. Kryl.rod. 13 no.2:12-13 F '62. (MIRA 15:1)

1. Komandir otryada TSentral'nogo aerokluba SSSR imeni V.P. Chkalova.

(Helicopters--Piloting)

LUTSENKO, A., master sporta

Without a tail rotor. Kryl.rod. 13 no.6:17 Je '62.
(MIRA 19:1)

LUTSENKO, A.

Helicopter above a target. Kryl. rod. 14 no.5:30-31 My '63.
(MIRA 16:7)

(Helicopters--Piloting)

LUTSENKO, A.

Matriculation test. Kryl. rod. 15 no.1:10 Ja '64.
(MIRA 17:2)

LUTSENKO, A. B.

"Spectral Analysis of Permalloys,"

SO: Zhur. Tekh. Fiz., 15, Nos. 4-5, 1945. Mbr., Sci. Research Inst. Qualitative Steel and Iron Alloys, 1944-.

LUTSENKO, A.D., fel'dsher (Zolotukhino Kurskoy oblasti)

Boric acid ointment as a method for preventing diseases of the mammary glands in parturients. Fel'd. i akush. 25 no.12:46-47 D '60. (MIRA 13:12)

(BORIC ACID—THERAPEUTIC USE) (BREAST—DISEASES)

CHEPURNAYA, T.D., vrach; SUN-CHZHUN, V.A. [Sung-Chung, V.A.], meditsinskaya sestra; LUTSENKO, A.G., meditsinskaya sestra (Khar'kov)

Use of preparation ChEMZ for influeza prevention. Fel'd. i akush. 27 no.12:7-8 D'62. (MIRA 16:7)
(INFLUENZA—PREVENTION) (PHYTONCIDES)

LUTSENKO, A. I.

VEKSLER, A.A.; GRIGOR'YEVA, A.M?; KUL'CHITSKAYA, V.S.; LUTSENKO, A.I.; PEREL'ZON, R.A.; TRYASUNOVA, M.V.; SLEMZIN, A.A., redaktor; FOMICHEV, P.M., tekhnicheskiy redaktor

[Soviet live stock in numbers; a statistical manual] Chidlennost' skota v SSSR; statisticheskii sbornik. Moskva, Gos.stat.izd-vo, 1957. 618 p. (MLRA 10:8)

1. Russia (1923- U.S.S.R.) TSentral'noye statisticheskoye upravleniye.
(Stock and stockbreeding--Statistics)

AUTHOR: Lutsenko, A.I. SOV/2-58-10-4/15

TITLE: On the Determination of the Number of Cattle on January 1, 1959. (Ob opredelenii chislennosti skota na 1 yanvarya 1959 g.)

PERIODICAL: Vestnik statistiki, 1958, Nr 10, pp 21 - 25 (USSR)

ABSTRACT: There will be no regular inventory of cattle in 1959. The number of cattle will be determined by data from collective and other government farms, and the number of livestock in private ownership will be established by a selective method based on 10% of the holdings of kolkhoz workers and laborers. The author publishes the form Nr 24 which collective and state farms will be requested to fill in on January 1, 1959. There is 1 table and 1 form reproduction.

Card 1/1

PAVLOV, A.N., otv. za vypusk; VOLODICHEVA, V.N.; IVANOVA, A.I.; KULAKOV, I.N.; LYAMINA, T.N.; MIT'KINA, L.I.; POZDNYAKOVA, N.P.; RODIONOVA, L.I.; ROMANOVA, N.M.; SOFIYEV, E.S.; CHICHKINA, A.A.; TRESORUKOVA, Z.G.; BOGATYREV, P.P.; BROVKINA, A.I.; IVANOVA, L.D.; IVASHKIN, G.A.; KAMNEV, N.I.; LYSANOVA, L.A.; OZHEREL'YEVA, Z.I.; PAVLOVA, T.I.; TYUTYUNOVA, N.I.; UMNITSYNA, A.P.; ZHIVILIN, N.N.; ALESHICHEV, M.P.; VINOGRADOV, V.I.; YEREMIN, F.S.; KRAVCHENKO, Ye.P.; LOVACHEVA, M.V.; NIKOL'SKAYA, V.S.; MAKHOV, G.I.; SKEGINA, A.V.; TAREYEV, A.V.; KHOLINA, A.V.; BRYANSKIY, A.M.; BURMISTROVA, V.D.; GRIGOR'YEVA, A.M.; LUTSENKO, A.I.; OREKHOVA, Z.V.; TEPLINSKAYA, N.V.; FEOKTISTOVA, V.I.; BUTORIN, I.M.; BOCHKAREVA, L.D.; BURENINA, V.A.; VETUSHKO, A.M.; VIKHLYAYEV, A.A.; SOROKIN, B.S.; TSYBENKO, L.T.; KHLEBNIKOV, V.N.; DUMNOV, D.I.; STEPANOVA, V.A.; MANYAKIN, V.I., red.; VAKHATOV, A.M.; MAKAROVA, O.K., red.izd-va; PYATAKOVA, N.D., tekhn.red.

[Soviet agriculture; a statistical manual] Sel'skoe khoziaistvo SSSR; statisticheskii sbornik. Moskva, 1960. 665 p. (MIRA 13:5)

1. Russia (1923- U.S.S.R.) TSentral'noye statisticheskoye upravleniye. 2. Upravleniye statistiki sel'skogo khozyaystva TSentral'nogo statisticheskogo upravleniya SSSR (for all except Makarova, Pyatakova).

(Agriculture--Statistics)

LUTSENKO, A. M.

"Free Interspecies Repollination as a Method of Increasing the Yield of Buckwheat." Cand Agr Sci, Gorkiy Agricultural Inst, Min of Culture, Gor'kiy, 1953. (KL, No 12, Mar 55)

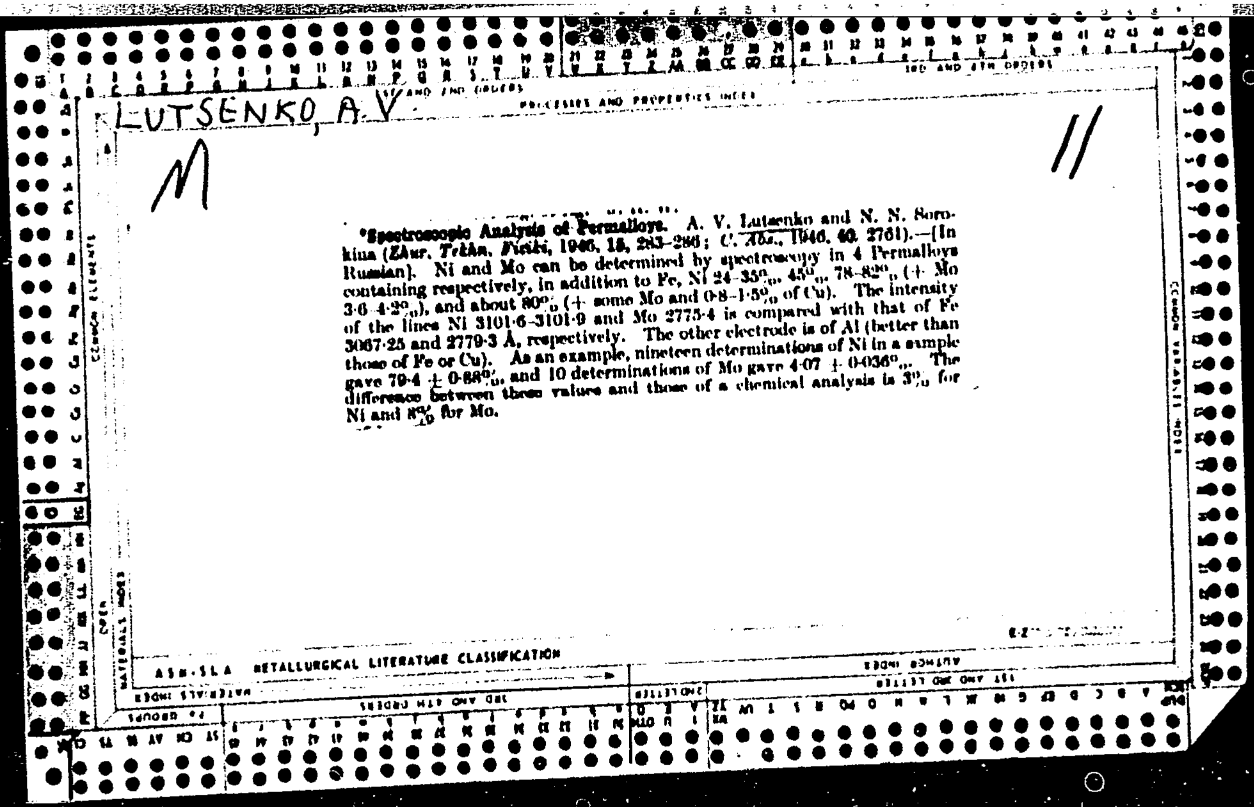
So: Sum. No 670, 29 Sept 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

LUTSENKO, A. M.

Mustard

Cultivation methods for white mustard. Sov. agron. 11 No. 3, 1953.

<u>Monthly List of Russian Accessions</u>, Library of Congress, <u>June</u> 1953. Unclassified.



LUTSENKO, A.V.

M

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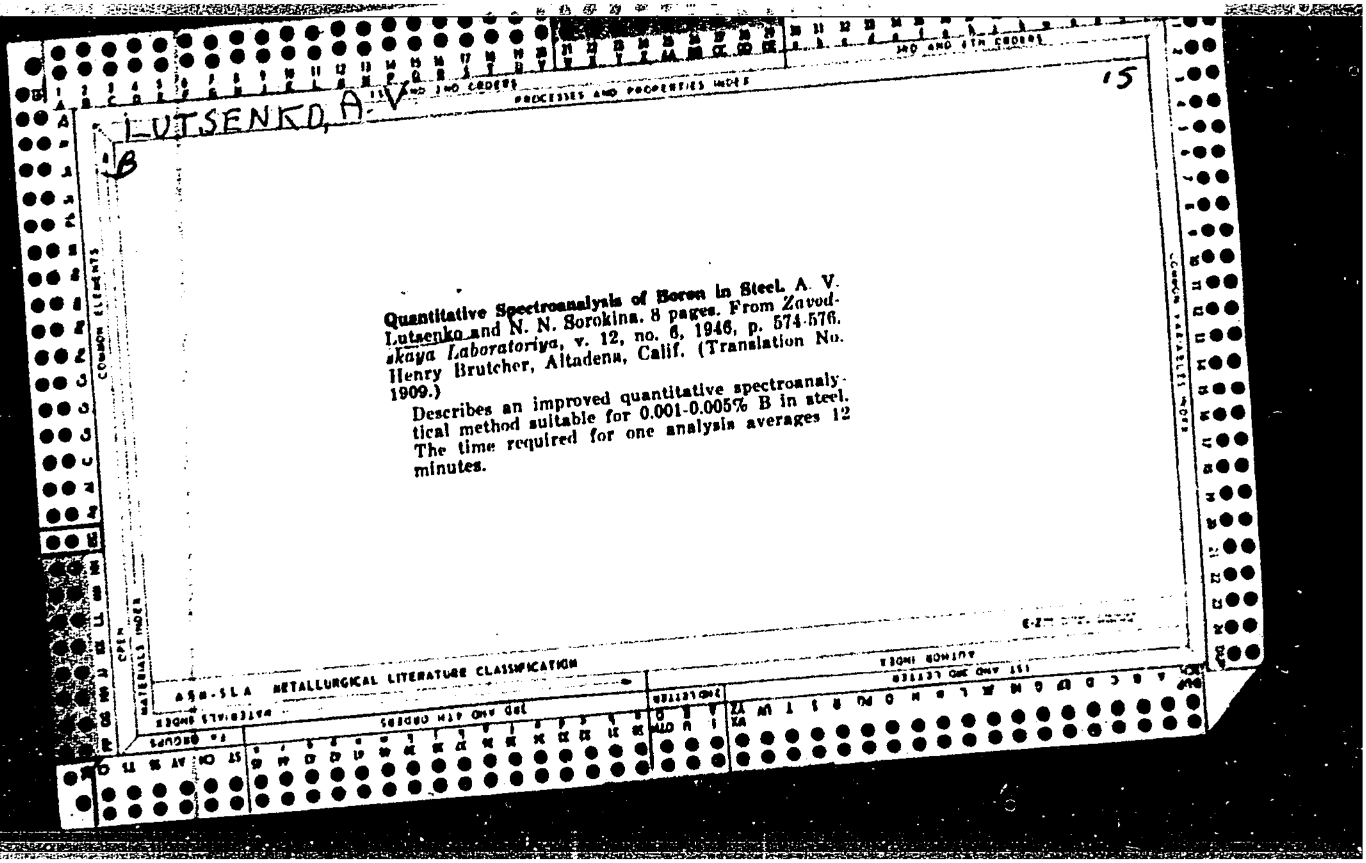
PROCESSES AND PROPERTIES INDEX

*Spectroscopic Analysis of Permalloys. A. V. Lutsenko and N. N. Sorokina (Zhur. Tekhn. Fiziki, 1946, 16, 283–286; C. Abs., 1946, 40, 2761).—(In Russian). Ni and Mo can be determined by spectroscopy in 4 Permalloys containing respectively, in addition to Fe, Ni 24–35%, 45%, 78–82% (+ Mo 3·6–4·2%), and about 80% (+ some Mo and 0·8–1·5% of Cu). The intensity of the lines Ni 3101·6–3101·9 and Mo 2775·4 is compared with that of Fe 3067·25 and 2779·3 Å, respectively. The other electrode is of Al (better than those of Fe or Cu). As an example, nineteen determinations of Ni in a sample gave 79·4 ± 0·88%, and 10 determinations of Mo gave 4·07 ± 0·036%. The difference between these values and those of a chemical analysis is 3% for Ni and 8% for Mo.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



LUTSENKO, A.V.

B

15

Quantitative Spectroanalysis of Boron in Steel. A. V. Lutsenko and N. N. Sorokina. 8 pages. From *Zavodskaya Laboratoriya*, v. 12, no. 6, 1946, p. 574-576. Henry Brutcher, Altadena, Calif. (Translation No. 1909.)

Describes an improved quantitative spectroanalytical method suitable for 0.001-0.005% B in steel. The time required for one analysis averages 12 minutes.

1ST AND 2ND GROUPS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH GROUPS

COMMON ELEMENTS

LUTSENKO, A.V

4B

15

Spectroscopic Determination of Small Amounts of Boron, Vanadium, Titanium, and Aluminum in Steel. (In Russian.) N. V. Byianov, A. V. Lutsenko, and N. N. Sorokina. *Factory Laboratory* (U.S.S.R.), v. 13, Apr. 1947, p. 447-451.

Describes results of an investigation and development of a method for the above using a high-voltage a.c. arc.

OPEN

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

3RD AND 4TH GROUPS

3RD LETTER

AUTHOR INDEX

1ST AND 2ND LETTER

DRINFEL'D, G.I. [Drinfel'd, H.I.]; LUTSENKO, A.V.

Measure of sets of curves of the second order. Dop. AN URSR no.1: 14-17 '65. (MIRA 18:2)

1. Khar'kovskiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva. Predstavleno akademikom AN UkrSSR I.Z. Shtokalo.

LUTSENKO, B.N.; PUSHNOY, B.M.

Use of the correlation method in measuring the angle of polarization of the magnetic component of natural electromagnetic fields. Izv. AN SSSR. Fiz. zem. no.3:103-108 '65. (MIRA 18:7)

1. Institut avtomatiki i elektrometrii Sibirskogo otdeleniya AN SSSR.

LUTSENKO, B.N.

Results of using the controlled directional sensitivity method for seismic waves in the area of the Dono-Medveditskiy dislocation. Geofiz. razv. no. 15:19-34 '64. (MIRA 17:7)

LUTSENKO, B.N.

Methods for the interpretation of the materials of controlled directional sensitivity method under the platform conditions in the Volga Valley portion of Volgograd Province. Razved. geofiz. no.4:11-17 '65. (MIRA 18:9)

LUTSENKO, B.N.

Studying the structure of the western edge of the Caspian Lowland by a seismic method. Geol. nefti i gaza 7 no.11:55-58 N '63. (MIRA 17:8)

1. Nauchno-issledovatel'skaya laboratoriya geologicheskikh kriteriyev otsenki perspektiv neftegazonosnosti.

LUTSENKO, D.A.

Treatment and prevention of suppurative diseases of the fingers and hand. Khirurgiia 39 no.5:104-107 My '63.
(MIRA 17:1)

1. Iz Zolotukhinskoy rayonnoy bol'nitsy (glavnyy vrach A.D. Kharchenko) Kurskoy oblasti.

LUTSENKO, D.A., fel'dsher (Kursk)

Reduction of accidents and suppurative diseases by the health center of a hemp plant during the course of a year. Fel'd. i akush. 26 no. 2:46-47 F '61. (MIRA 14:4)

(INDUSTRIAL HYGIENE)

LUTSENKO, D.A.

Simple apparatus for holding and traction of the extremities. Sov.med. 26 no.6:128-129 Je '62. (MIRA 15:11)

1. Iz Veydelevskoy rayonnoy bol'nitsy (glavnyy vrach T.A. Protasov) Belgorodskoy oblasti.
(ORTHOPEDIC APPARATUS

LUTSENKO, D.A.

Method of combined treatment of trichomoniasis in women. Sbor. trud. Kursk. gos. med. inst. no.16:287-289 '62.
(MIRA 17:9)

1. Iz kliniki akusherstva i ginekologii (zav. - prof. A.G. Butylin) Kurskogo meditsinskogo instituta.

LUTSENKO, D.A.

Prevention of puerperal infection. Akush. i gin. 40 no.5:86
S-O '64. (MIRA 18:5)

1. Gostishchevskaya rayonnaya bol'nitsa (glavnyy vrach Ch. Ye. Yelizarov) Belgorodskoy oblasti.

LUTSENKO, D.A.

Abstracts. Sov. med. 28 no.9:143 S '65. (MIRA 18:9)

1. Gostishchevskaya rayonnaya bol'nitsa Belgorodskoy oblasti.

GOLUB, A.M.; OLEVINSKIY, M.I.; LUTSENKO, E.F.

Extraction of thiocyanate complexes of lanthanum, cerium, praseodymium, and neodymium. Ukr. khim. zhur. 31 no.1:12-17 '65. (MIRA 18:5)

1. Kiyevskiy gosudarstvennyy universitet imeni Shevchenko i Donetskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv.

L 27816-65 EWT(m)/EWP(j)/T/EWP(t)/EWP(b) Pc-4 IJP(c) JD/JG/RM

ACCESSION NR: AP5002749 S/0073/64/030/012/1274/1279

AUTHOR: Golub, A. M.; Olevinskiy, M. I.; Lutsenko, E. F.

27
28
B

TITLE: Extraction of lanthanum, cerium (III), praseodymium, and neodymium with tributyl phosphate in the presence of perchlorate ions

27

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 30, no. 12, 1964, 1274-1279

TOPIC TAGS: rare earth extraction, cerium, lanthanum, praseodymium, neodymium, tributyl phosphate, perchlorate ion

ABSTRACT: Tributyl phosphate (TBP) was used to extract La, Ce (III), Pr, and Nd from solutions of sodium perchlorate and sodium choride. Data on the effect of the perchlorate ion concentration on the extraction of each element at pH 3 and pH 1 are tabulated. Graphs of the relation $\log K_p\ f[(\log (\mathrm{TBP})]$ were plotted for each element in order to find the solvation number, and were found to be quite similar in character. From these graphs, the authors conclude that at pH 3, compounds of the composition $\mathrm{Me(ClO_4)_3 \cdot 4TBP}$ are extracted, and at pH 1, associates of the type $\mathrm{[TBPH][Me(ClO_4)_4 (TBP)_4]}$ are formed. The complete extraction of the lanthanides depends on the concentration and nature of the additives employed, and occurs at $[\mathrm{ClO_4^-}] = 1.6$-2.0 moles/liter. The equilibrium constants for the reactions of formation of the rare earth complexes are close to one another and

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L 27816-65

ACCESSION NR: AP5002749

are fairly constant over a wide range of $NaClO_4$ concentrations, confirming the above compositions of the compounds being extracted. Extraction equilibrium constants of the reactions of formation of $Me(ClO_4)_3$ and $Me(ClO_4)_4^-$ were calculated, and show that the Me-ClO_4 bond is fairly weak. Orig. art. has: 5 figures and 8 tables.

ASSOCIATION: Donetskiy institut khimicheskikh reaktivov i osobo chistykh veshchestv (Donets chemical reagents and highly pure compounds institute)

SUBMITTED: 14Jan64 ENCL: 00 SUB CODE: IC

NO REF SOV: 002 OTHER: 001

Card 2/2

L 27407-65 EWT(m)/EWP(j)/T/EWP(t)/EWP(b) Pc-4 IJP(c) RM/JD/JG

ACCESSION NR: AP5004737 S/0073/65/031/001/0012/0017 27 19 B

AUTHOR: Golub, A. M.; Olevinskiy, M. I.; Lutsenko, E. F.

TITLE: Extraction of thiocyanate complexes 1 of lanthanum, cerium, praseodymium, and neodymium

SOURCE: Ukrainskiy khimicheskiy zhurnal, v. 31, no. 1, 1965, 12-17

TOPIC TAGS: rare earth element, 1 rare earth thiocyanate, rare earth extraction, thiocyanate complex, tributyl phosphate, rare earth separation

ABSTRACT: The authors studied the characteristics of the chemical processes underlying the extraction of thiocyanate complexes of La, Ce, Pr, and Nd with tributyl phosphate (TBP) at pH 1 and pH 3. In the first series of experiments, the distribution coefficient of the lanthanides was determined as a function of the concentration of CNS^- ions in the aqueous phase. In the second series, the CNS^- concentration was constant (2 moles/l), and the concentration of TBP in the nonaqueous layer changed between 0.29 and 3.64 moles/l. The extraction constants of the dissociation

$$K = \frac{(CNS)^n}{K_p} : Ln(CNS)_n^{3-n} \rightleftarrows Ln^{3+} + nCNS^-$$

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L 27407-65

ACCESSION NR: AP5004737

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are tabulated. The results obtained show that metals of the cerium group are difficult to separate from one another in the form of thiocyanates by extraction. The complexes extracted at pH 3 may be expressed by the formula $((H_2O)Ln(CNS)_3(TBP)_4)$. The compounds extracted at pH 1 are assigned the formula $(TBP \cdot H)^+(Ln(CNS)_4TBP)_4)$. Orig. art. has: 5 figures, 1 formula and 10 tables.

ASSOCIATION: Kiyevskiy gosudarstvennyy universitet im. T. G. Shevchenko (Kiev state university); Donetskiy filial VNII khimicheskikh reaktivov i osobo chistykh khimicheskikh veshchestv (Donets branch, All-union chemical reagents and ultrapure chemical substances scientific research institute)

SUBMITTED: 28Oct63 ENCL: 00 SUB CODE: IC, GC

NO REF SOV: 001 OTHER: 003

Card 2/2

AVERKIN, A.A.; AYRAPETYANTS, A.V.; ILISAVSKIY, Yu.V.; LUTSENKO, E.L.;
SEREBRYANIKOV, V.S.

Effect of tensile stress and hydrostatic-type pressure on the electroconductivity of thermally treated polyacrylonitrile. Dokl. AN SSSR 152 no.5:1140-1142 O '63. (MIRA 16:12)

1. Institut poluprovodnikov AN SSSR i Institut neftekhimicheskogo sinteza AN SSSR. Predstavleno akademikom V.A.Karginym.

LUTSENKO, F. G.

STARCHENKO, V.F., golovnyy red.; KANEVS'KIY, O.P., red.; RUDNITS'KIY, P.V. red.; LUTSENKO, F.G., red.; BILOZUB, V.G., red.; PAVLENKO, M.K., red.; SVISTEL'NIK, A.N., red.; KHOTENKO, M.P., red.; ZADONTSEV, A.P., red.; POPOV, F.A., red.; DANILYUK, O.T., red.; TRITINCHENKO, A.P., red.; AKS'ONOV, G.G., tekhn.red.

[Agricultural manual for administrative personnel of province and district organizations, directors of machine-tractor stations, chairmen of collective farms and agricultural specialists] Posibnik po sel's'komu hospodarstvu dlia kerivnykh pratsivnykiv oblasnykh i raionnykh organizatsiy, dyrektoriv MTS, holiv kolhospiv i fakhivtsiv sil's'koho hospodarstva. Skladenyi za red.: V.F.Starchenka [and others] Holovnyi red.V.F.Starchenko. Kyiv, Derzh.vyd-vo sil's'kohospodars'koi lit-ry URSR. Book 1. 1946. 1269 p. (MIRA 11:1)

1. Chlen-korrespondent akademii nauk URSR (for Starchenko). (Agriculture)

SHIPILOVA, Aleksandra Ivanovna; LUTSENKO, Filipp Mironovich; TEREKHOV, A., red.; PAKHOLYUK, R., tekhn.red.

[The "Zaporozhets'" small-displacement automobile] Mikrolitrazhnyi avtomobil' "Zaporozhets'." Zaporozh'e, Zaporozhskoe knizhno-gazetnoe izd-vo, 1960. 18 p. (MIRA 14:5)

(Automobiles)

LUTSENKO, G.I.

Shortcomings of the incentive wage system in sugar plants. Sakh. prom. 31 no.3:27-28 Mr '57. (MIRA 10:4)

1.Kiyevskiy tekhnologicheskiy institut pishchevoy promyshlennosti imeni Mikoyana. (Wages)

KOZENKO, T.M.; LUTSENKO, G.M.

Apparatus for the registration of arterial pulse and blood pressure in a chronic experiment (mechano-oscillograph). Fiziol.zhur. 39 no.3:365-367 My-Je '53. (MLRA 6:6)

1. Kafedra fiziologii Dnepropetrovskogo meditsinskogo instituta.
(Blood pressure)

LUKINYKH, N.A., kand.tekhn.nauk; TUROVSKIY, I.S., mladshiy nauchnyy sotrudnik;
Prinimali uchastiye: LIPMAN, B.L., mladshiy nauchnyy sotrudnik;
LUTSENKO, G.N., mladshiy nauchnyy sotrudnik; GANKINA, R.G., tekhn.red.

[Basic principles of the technical design of units for the mechanical dehydration of sewage residues on drum vacuum filters] Osnovnye printsipy tekhnologicheskogo rascheta ustanovok po mekhanicheskomu obezvozhivaniiu osadkov stochnykh vod na barabannykh vakuum-fil'trakh. Moskva, 1962. 34 p. (Akademiia kommunal'nogo khoziaistva. Informatsionne pis'mo, no.1) (MIRA 16:3)

(Sewage—Purification) (Vacuum apparatus)

LUKINYKH, N.A.; LIPMAN, B.L.; LUTSENKO, G.N.; ZHDANOVA, T.M.; KAZAROVETS, N.M.; FILATOVA, N.P.

Effect of alkyl sulfonate and alkylaryl sulfonates on the biochemical processes of waste water purification. Nauch. trudy AKKH no.20:124-141 '63. (MIRA 18:12)

OL'SHANETSKIY, A.A.; LUTSENKO, G.S.; MEGELA, R.M.

Using plastics in resection of the liver. Eksper.khir. 2 no.6: 54-58 N-D '57. (MIRA 11:2)

1. Iz eksperimental'noy laboratorii Zakarpatskoy oblastnoy klinicheskoy bol'nitsy (glavnyy vrach G.S.Lutsenko)
(LIVER, surg.
resection, hemostasis with plastic cuff in dogs (Rus))
(PLASTICS
plastic cuff for hemostasis in liver resection in dogs (Rus))

LUTSENKO, G.S. (Uzhgorod)

Treating embolism of the main arterial vessels. Vrach.delo no.3:271-275 Mr '57 (MIRA 10:5)

1. Zakarpatskaya oblastnaya klinicheskaya bol'nitsa i kafedra obshchey khirurgii (zav.-zasl. deyatel' nauki, prof. M.I. Kolomiychenko) Kiyevskogo meditsinskogo instituta.
(EMBOLISM)

LUTSENKO, G. S.: Master Med Sci (diss) -- "The use of sympatholytic substances in embolism under experimental and clinical conditions". Kiev, 1958. 16 pp (Kiev Order of Labor Red Banner Med Inst im Acad A. A. Bogomolets), 200 copies (KL, No 10, 1959, 128)

LUTSENKO, G.S.

Use of ganglion-blocking substances in acute pancreatitis. Vrach. delo no.1:49-51 '60. (MIRA 13:6)

1. Kafedra khirurgii (zav. - dotsent A.V. Fedinets) meditsinskogo fakul'teta Uzhgorodskogo universiteta i khirurgicheskoye otdeleniye Zakarpatskoy oblastnoy klinicheskoy bol'nitsy.
(PANCREAS--DISEASES) (AUTONAOMIC DRUGS)

LUTSENKO, G. YE.

LUTSENKO, G. YE. --"Birth Damages of the Central Nervous System in Fetuses and Newborn Infants." *(Dissertations for Degrees in Science and Engineering Defended at USSR Higher Educational Institutions) Kishinev State Medical Inst, Kishinev, 1955.

SO: Knizhnaya Letopis' No. 31, 30, July 1955.

*For the Degree of Candidate in Medical Sciences.

LUTSENKO, G.Ye., kand. med. nauk.

Pathomorphological changes in the central nervous system in experimental asphyxiation caused by acute disorder of placental blood circulation. Akush. i gin. 34 no.6:42-45 N-D '58. (MIRA 12:1)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. L.Z. Kocherginskiy) i kafedry pa tologicheskoy anatomii (zav. - prof. F.Ye. Ageychenko [deceased] Kishinevskogo meditsinskogo instituta (dir. - zasluzhennyy deyatel' nauki prof. N.T. Starostenko).

(FETUS
  asphyxiation in utero due to blood circ. disord., CNS changes in dogs (Rus))
(ASPHYXIA NEONATORUM, exper.
  induced by blood circ. disord., CNS changes in dogs (Rus))
(CENTRAL NERVOUS SYSTEM, pathol.
  changes in intrauterine asphyxia & asphyxia neonatorum induced by blood circ. disord. in dogs (Rus))

LUTSENKO, G.Ye.

Significance of injuries of the central nervous system in newborn mortality. Zdravookhranenie 2 no.1:28-30 Ja-F '59. (MIRA 12:7)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. A.Z. Kocherginskiy) Kishinevskogo meditsinskogo instituta.
(INFANTS(NEWBORN--MORTALITY)
(NERVOUS SYSTEM--WOUNDS AND INJURIES)

LUTSENKO, G.Ye.; BILINKIS, S.Ya.

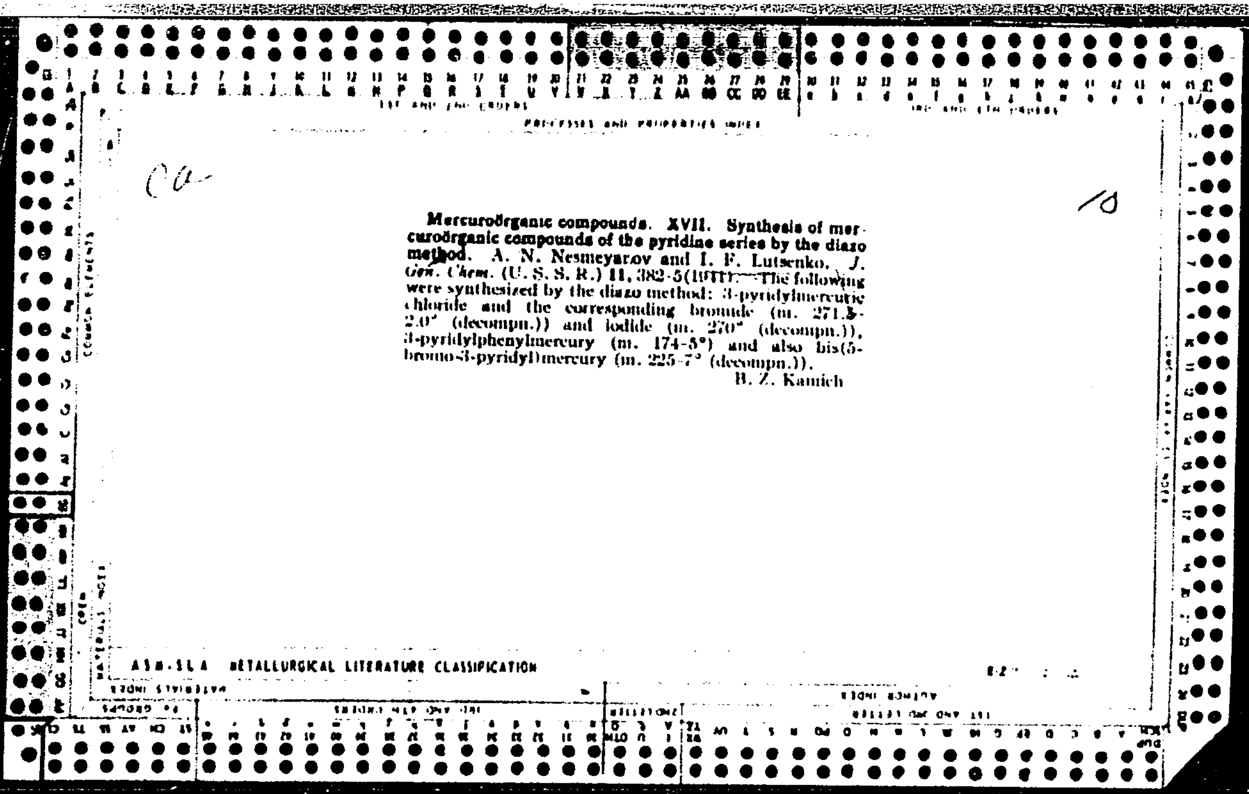
Cancer of the cervix uteri and pregnancy. Zdravookhranenie 2 no.3:14-16 My-Je '59. (MIRA 12:10)

1. Iz kafedry akusherstva i ginekologii (zav. - prof.A.Z. Kocherginskiy) Kishinevskogo meditsinskogo instituta.
(UTERUS--CANCER) (PREGNANCY, COMPLICATIONS OF)

LUTSENKO, G. Ye., kand. med. nauk

Use of lidase in the prevention of traumas to the birth canal.
Zdrav. Bel. 9 no.7: 77-80 Jl'63 (MIRA 17:4)

1. Iz kafedry akusherstva i ginekologii (zav. - prof. M.V. Mogilew) Grodnenskogo gosudarstvennogo meditsinskogo instituta (rektor - dotsent S.A. Maslakov).



Ca

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Mercuroörganic compounds. XVII. Synthesis of mercuroörganic compounds of the pyridine series by the diazo method. A. N. Nesmeyanov and I. F. Lutsenko. *J. Gen. Chem.* (U. S. S. R.) 11, 382-5(1941).—The following were synthesized by the diazo method: 3-pyridylmercuric chloride and the corresponding bromide (m. 271.5-2.0° (decompn.)) and iodide (m. 270° (decompn.)), 3-pyridylphenylmercury (m. 174-5°) and also bis(5-bromo-3-pyridyl)mercury (m. 225-7° (decompn.)).

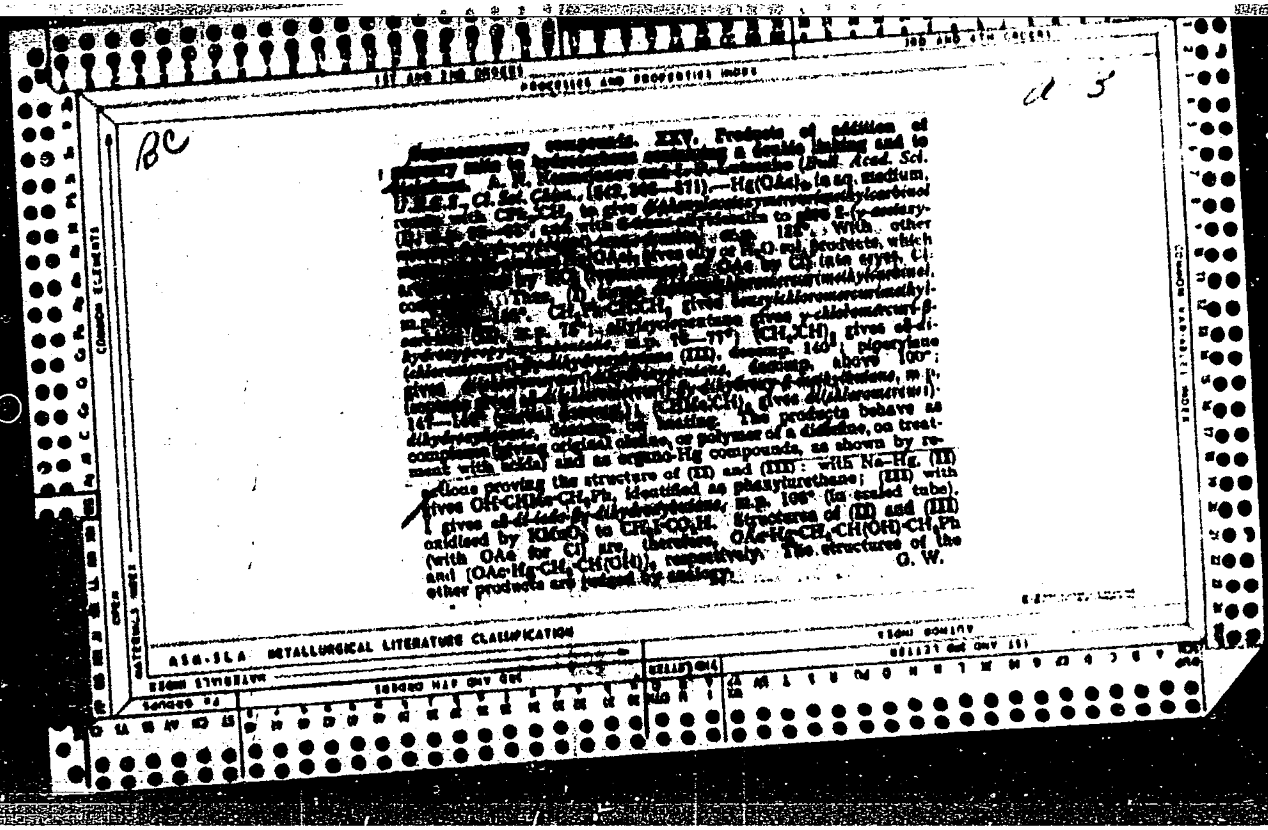
B. Z. Kamich

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

LUTSENKO, I. F.

"On Organometallic Compounds of Mercury. Part 15. On certain addition products of the Salts of Mercury with Hydrocarbons having an Olefinic Linkage and with Diolefins,"

SO: Iz. Ak. Nauk SSSR, Otdel. Khim. Nauk, No. 6, 1942. Acad. of Sci. of USSR. Institute of Organic Chemistry. - 1942 -.



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

a 3

BC

Organomercury compounds. XXV. Products of addition of mercury salts to hydrocarbons containing a double linking and to acetylene. A. N. Nesmeyanov and I. F. Lutsenko (Bull. Acad. Sci. U.R.S.S., Cl. Sci. Chim., 1943, 366—371).—Hg(OAc)$_2$ in aq. medium, [illegible] with CH$_2$:CH$_2$ to give [illegible]acetoxymercuri[illegible]ylcarbinol [illegible] to give 2-(γ-acetoxy-[illegible] [illegible] 128°. With other [illegible] H$_2$O-sol. products, which [illegible] OAc by Cl (via [illegible]) [illegible] by HCl [illegible]mercurimethylcarbinol, [illegible] (I) [illegible] CH$_2$:CH·CH$_2$Cl gives [illegible]chloromercurimethyl-[illegible] m.p. 78°; allylcyclopentane gives γ-chloromercuri-β-[illegible] m.p. 76—77°. (CH$_2$:CH)$_2$ gives αδ-di-[illegible]hydroxy[illegible] (III), decomp. 160°; piperylene [illegible] decomp. above 100°; [illegible] gives [illegible]dihydroxy-β-methylbutane, m.p. [illegible] (CMe$_2$:CH)$_2$ gives di(chloromercuri)-[illegible] 167—168° [illegible] on heating. The products behave as dihydroxy[illegible], [illegible] original olefine, or polymer of a diolefine, on treatment with acids) and as organo-Hg compounds, as shown by reactions proving the structure of (II) and (III): with Na–Hg (II) gives OH·CHMe·CH$_2$Ph, identified as phenylurethane; (III) with I gives αδ-di-iodo-βγ-dihydroxybutane, m.p. 108° (in sealed tube), oxidised by KMnO$_4$ to CH$_2$I·CO$_2$H. Structures of (II) and (III) (with OAc for Cl) are, therefore, OAc·Hg·CH$_2$·CH(OH)·CH$_2$Ph and [OAc·Hg·CH$_2$·CH(OH)]$_2$, respectively. The structures of the other products are judged by analogy. G. W.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

11A

Organic mercury compounds. XX. Heterocyclic addition products of mercuric salts to open-chain diolefinic compounds. A. N. Nesmeyanov and I. F. Lutsenko. *Bull. acad. sci. U. R. S. S., Classe sci. chim.* 1943, 296-301(English summary); cf. *C. A.* 37, 3410. Biallyl (3 g.) was treated with 10 g. Hg(OAc)$_2$ in 50 cc. H$_2$O; after 16 hrs. there was added 3.8 g. KCl in 30 cc. water to give a quant. yield of *2,5-bis(chloromercurimethyl)-tetrahydrofuran* (recrystd. from Me$_2$CO), which decomps. on heating without melting. The product treated with 2% Na-Hg in water gave 90% (several drops 2,5-dimethyltetrahydrofuran was isolated) of 1-hexen-5-ol, b. 130°, d_4^{20} 0.8402; similar reduction in slightly acid soln. (by gradual addn. of 10% AcOH) gave a total of 75% of the above 2 products, with the furan comprising about 25%. To 5.4 g. HgCl$_2$ in water was added 0.82 g. biallyl and the pptd. Hg compd. was filtered off; the filtrate contained 0.7076 g. HCl (theoretical, 0.73 g.). 1-Penten-5-ol (4.3 g.) was added to 16 g. Hg(OAc)$_2$ in 50 cc. water to yield an oil, which was sol. in addnl. water; on addn. of a soln. of KCl *2-(chloromercurimethyl)tetrahydrofuran* pptd. as an oil in 82% yield. Similar reaction with 1-hexen-5-ol gave 80% *2-methyl-5-(chloromercurimethyl)tetrahydrofuran* as an oil; treatment of the reaction mixt. with 2% Na-Hg in the presence of sufficient AcOH to keep the mixt. slightly acid yielded 2,5-dimethyltetrahydrofuran and 1-hexen-5-ol in combined yield of 80%. Diallylamine (5 g.) was added to 30 g. Hg(OAc)$_2$ in 100 cc. water; after 12 hrs. the soln. was filtered and treated with KCl soln. to yield 20 g. of a solid which dissolved in 10% NaOH and on filtration of Hg oxides and neutralization gave a white ppt. of *2,6-bis(chloromercurimethyl)morpholine;* reduction with Na-Hg, as above described, gave 2,6-dimethylmorpholine, b. 140.5°. Allyl ether (5 g.) was added to 32 g. Hg(OAc)$_2$ in 150 cc. water to yield, after 16 hrs., and addn. of KCl soln., 85% of *2,6-bis(chloromercurimethyl)-p-dioxane*, m. 116° (from EtOH). Reduction with 2% Hg-Na in weakly acid soln. gave the corresponding dioxane, b. 120-1°, n_D^{20} 1.4169, d_4^{20} 0.9241. Mercuriated allyl ether (6 g.) was mixed with 5 g. iodine and heated in CHCl$_3$ until decolorized to yield 1.1 g. *2,6-bis(iodomethyl)-p-dioxane*, m. 94° (from EtOH).

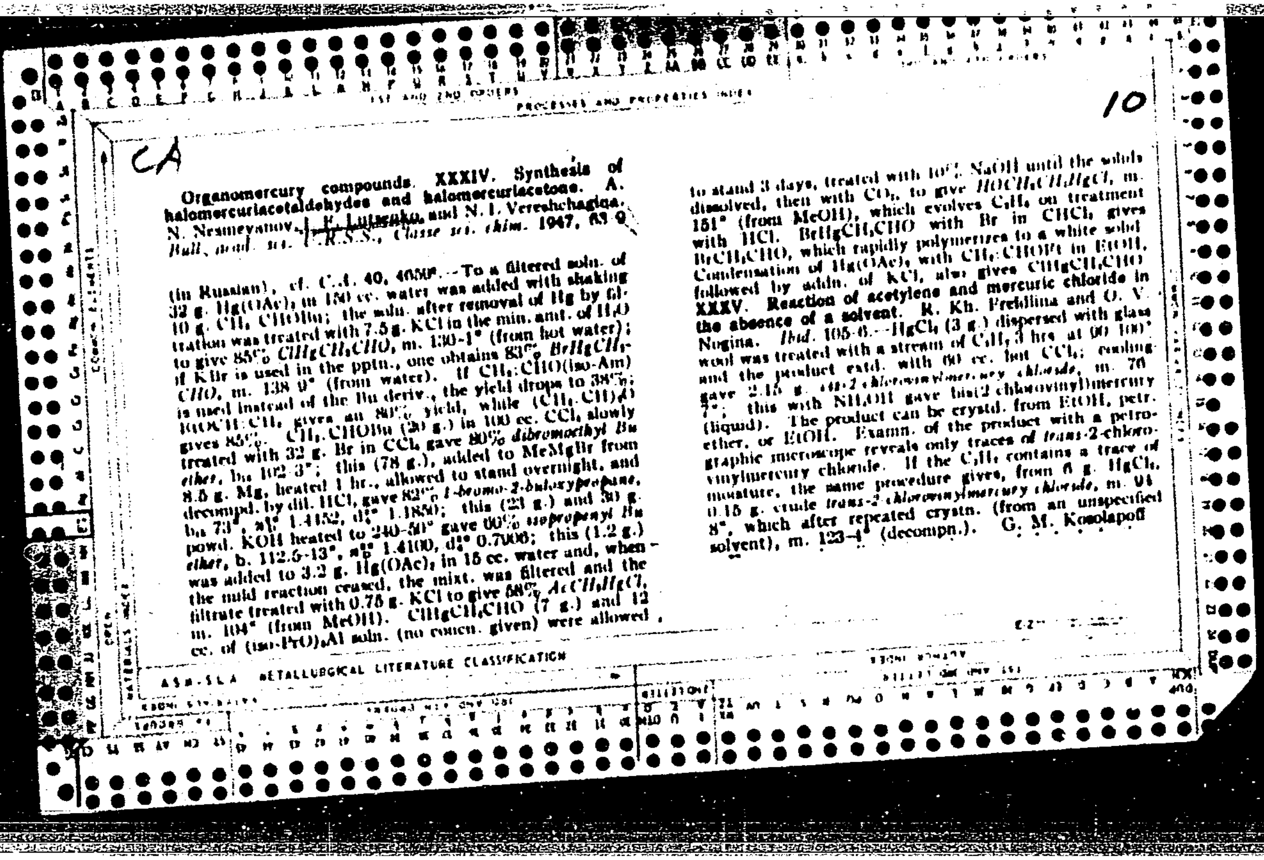
G. M. Kosolapoff

3RD AND 4TH ORDERS

LUTSENKO, I. F.

"On Organometallic Compounds of Mercury, Part 24. The Synthesis of Acetaldehydmercuric Halogenides and Acetonylmercuric Halogenide."

SO: Iz. Ak. Nauk SSSR, Otdel. Khim. Nauk, No. 1, 1947. Moscow State Univ., Chem. Faculty, Chair of Organic Chem., -1947-.



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

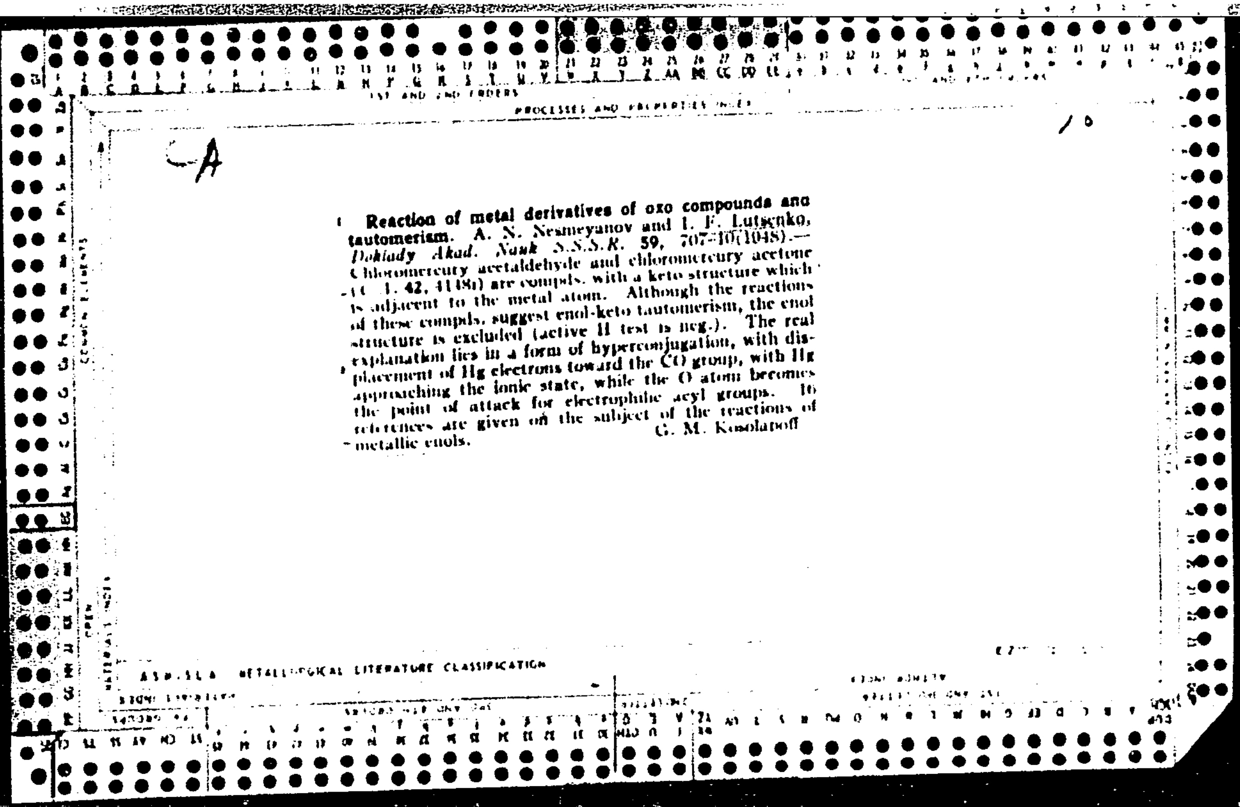
10

CA

Organomercury compounds. XXXIV. Synthesis of halomercuriacetaldehydes and halomercuriacetone. A. N. Nesmeyanov, I. F. Lutsenko, and N. I. Vereshchagina. *Bull. acad. sci. U.R.S.S., Classe sci. chim.* 1947, 63-9 (in Russian); cf. *C.A.* 40, 4050^6.—To a filtered soln. of 32 g. $Hg(OAc)_2$ in 150 cc. water was added with shaking 10 g. CH_2:CHOBu; the soln. after removal of Hg by filtration was treated with 7.5 g. KCl in the min. amt. of H_2O to give 85% *$ClHgCH_2CHO$*, m. 130-1° (from hot water); if KBr is used in the pptn., one obtains 83% *$BrHgCH_2CHO$*, m. 138-9° (from water). If CH_2:CHO(iso-Am) is used instead of the Bu deriv., the yield drops to 38%; BuOCH:CH_2 gives an 80% yield, while $(CH_2:CH)_2O$ gives 85%. CH_2:CHOBu (20 g.) in 100 cc. CCl_4 slowly treated with 32 g. Br in CCl_4 gave 80% *dibromoethyl Bu ether*, b_2 102-3°; this (78 g.), added to MeMgBr from 8.5 g. Mg, heated 1 hr., allowed to stand overnight, and decompd. by dil. HCl, gave 82% *1-bromo-2-butoxypropane*, b_{13} 73°, n_D^{20} 1.4452, d_4^{20} 1.1850; this (23 g.) and 30 g. powd. KOH heated to 240-50° gave 60% *isopropenyl Bu ether*, b. 112.5-13°, n_D^{20} 1.4100, d_4^{20} 0.7906; this (1.2 g.) was added to 3.2 g. $Hg(OAc)_2$ in 15 cc. water and, when the mild reaction ceased, the mixt. was filtered and the filtrate treated with 0.75 g. KCl to give 58% *$AcCH_2HgCl$*, m. 104° (from MeOH). $ClHgCH_2CHO$ (7 g.) and 12 cc. of $(iso-PrO)_3Al$ soln. (no concn. given) were allowed to stand 3 days, treated with 10% NaOH until the solids dissolved, then with CO_2, to give *$HOCH_2CH_2HgCl$*, m. 151° (from MeOH), which evolves C_2H_4 on treatment with HCl. $BrHgCH_2CHO$ with Br in $CHCl_3$ gives $BrCH_2CHO$, which rapidly polymerizes to a white solid. Condensation of $Hg(OAc)_2$ with CH_2:CHOEt in EtOH, followed by addn. of KCl, also gives $ClHgCH_2CHO$.

XXXV. Reaction of acetylene and mercuric chloride in the absence of a solvent. R. Kh. Freidlina and O. V. Nogina. *Ibid.* 105-8.—$HgCl_2$ (3 g.) dispersed with glass wool was treated with a stream of C_2H_2 3 hrs. at 90-100°, and the product extd. with 60 cc. hot CCl_4; cooling gave 2.15 g. *cis-2-chlorovinylmercury chloride*, m. 76-7°; this with NH_4OH gave bis(2-chlorovinyl)mercury (liquid). The product can be crystd. from EtOH, petr. ether, or EtOH. Examn. of the product with a petrographic microscope reveals only traces of *trans*-2-chlorovinylmercury chloride. If the C_2H_2 contains a trace of moisture, the same procedure gives, from 6 g. $HgCl_2$, 0.15 g. crude *trans-2-chlorovinylmercury chloride*, m. 94-8°, which after repeated crystn. (from an unspecified solvent), m. 123-4° (decompn.). G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

10

Reaction of metal derivatives of oxo compounds and
tautomerism. A. N. Nesmeyanov and I. F. Lutsenko.
Doklady Akad. Nauk S.S.S.R. 59, 707-10(1948).—
Chloromercury acetaldehyde and chloromercury acetone
(C. A. 42, 4148i) are compds. with a keto structure which
is adjacent to the metal atom. Although the reactions
of these compds. suggest enol-keto tautomerism, the enol
structure is excluded (active H test is neg.). The real
explanation lies in a form of hyperconjugation, with dis-
placement of Hg electrons toward the CO group, with Hg
approaching the ionic state, while the O atom becomes
the point of attack for electrophilic acyl groups. 16
references are given on the subject of the reactions of
metallic enols. G. M. Kosolapoff

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

LUTSENKO. I. F.

"The Field of Mercury-Organic Compounds. Report XLIV. Preparation of Monohalogenomercury: ketones and Aldehydes over Enolacetates and their S- and O- Alkylation and Acylation."

SO: Iz. Ak. Nauk SSSR, Otdel. Khim Nauk 6, 1949. Moscow State U imeni M. V. Lomonosov. -1949-

cA

Aleksandr Nikolaevich Nesmeyanov. K. A. Kocheshkov, I. F. Lutsenko, and O. A. Reutov. *Uspekhi Khim.* 18, 497-514(1949).—Homage at 50th birthday, with portrait.
N. Thon

1951

LUTSENKO, I. F.

4

USSR :

Preparation of α-mercurated ketones by decarboxylation of mercury salts of α-keto acids. A. N. Nesmeyanov, I. F. Lutsenko, and S. N. Ananchenko. *Uchenye Zapiski Moskov. Gosudarst. Univ. im. M. V. Lomonosova* No. 132, *Org. Khim.* 7, 136-43(1950).—The following new procedure has been developed for the synthesis of α-mercurated ketones. AcCMe$_2$CO$_2$Et (60 g.) was slowly added to 22.5 g. NaOH in 210 ml. H$_2$O, the mixt. shaken 45 min., extd. with Et$_2$O, the aq. layer acidified to Congo red with dil. H$_2$SO$_4$ and extd. again with Et$_2$O, gave on evapn. of the ext. 100% *AcCMe$_2$CO$_2$H*. This (46 g.) added to 115 g. Hg(OAc)$_2$ in 300 ml. H$_2$O gave a ppt. of the Hg salt; the entire mixt. was heated until Hg ion vanished from the soln. The hot soln. was filtered, treated with 26.7 g. KCl in 150 ml. H$_2$O, yielding a ppt. of 74% *AcCMe$_2$HgCl*, m. 124°. To this (16 g.) in 30 ml. pentane was slowly added 4 g. AcCl in 10 ml. pentane and the mixt. heated on steam bath 0.5 hr. at 30°, cooled, filtered, and the filtrate, after washing with 3% NaOH and H$_2$O, was distd. yielding 60% *2-methyl-2-buten-3-ol acetate*, b$_{760}$ 140.5-41°, n_D^{20} 1.4250, d$_{20}$ 0.9134. This (0.2 g.) treated with 0.1 g. 2,4-dinitrophenylhydrazine in 0.2 ml. H$_2$SO$_4$, and 2 ml. EtOH gave the *2,4-dinitrophenylhydrazone of MeCOCHMe$_2$*, m. 117°. AcCMe$_2$HgCl (16 g.) in xylene with 7 g. BzCl in xylene heated 4 hrs. at 50-60°, then 15 min. on a steam bath, cooled, 0.5 ml. pyridine added, filtered, the filtrate washed with 3% NaOH and distd. gave 53% *2-methyl-2-buten-3-ol benzoate*, b$_4$ 105°, n_D^{20} 1.5170, d$_{20}$ 1.0345. Shaking 51 g. AcCMeEtCO$_2$Et with 22 g. KOH in 400 ml. H$_2$O 2 days, followed by the above treatment for the di-Me analog, gave the crude *AcCMeEtCO$_2$H* which was used directly. This (43 g.) added to 80 g. Hg(OAc)$_2$ in 275 ml. H$_2$O and heated at 45-50°, then treated with 18 g. KCl in 50 ml. H$_2$O gave 72% *3-methyl-3-chloromercuri-2-pentanone*, a heavy oil. This treated under C$_6$H$_6$ with AcCl gave 60% mixed *cis-trans* isomers of *3-methyl-2-penten-2-ol acetate*, b$_{40}$ 66-8°, n_D^{20} 1.4200, d$_{20}$ 0.9027. Shaking 36 g. AcCEt$_2$CO$_2$Et with 10 g. NaOH in 150 ml. H$_2$O 6 weeks gave after the usual treatment 40% AcCEt$_2$CO$_2$H. This (12 g.) treated with 20 g. Hg(OAc)$_2$ in 100 ml. H$_2$O and heated as above gave after filtration and treatment with aq. KCl, 58% *3-ethyl-3-chloromercuri-2-pentanone*, m. 77°. This treated in pentane soln. with AcCl gave *3-ethyl-2-penten-2-ol acetate*, b$_{744}$ 169-70°, n_D^{20} 1.4340, d$_{20}$ 0.9019. Shaking 30 g. *Me 2-methylcyclopentanone-2-carboxylate* with 12.5 g. NaOH in 115 ml. H$_2$O 15 min. gave 100% free *acid*, an oil. This treated with aq. Hg(OAc)$_2$ as above gave *2-methyl-2-chloromercuricyclopentanone*, decomp. 123° with liberation of Hg; the compound liberates Hg in sunlight. Keeping Et 2-methylcyclohexanone-2-carboxylate in 10% NaOH 24 hrs. with shaking gave after usual treatment the free acid in the form of a sirup. This with aq. Hg(OAc)$_2$ gave 50% *2-methyl-2-chloromercuricyclohexanone*, m. 128°, which heated with AcCl in C$_6$H$_6$ 1 hr. gave 55% *2-methylcyclohexen-1-ol acetate*, b$_{744}$ 186-7°, n_D^{20} 1.4600, d$_{20}$ 0.9904. Similar reaction with BzCl gave 65% corresponding *benzoate*, b$_2$ 138°, n_D^{20} 1.5370, d$_{20}$ 1.0605. G. M. Kosolapoff

MH 62

NESMEYANOV, A.N., LUTSENKO, I.F., TUMANOVA, Z.M.

Acetates

Preparation of α -mercurated aldehydes and ketones from enolacetates. Uch.zap.Mosk.un., no. 132, 1950.

9. Monthly List of Russian Accessions, Library of Congress, OCTOBER 1952 ~~1953~~. Uncl.

ELDERFIELD, Robert Cooley, 1904- ; **YUR'YEV**, Yu.K., professor [redaktor]
LUTSENKO, I.F.; **REUTOV**, O.A.; **KOCHETKOV**, N.K. [redaktors].

[Heterocyclic compounds] Geterotsiklicheskie soedineniia. Perevod s angliiskogo I.F.Lutsenko, O.A.Reutova, N.K.Kochetkova, pod red. IU.K.IUr'eva. Moskva, Izd-vo inostrannoi lit-ry, 1953- . (MLRA 6:8)
(Heterocyclic compounds)

LUTSENKO, I.F.

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Organic Chemistry

Organomercury compounds. Symmetrization of α-(halomercuri) ketones. A. N. Nesmeyanov, I. F. Lutsenko, and R. M. Khomutov (M. V. Lomonosov State Univ., Moscow). *Doklady Akad. Nauk S.S.S.R.* 88, 837-8 (1953).—Ketones with a HgX grouping are symmetrized into R_2Hg by means of NH_3; dry NH_3 gives poor yields if simply passed into the reaction mixt., but the following technique gave good results at room temp. (heating must be prevented). To 9 g. $AcCH_2HgCl$ in 250 ml. $(CH_2Cl)_2$ was added a soln. of NH_3 in $(CH_2Cl)_2$ until pptn. ceased, ppt. filtered off, washed with fresh solvent, and the soln. evapd., yielding 4.5 g. *diacetonylmercury*, m. 69° (from heptane-C_6H_6). This (0.32 g.) and 0.27 g. $HgCl_2$ heated 10 min. in EtOH gave 0.5 g. $AcCH_2HgCl$, m. 103-4°. Similarly, $BzCH_2HgCl$ and NH_3 in $(CH_2Cl)_2$ gave 80% *$(BzCH_2)_2Hg$*, m. 168°. 2-(Chloromercuri)cyclopentanone similarly gave 70% *bis(2-oxocyclopentyl)mercury*, m. 110-12° (from MePh-octane), which, heated with $HgCl_2$ in EtOH gave, RHgCl, m. 140-50°. Reaction of 2-(Chloromercuri)cyclohexanone with NH_3, as above, gave 65% *bis(2-oxocyclohexyl)mercury*, decomp. 120° (from PhMe-octane). G. M. K.

LUTSENKO, I.F.

ELDERFIELD, Robert, C.; LUTSENKO, I.F. [translator]; KOCHETKOV, N.K., [translator] TOLSTAYA, T.P. [translator]; KONDRAT'YEVA, G.A. [translator]; YUR'YEV, Yu.K., professor, redaktor; SATAROVA, M.V., redaktor; GERASIMOVA, Ye.S., tekhnicheskiy redaktor

[Heterocyclic compounds] Geterotsiklicheskie soedineniia. Perevod s angliiskogo I.F.Lutsenko, i dr. Pod redaktsiei IU.K.IUr'eva. Moskva, Izd-vo inostrannoi lit-ry. Vol.2. 1954. 432 p. (MLRA 7:10)
(Heterocyclic compounds)

ELDERFIELD, R.; KOCHETKOV, N.K.[translator]; LUTSENKO, I.F.[translator]; KONDRAT'YEVA, G.Ya.[translator]; YUR'YEV, Yu.K., professor, redaktor; SHABAROV, Yu.S., redaktor; GERASIMOVA, Ye.S., tekhnicheskiy redaktor

[Hetercocyclic compounds. Translated from the English] Geterotsiklicheskie soedineniia. Pod red. R.El'derfilda. Perevod s angliiskogo N.K.Kochetkova, I.F.Lutsenko, G.IA.Kondrat'evoi. Pod red. IU.K. IUr'eva. Moskva, Izd-vo inostrannoi lit-ry. Vol.3. 1954. 357 p. (MIRA 8:4)
(Heterocyclic compounds)

LUTSENKO, I. F.

USSR/Chemistry - Synthesis

Card 1/1 Pub. 22 - 22/48

Authors : Lutsenko, I. F., and Foss, V. L.

Title : Reaction of ketene acetals with mercury acetate. Derivation of alpha-mercurated carboxylic acid esters.

Periodical : Dok. AN SSSR 98/3, 407-410, Sep 21, 1954

Abstract : The reaction between ketene acetals and mercuric acetate was investigated for the purpose of developing a general method for the synthesis of alpha-mercurated carboxylic acid esters. The physico-chemical properties of products obtained from such a reaction are described. The effect of metal chlorides ($CdCl_2$, $AlCl_3$ and HF), on the polymerization of ketene acetals, is explained. The results obtained, with less reactive chloro-and bromoketene acetals, are listed. Nine references: 5-USA; 2-German and 2-USSR (1900-1953).

Institution : The M. V. Lomonosov State University, Moscow

Presented by: Academician A. N. Nesmeyanov, June 3, 1954

LUTSENKO, I.F.

ELDERFIELD, Robert C.; REUTOV, O.A.,[translator];LUTSENKO, I.F. [translator];KOCHETKOV, N.K.[translator];KONDTRAT'YEVA, G.Ya. [translator];YUR'YEV, Yu.K., professor, redaktor; SHABAROV, Yu.S. redaktor; OGANDZHANOVA, N.A., redaktor; GERASIMOVA,Ye.S., tekhnicheskiy redaktor.

[Heterocyclic compounds.Translated from the English] Geterotsiklicheskie soedineniia. Perevod s angliiskogo O.A.Reutova, i dr. Pod red. Iu.K.Iur'eva. Moskva, Izd-vo inostrannoi lit-ry, Vol. 4. 1955. 538 p. (MLRA 8:11)

(Heterocyclic compounds)

LUTSENKO, I.F.

USSR/Chemistry - Organic chemistry

Card 1/1 Pub. 22 - 24/49

Authors : Lutsenko, I. F., and Khomutov, R. M.

Title : Reaction of HgO with vinyl ethers

Periodical : Dok. AN SSSR 102/1, 97-99, May 1, 1955

Abstract : Two new methods of synthesizing mercury bis-ketones and mercury bis-acetaldehydes are described. The products obtained through the application of the new methods are listed. It was established that the addition of Hg salts to ethylene in an alkali medium leads only to the formation of ethanolmercury hydroxide which does not react with an alkene surplus. It was also found that the reaction between moist HgO and vinyl ethers, which results in direct formation of mercuri-organic compounds, passes an intermediate stage of formation of mercuri-organic hydroxides. Four references: 3 USSR and 1 USA (1947-1953).

Institution : The Moscow State University im. M. V. Lomonosov

Presented by : Academician A. N. Nesmeyanov, December 20, 1954

Name: LUTSENKO, Ivan Fomich

Dissertation: Studies in the Field of Mercuro-Organic Derivatives of Aldehydes, Ketones, and Complex Esters of Carbonic Acids

Degree: Doc Chem Sci

Affiliation: [Not indicated]

Defense Date, Place: 21 Jun 56, Council of Moscow Order of Lenin and Order of Labor Red Banner State U imeni Lomonosov

Certification Date: 29 Sep 56

Source: BMVO 6/57

Lutsenko, I. P.

6000

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Chem

Reactions of organomercury bases with unsaturated compounds. I. P. Lutsenko and E. I. Yurkova (M. V. Lomonosov State Univ., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1956, 27–31; *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* 1956, 25–9 (Engl. translation).—To a filtered soln. of 3 g. PhHgOH in 140 ml. MeOH was added 2 g. EtOCH:CH_2 and the soln. was concd. on the following day, yielding 94% Ph_2Hg and a residual oil, which heated with $HgCl_2$ gave PhHgCl. The residual soln. was evapd. yielding $ClHgCH_2CHO$, m. 128–9°, in 73% yield. Similar reaction of 6 g. PhHgOH with 4 g. EtOCH:CH_2 gave 100% Ph_2Hg; the residual oil was dild. with EtOH, treated with a drop of concd. HCl, heated to boiling, filtered, and allowed to stand yielding 66% $Hg(CH_2CHO)_2$, m. 92–3°. Similarly, PhHgOH and BuOCH:CH_2 gave 94% Ph_2Hg and 75% $Hg(CH_2CHO)_2$; iso-PrOCH:CH_2 gave the same result. EtOCH:CH_2 and p-MeC_6H_4HgOH gave 90% (p-$MeC_6H_4)_2$Hg, m. 237–8°, and $Hg(CH_2CHO)_2$. BuOCH:CH_2 gave the same result. To 5 g. PhHgCl in MeOH was added 26.5 ml. 40% KOH in MeOH, the mixt. boiled 0.5 hr., cooled, filtered, and treated with 2 g. EtOCH:CH_2 to give on the following day by concn. 92% Ph_2Hg. Similarly was prepd. 95.6% (p-$MeC_6H_4)_2$Hg. To 1 g. PhHgOH in 50 ml. MeOH was added 1 g. EtOCMe:CH_2, yielding, as above, 100% Ph_2Hg and 45% $(AcCH_2)_2Hg$, m. 67–8°. Addn. of 3 g. PhHgOH to 3 g. CH_2:$C(OEt)_2$ gave an exothermic effect; on the following day the polymer was removed by diln. with Et_2O, and the filtrate concd. yielding 88% Ph_2Hg; the residual liquid was freed of Et_2O *in vacuo*, dild. with MeOH, and treated with 1.6 g. $HgCl_2$ in 20 ml. EtOH, yielding PhHgCl. The oily residue treated with $CHCl_3$ and extd. with Me_2CO gave $ClHgCH_2CO_2Et$, m. 64–6°. G. M. Kosolapoff

Lutsenko, I. F.

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Chem 3

Addition of salts of mercury to vinyl ethers. Preparation of mercurated acylals. I. F. Lutsenko, R. M. Khomutov, and L. V. Eliseeva (M. V. Lomonosov State Univ., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1956, 181-6; *Bull. Acad. Sci. U.S.S.R. Div. Chem. Sci.* 1956, 173-7 (Engl. translation).—Addn. of 10 ml Et_2O to 3.2 g $Hg(OAc)_2$, followed by addn. with cooling of 0.72 g $EtOCH:CH_2$ gave on cooling 92.3% $AcOHgCH_2CH(OEt)OAc$ (I), m. 38-9°. Similarly was obtained 91.7% $AcOHgCH_2CH(OMe)OAc$, m. 48-9° (from Me_2CO), 100% $AcOHgCH_2CH(OCHMe_2)OAc$, and 100% $AcOHgCH_2CH(OBu)OAc$, the latter two being viscous oils. Similarly was prepd. 83.1% $AcOHgCH_2CH(OPh)OAc$, m. 96-7°. I treated with aq. KCl gave 100% $ClHgCH_2CHO$, m. 128-9°. I and NaI in dry cyclohexanone, with cooling, gave 48.6% $EtOCH:CH_2$. I and AcCl in Et_2O gave 56.6% Ac_2O and polymer of $EtOCH:CH_2$. I and $(EtO)_3P$ gave Hg and $EtOCH:CH_2$ (70%), along with 86.6% EtOAc. $(EtO)_3P$ and $Hg(OAc)_2$ gave Hg and 54.5% EtOAc. Bromination of I in CCl_4 gave 54% $BrCH_2CH(OEt)OAc$, b_{11} 77-9°, n_D^{20} 1.4415, d_{20} 1.3610. Similarly was prepd. 55.6% $BrCH_2CH(OCHMe_2)OAc$, b_5 58°, 1.4457, 1.3240, and 43.5% $BrCH_2CH(OBu)OAc$, b_5 69-72°, 1.4445, 1.2872. G. M. Kosolapoff

LUTSENKO, I.F., KHOMUTOV, R.M., and YELISEYEVA, L.V.

Addition of Mercury Salts to Vinyl Ethers , Preparation of Mercurated Acylals.

Iz. Ak. Nauk SSSR. Otdel Khim
Nauk, No. 2, 1956, pp 173

Translation 564938C

LUTSENKO I.F.

TOPCHIYEVA, K.V.; PESHKOVA, V.M.; SHAKHOVA, Z.F.; ALIMARIN, I.P.; NOVOSELOVA, A.V.; SPITSYN, V.I.; LUTSENKO, I.F.; GERASIMOV, Ya.I.; NESMEYANOV, A.N.; TERENT'YEV, A.P.; POTAPOV, V.M.; GIBALO, I.M.

E.S. Przheval'skii; obituary. Vest. Mosk. un. Ser. mat. mekh., astron., fiz., khim. 11 no.2:205-207 '56. (MIRA 10:12)
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Lutsenko, I.F

Distr: 4E4j/4E2c(j)

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Addition of salts of mercury to vinyl ethers and esters in alcoholic medium. A. N. Nesmeyanov, I. F. Lutsenko, and R. M. Khomutov (M. V. Lomonosov State Univ., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1957, 942–8; cf. *C.A.* 42, 4148*i*.—To 15.9 g. $Hg(OAc)_2$ in 20 ml. abs. EtOH was added 7.5 g. $EtOCH:CH_2$ followed by gradual addn. of 10.8 g. yellow HgO and pouring the mixt. into aq. KCl which gave a heavy oil of $ClHgCH_2CH(OEt)_2$ (I). Similarly was prepd. 70% $BrHgCH_2CH(OBu)_2$. Kept in aq. EtOH contg. a little H_2SO_4 the latter gave $BrHgCH_2CHO$, m. 138°. Similarly, 4.8 g. $Hg(OAc)_2$, 9 g. $CH_2:CHOAc$, and 18.4 g. HgO in EtOH with addition of KCl gave 70% $ClHgCH_2CH(OEt)_2$; this in acidified H_2O gave 92% $ClHgCH_2CHO$, m. 129–30°. Heating 1.6 g. $(AcNH)_2Hg$, 1.2 g. $PhOCH:CH_2$, 1 g. PhOH, and 5 ml. $(CH_2Cl)_2$ to soln. and keeping 1 day gave after addn. of Et_2O and cooling 87% $AcNHHgCH_2CH(OPh)_2$, m. 107–9°, which heated with $Hg(OAc)_2$ in EtOH gave 100% $AcOHgCH_2CH(OPh)_2$, m. 101–2°. Bromination of I in cold $CHCl_3$ gave 80% $BrCH_2CH(OEt)_2$; similarly formed 95% $BrCH_2CH(OBu)_2$. $ClHgCH_2CH(OMe)_2$ with KI in EtOH gave $MeOCH:CH_2$ and $ClHgCH_2CHO$. I with BzCl in pyridine gave 35% $EtOCH:CH_2$. Shaking 6.4 g. yellow HgO with 4 g. $EtOCH:CH_2$, 15 ml. abs. EtOH, and 15 g. $Hg(OAc)_2$ gave 80% $(EtO)_2CHCH_2HgCH_2CH(OH)OEt$, an oil, which brominated in $CHCl_3$ in the cold gave 60% $BrCH_2CHO$ and 71% $BrCH_2CH(OEt)_2$. To 108 g. yellow HgO, 4 g. $Hg(OAc)_2$, and 70 ml. abs. MeOH was added with cooling 110 g. $BuOCH:CH_2$ and the resulting soln. treated with Et_2O yielding on addn. of 15 ml. 0.1*N* H_2SO_4 84% $Hg(CH_2CHO)_2$, m. 92–4°.

G. M. Kosolapoff

LUTSENKO, I. F.

79-2-49/58

AUTHORS: Lutsenko, I. F. and Tyuleneva, V. V.

TITLE: Reduction of Mercurated Amides of Carboxylic Acids with Phosphorous Acid Esters (Vosstanovleniye merkurirovannykh karbonovykh kislot efirami fosforistoy kisloty)

PERIODICAL: Zhurnal Obshchey Khimii, 1957, vol 27, No 2, pp. 497-499 (U.S.S.R.)

ABSTRACT: The results obtained during the reaction of trialkylphosphites with mercurated carboxylic acid amides are described. It was found that this reaction leads to a quantitative separation of metallic mercury and formation of carboxylic acid amides and nitriles as well as phosphoric acid esters. The amide radical doesnot become alkylated in this case. Instead of the alkylated amide, the authors obtained good yields of trialkylphosphate and carboxylic acid amides and nitriles. It was observed that the reaction between the mercurated carboxylic acid amide and trialkylphosphite is accompanied by considerable heat liberation. Five minutes' boiling of the reaction mixture resulted in complete separation of the metallic mercury. The trialkoxyphosphazoacyls forming after the separation of the carboxylic acid amide molecule experience

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79-2-49/58

Reduction of Mercurated Amides of Carboxylic Acids with Phosphorous Acid Esters

further decomposition into trialkylphosphate and carboxylic acid nitrile. It is pointed out that the reaction passes through an intermediate stage with the formation of acylimidophosphoric acid esters, which are thermally unstable.

There are 6 references, of which 3 are Slavic

ASSOCIATION: Moscow State University

PRESENTED BY:

SUBMITTED: March 13, 1956

AVAILABLE: Library of Congress

Card 2/2

AUTHORS: Lutsenko, I. F., Badenkova, L. P. and Foss, V. L. 79-12-18/43

TITLE: Reaction of α-Alkoxyakrylnitriles with Mercury Acetate (Vzaimodeystviye α- alkoksiakrilonitrilov s uksusnokisloy rtut'yu).
The Synthesis of Esters of Monomercury Acetate (Polucheniye efirov monomerkurirovannoy uksusnoy kisloty).

PERIODICAL: Zhurnal Obshchey Khimii 1957, Vol. 27, Nr 12, pp. 3261-3264 (USSR)

ABSTRACT: The acetales of ketene ($CH_2=C=0$) which show highly active double bond do not produce monomercury esters on the occasion of reaction with mercury acetate. It was interest to investigate whether such esters can be obtained by action of mercury acetate on α- alkoxyacrylustriles ($CH_2=C(OR)CN$). In these compounds to be regarded as acetales of ketene with which one alkoxygroup is substituted by the nitrile group the double bond is considerably weakened in comparison with the acetales of ketene and even with the simple vinylesters. While vinylbutylesters with mercury acetate reacts strongly, the reaction with α- butooxyakrylnitrile takes several hours. The connection of the mercury acetate to the α- alkoxyakrylnitriles is interesting also because it is a "competing orientation

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Reaction of -Alkoxyakrylnitriles with Mercury Acetate. 79-12-18/43
The Synthesis of Esters of Monomercury Acetate.

of addition" in the aliphatic order which is very little investigated. On the basis of the knowledge on this orientation in the aromatic series it could have been exspected that the direction of addition will be determined by the alkoxy-group and that a mercury atom will thus bind with the CH_2 -group of the α - alkoxyakrylnitrile. The organic compound of mercury occurring as intermediate product with three different substituents in one carbon atom continues its decay which leads to the ester of monomercuryacetate (see formula). Methyl-, ethyl-, propyl-, and butylesters of the monomercuryacetate were synthesizes in this way. These compounds are precipitated from the methylalcoholic solutions as crystals and show distinctive melting point.
There are 1 table, and two references, 1 of which is Slavic.

SUBMITTED: November 28, 1956

AVAILABLE: Library of Congress

1. Esters - Synthesis 2. α-alkoxyakrylnitriles - Chemical reactions 3. Mercury acetate - Chemical reactions 4. Cyclic compounds - Chemical reactions

Card 2/2

SOV/20-120-5-33/67

AUTHORS: Nesmeyanov, A. N., Member, Academy of Sciences, USSR,
Lutsenko, I. F., Khomutov, R. M.

TITLE: The Production of Metallic Derivatives of Vinyl Alcohol
(Polucheniye metallicheskikh proizvodnykh vinilovogo spirta)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 5, pp.1049-1051
(USSR)

ABSTRACT: The most interesting characteristic feature of the α-monomercurated carbonyl compounds is their capacity of reacting in two directions (with respect to C and to O) and of forming 2 series of derivatives. In the first case the reaction products correspond to a direct substitution of the Hg-atom, in the second case the reaction center of the molecule is transferred since the Hg-C and C-O bonds are well developed (Refs 1-4). In the present paper the authors report on a new group of reactions investigated by them in which the reaction center is transferred as well. These reactions make possible an easy transition from C-metal derivatives of carbonyl compounds to their O-metal derivatives, especially the metal derivatives of the most simple enol - of vinyl alcohol. In order to ob-

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The Production of Metallic Derivatives of Vinyl Alcohol SOV/20-120-5-33/67

tain lithium- and sodium vinylates the authors carried out experiments with the dissociation of the monomercurated acetaldehyde by means of metallic lithium and sodium into benzene and toluene which, however, failed. The authors succeeded, however, in obtaining the two vinylates in the individual state by means of the dissociation of the Hg-C bond of the aldehyde- and ketone mercury derivatives by alkali metal solutions in liquid ammonia. The obtained compounds are colorless crystalline substances. Lithium vinylate is soluble in ether and benzene, sodium vinylate, however, is not. The simple methods of synthesis of mercury-bis-acetaldehyde (Ref 5) worked out by the authors and a slight dissociation of the latter by alkali metals in liquid ammonia rendered accessible the hitherto not described most simple metal enolates. At present the authors are of the opinion that the dissociation of the Hg-C bond during an experiment in which the aldehyde- and ketone mercury salts were symmetrized by means of various complex formers passes an intermediate stage of the enolate formation. This enolate may be easily hydrolyzed in a water medium, when aldehyde or ketone, respectively, is split off.

Card 2/3

The Production of Metallic Derivatives of Vinyl Alcohol [illegible]-5-34/67

The Hg- acetate is dissolved in the ethers of the mercurated carboxylic acids under analogous conditions, even with potassium chloride. In order to isolate the metal derivatives of vinyl alcohol by means of an exchange reaction of the mercury halide with halogen [illegible] acetaldehyde the authors eliminated the water [illegible]. They carried out the reaction between anhydrous ferric chloride and mercury chloride acetaldehyde in dry acetone. The composition and the structure of the ferric vinylate oxychloride CH_2-CHOFe(OH)Cl obtained was proved by analyses and ozonizing. There are 10 references, 7 of which are Soviet.

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

SUBMITTED: March 7, 1958

1. Alcohols (Polymerized)--Chemical reactions 2. Vinyl compounds --Chemical reactions 3. Vinyl compounds--Synthesis 4. Alkali metals--Chemical reactions

Card 3/3

TITLE: Polyvinyl Alcohol

5 (3)
AUTHORS: Lutsenko, I. F., Sivkova, R. I. SOV/79-29-4-39/77

TITLE: **Preparation of** Monomercurized Ketones From Alkenes (Polucheniye monomerkurirovannykh ketonov iz alkenov)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1182-1183 (USSR)

ABSTRACT: The methods of synthesizing monomercurized aldehydes and ketones (Refs 1-8) devised in the last ye**ars has made these** compounds **acce**ssible and permitted the investigation of their properties. The addition of minute quantities of alkali liquor to the solution of organo-mercury aldehyde or -ketone leads to the irreversible formation of an amorphous, unsoluble product. This explains why I. Sand and C. Genssler (Ref 3) were not able to separate the mercurized acetone, the oxidation product of the mercurized isopropyl alcohol. The synthesis of monomercurized ketones by oxidation with permanganate of the easily accessible products of the affiliation of mercury salts onto the olefin bond was methodically devised. For the purpose of neutralizing the resulting alkali some acetic acid was added in advance. By the method suggested the following monomercurized ketones were

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Preparation of Monomercurized Ketones From Alkenes SOV/79-29-4-30/77

obtained deriving from propylene, pentene-1, hexene-1, heptene-1, octene-1, and styrene: acetone, methyl-propyl ketone, methyl-butyl ketone, methyl-amyl ketone, methyl-hexyl ketone and acetophenone (yields 50-60 %, Table). Monomercurized alcohols were obtained by the affiliation of mercury salts on to the alkenes and not specially separated from the reaction mass. The melting points are lower by 1-2° than those described in publications, which can be explained by the minute impurity of the mercurized alcohol that was not completely oxidized. There are 1 table and 8 references, 6 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: March 17, 1958

Card 2/2

SOV/79-29-9-2/76

5(3)

AUTHORS: Nesmeyanov, A. N., Lutsenko, I. F., Khomutov, R. M., Dubovitskiy, V. A.

TITLE: Vinyl Esters of Sulfonic Acids

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 9, pp 2817 - 282o (USSR)

ABSTRACT: To synthesize the vinyl esters of various carboxylic acids the authors made use of the reaction of acid halides of carboxylic acids with halogenomercury acetaldehyde or halogeno mercury ketones, the only reaction products being the acetates of the enol forms of oxo compounds (Refs 1,2). The said reaction did not always exhibit the same character: thus, for example, the chloro carbonic acid ester, the acid chlorides of sulfonic acids, and silicon tetrachloride did not react with the halogeno mercury oxo compounds. Mercury bisacetaldehyde $Hg(CH_2CHO)_2$ (Ref 3) synthesized by the authors, proved to be more reactive as compared with the above aldehyde: this permitted the acid chlorides of the sulfonic acids to be introduced into the reaction according to the following

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scheme:

$$RSO_2Cl+Hg(CH_2CHO)_2 \longrightarrow RSO_2OCH{=\!=}CH_2+ClHgCH_2CHO.$$

Chloro mercury acetaldehyde did not react any more. Mercury bisketones reacted in the same manner. To prevent the vinyl ester of sulfonic acid from polymerizing, pyridine must be added, and the mercury salts must be removed from the reaction solution. By complying with these prudential measures, the vinyl esters of methane- and ethane sulfonic acid were obtained in yields of 45 or 47%. The yields of vinyl esters of benzene- and p-toluene sulfonic acid amounted to 7o and 75% correspondingly. Reaction of thionyl chloride with mercury bisacetaldehyde yielded divinyl sulfite (45%); when applying sulfuryl chloride it cleaved and developed SO_2, without any resulting divinyl sulfate. Reaction of vinyl ester of benzene sulfonic acid with benzoyl chloride according to A. Sieglitz and O. Horn (Ref 4) gave a high yield of β,β-dichloropropiophenone according to the suggested scheme 2. The intermediate product α-chloro-β-benzoyl ethyl-p-toluene sulfonate separated by this reaction was completely transferred into β,β-dichloro propiophenone with the equivalent amount $AlCl_3$; this confirms the above reaction course. There are 4 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

SUBMITTED: January 8, 1959

5(2,3)

AUTHORS: Nesmeyanov, A. N., Academician SOV/20-124-5-31/62
Lutsenko, I. F., Ponomarev, S. V.

TITLE: Production of Ketones Having a Tin Atom in α-Position Relative to the Carbonyl Group (Polucheniye ketonov, soderzhashchikh atom olova v α-polozhenii k karbonil'noy gruppe)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 5, pp 1073-1075 (USSR)

ABSTRACT: The authors have continued their investigation of the simplest metal enolates (Ref 1) and have attempted to produce them by an exchange reaction between the metal alcoholates and the acetates of the enol forms. The present paper sets forth the investigation results of the interaction of the enol acetates with the trialkyl methoxy-stannates. When equivalent amounts of R_3SnOCH_3 and enol acetate are poured together the reaction mixture will show a moderate temperature rise and alkyl acetate (quantitatively) and tin-organic compounds (yield 70-95 %) can be distilled from it. These latter, however, are no trialkyl tin-enolates but their isomeric α-metallized ketones. The question whether the tin-organic compound which has been formed from isopropenyl acetate and R_3SnOCH_3 has a ketone or

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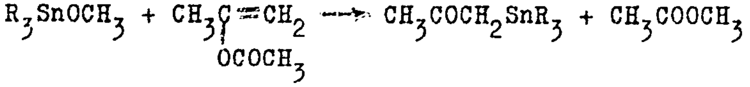
Production of Ketones Having a Tin Atom in α-Position SOV/20-124-5-31/62
Relative to the Carbonyl Group

enol structure can be answered with the aid of the infrared and Raman spectra, in two ranges (1,600-1,700 and $\sim$3,000 cm^{-1}) (this has been found with the assistance of B. V. Lokshin, Mrs. L. A. Kazitsyna, and Mrs. Ye. G. Treshchova). It has been found that the reaction between R_3SnOCH_3 and the enol acetates proceeds according to the following equation:



$$R_3SnOCH_3 + CH_3\underset{OCOCH_3}{\underset{|}{C}}{=}CH_2 \longrightarrow CH_3COCH_2SnR_3 + CH_3COOCH_3$$

It can be formally considered an attachment of a tin compound to the double bond. The constants, yields, and analyses are shown in table 1. This new class of organometallic ketones having a tin atom in α-position is clearly distinguished from ketones having an R_3Sn group in β-position (Ref 2). There are 1 table and 3 references, 1 of which is Soviet.

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

SUBMITTED: November 25, 1958

Card 2/2

5(3)

SOV/20-124-6-19/55

AUTHORS: Nesmeyanov, A. N., Academician, Lutsenko, I. F., Krayts, Z. S., Bokovoy, A. P.

TITLE: The Vinyl Esters of Phosphorous Acid (Vinilovyye efiry fosforistoy kisloty)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 6, pp 1251 - 1254 (USSR)

ABSTRACT:

The known representatives of the unsaturated esters of phosphorous acid, which are not numerous, are compounds of the allyl series (Refs 1,2). As far as the general methods of synthesis of these esters cannot be used for the production of the acid mentioned in the title not one representative of vinyl esters of this acid is known. In order to be able to investigate the conditions and the isomerization direction the authors have produced both, compounds of the series $(RO)_2POCH = CH_2$ and $ROP(OCH= CH_2)_2$ and trivinyl phosphate. For this purpose they used the acylation reaction of α—monomercurized oxo-compounds (Ref 3) which as it is known proceeds by transfer of the reaction center. Although chloro-mercuri

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acetaldehyde reacts with diethyl-chloro phosphite already in the cold, the yields in vinyl esters are very small since it is a well-known fact that esters of phosphorous acid react with sublimate (Ref 4). In oder to avoid this difficulty the authors carried out a reaction of diethyl-chloro phosphite with mercuri bisacetaldehyde in isopentane. The reaction was, however, not carried out until the formation of the sublimate but only until the formation of chloro-mercuri acetaldehyde. In this connection dialkyl vinyl phosphite was obtained in a yield of about 40%. It was of advantage to add not more than 0.1 mole of the mercury-organic compound and the amine into the reaction vessel at once. After the addition of an equivalent amount of chlorine phosphite the next portion of the two substances initially mentioned is added. In connection with the synthesis of alkyl vinyl phosphite from Menshutkin chloric anhydride and mercuri bisacetaldehyde already at the beginning of the reaction a strong polymerization takes place. This polymerization can be suppressed by the addition of an equivalent quantity of bases and the alkyl divinyl esters may be obtained in a 5o-60% yield. The interaction of dialkyl-chloro

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The Vinyl Esters of Phosphorous Acid SOV/20-124-6-19/55

phosphite with mercuri bisacetaldehyde in the presence of a base leads to still higher yields in dialkyl vinyl phosphites (60-70%). In all cases triethyl amine was used as base, except for the case of methyl derivatives for the synthesis of which diethyl aniline was used. Trivinyl phosphite was produced from phosphorus trichloride in a similar way. Finally, the properties and reactions of vinyl phosphites are described. An experimental part gives the usual data. There are 1 table and 4 Soviet references.

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

SUBMITTED: November 25, 1958

Card 3/3

5 (2)

SOV/20-127-1-30/65

AUTHORS: Nesmeyanov, A. N., Academician, Kazitsyna, L. A., Lutsenko, I. F., Rudenko G. A.

TITLE: A Spectroscopic Investigation of α-Metalated Aldehydes and Ketones and Lithium Vinylate (Spektroskopicheskoye issledovaniye α-metallirovannykh al'degidov i ketonov i vinilata litiya)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 127, Nr 1, pp 115 - 116 (USSR)

ABSTRACT: The α-mercurized aldehydes and ketones are able to react in two ways (at C and O) and to form two series of derivatives (Refs 1-3). Either compounds are formed by the direct substitution of an Hg-atom (reaction with triphenyl-chloro-methane), or (as e.g. in the case of the reaction with acid halides) the reaction center shifts in consequence of a distinctly marked conjugation of the $Hg-C$ and $C=O$ bonds (σ - π - conjugation). The above-mentioned conjugation is distinctly marked in the substances mentioned in the title due to the presence of a metal atom with comparatively high polarizability (Hg, Sn). Changes in the absorption bands of the carbonyl group of these

Card 1/3

compounds in the oscillation- and electron spectra can therefore be expected. The authors investigated the ultraviolet- and infrared spectra of eight mercurized carbonyl compounds and of two ketones which contain Sn-atoms in α-position to the C=O group. Table 1 shows that the frequencies of the carbonyl group in the infrared spectrum are in fact considerably shifted under the influence of the Hg-atom (Ref 4). Table 2 shows the absorption maxima of the same compounds in the ultraviolet light, furthermore, those of acetaldehyde, isobutyric aldehyde, and acetone for comparison. An intense absorption band within the range (280-300 mμ) occurred in these spectra of the Hg- and Sn-derivatives of the oxo-compounds, which is characteristic of carbonyl compounds; intensity increased by 200-300 times. The above-mentioned data confirms again the existence of an σ-π-conjunction in the compounds mentioned as can be proved as well by several chemical reactions. Furthermore, the ultraviolet- and infrared spectra of a very simple metal enolate were investigated, the structure of which is isomeric to that of $RCOCH_2Me$ (1). Lithium vinylate (Ref 6) was investigated. Absorption bands of the carbonyl group lacked here completely. A moderately intense band which corresponded to the C═C double bond was, however, found to occur in the infrared spectrum at 1610 cm^{-1}. It was considerably shifted due to metal influence, which is well in line with the shifting of the double bond conjugated with a phenyl- or carbonyl group (Ref 4). This confirms earlier conclusions concerning the C-structure of the organomercury compounds obtained by the addition of Hg acetate to ether and ester as well as concerning the O-structure of the cleavage product of mercury-bis-acetaldehyde by alkali metals. There are 2 tables and 6 Soviet references.

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

SUBMITTED: April 20, 1959

5 (3)

AUTHORS: Lutsenko, I. F., Kirilov, M. SOV/20-128-1-23/58

TITLE: Phosphorylated Chlorovinyl Ketones. Production of Phosphorylated Chlorovinyl Ketones From Vinyl Acetate and Isopropenyl Acetate

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 1, pp 89-91 (USSR)

ABSTRACT: The present paper gives the results obtained by investigation of the reaction of phosphorus pentachloride with enol acetates - vinyl acetates and isopropenyl acetates. By means of this reaction which readily takes place, the first representatives of a new group of phosphor-organic compounds - the phosphorylated β-chlorovinylketones - were obtained. The following were prepared: α-acetyl-β,β-dichloro ethyl phosphinic acid chloride, diethyl ester of the α-acetyl-β,β-dichloro ethyl phosphinic acid in the presence of a base and pyridine, diethyl ester of the α-acetyl-β-chlorovinyl phosphinic acid, α-acetyl-β-chloro propenyl phosphinic acid chloride, and diethyl ester of the α-acetyl-β-chloropropenyl phosphinic acid. The newly obtained kinds of phosphoric-organic compounds will be used for various syntheses characteristic of β-chlorovinyl ketones. In the first place, however, they will be employed for the production of phosphorylated heterocyclic compounds of the pyrazole-,

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Phosphorylated Chlorovinyl Ketones. Production of SOV/20-128-1-23/58
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isoxazole-, and pyridine series.

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

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AUTHORS: Nesmeyanov, A. N., Academician, Lutsenko, I. F., Brattsev, V. A.

TITLE: Vinyloxysilanes

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 3, pp 551-554 (USSR)

ABSTRACT: At the 2nd All-Union Conference on the Practical Application of Organo-silicon Compounds (1958), S. I. Sadykh-Zade and A. D. Petrov (Ref 1), as well as N.P. Kharitonov, B.N. Dolgov and Yu.I. Khudobin (Ref 1) reported on their methods of synthesizing siliceous vinyl ethers, in which one silicon atom is directly bound to the ether oxygen. They had been unknown up to that time. All of the 4 investigators mentioned think that the reaction in their synthesizing methods between R_3SiH and enol proceeds according to the scheme:

$R_3SiH + R'C(OH)=R'' \longrightarrow R''=C(R')OSiR_3+H_2$. Both the first and second groups of investigators only obtained monovinyl ether. In principle, the simplest vinyloxysilanes $R_3SiOCH=CH_2$ cannot be produced either by the 1st or the 2nd method. The large difference in the boiling temperatures of the isomeric compounds produced by these two methods is striking. For the production

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Vinyloxysilanes

of vinyl esters of the type under discussion, the authors used the reaction of mercurated aldehydes and ketones with chlorosilanes. In hydrocarbon media, it only proceeds with complete organo-mercuric derivatives of aldehydes and ketones, and ends with the stage of organo-mercuric salt. The said ethers are formed in yields from 70 to 90%. The method suggested facilitates the binding of 1 to 4 vinyloxy groups to one silicon atom. The vinyloxysilanes polymerize in storing. Their constants, yields and analytical data are shown in table 1. The infrared and ultraviolet spectra recorded confirmed the structure of the ethers. A reaction variant was found: in the presence of pyridine, the organo-mercuric salts of the oxo compounds also undergo the reaction (see Diagram). Not the triethylchlorosilane, but its complex reacts here with pyridine (see Diagram). This variant makes it possible to use various chloromercuric aldehydes and ketones in the synthesis of vinyloxysilanes. These initial substances are much better accessible than complete Hg-derivatives. Compounds with various numbers of vinyloxy groups can also be obtained. In this way, the authors synthesized tetra-(isopropenyloxy)-silane. The triethyl-isopropenyloxysilane synthesized by the authors has approximately the same constants as the isomeric compound ob-

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tained by Sadykh-Zade and Petrov (Ref 1), but is different from the substance described by Kharitonov, Dolgov, and Khudobin. There are 1 table and 3 Soviet references.

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

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