MAKEYEV, O.V.; NOGINA, N.A.

Classification and identification of soils in Central and Eastern Siberia. Krat.soob. BKNII no.3:65-72 '62. (MIRA 16:5)
(Siberia--Soils--Classification)

ALEKSANDROVA, I.V.; DIMO, V.N.; MURATOVA, V.S.; NOGINA, N.A.;
PRESNYAKOVA, G.A.; RAZORENOVA, N.A.; TSERLING, V.V.; SHKONDE, E.I.

Second Congress of Soil Science Delegates. Pochvovedenie no.1:93-102 Ja '63. (MIRA 16:2)

(Soil research—Congresses)

NOGINA, Nina Alekseyevna; IVANOVA, Ye.N., doktor sel'khoz. nauk, otv. red.

[Soils of Transbaikalia] Pochvy Zabaikal'ia. Moskva, Izd-vo "Nauka," 1964. 312 p. (MIRA 17:10)

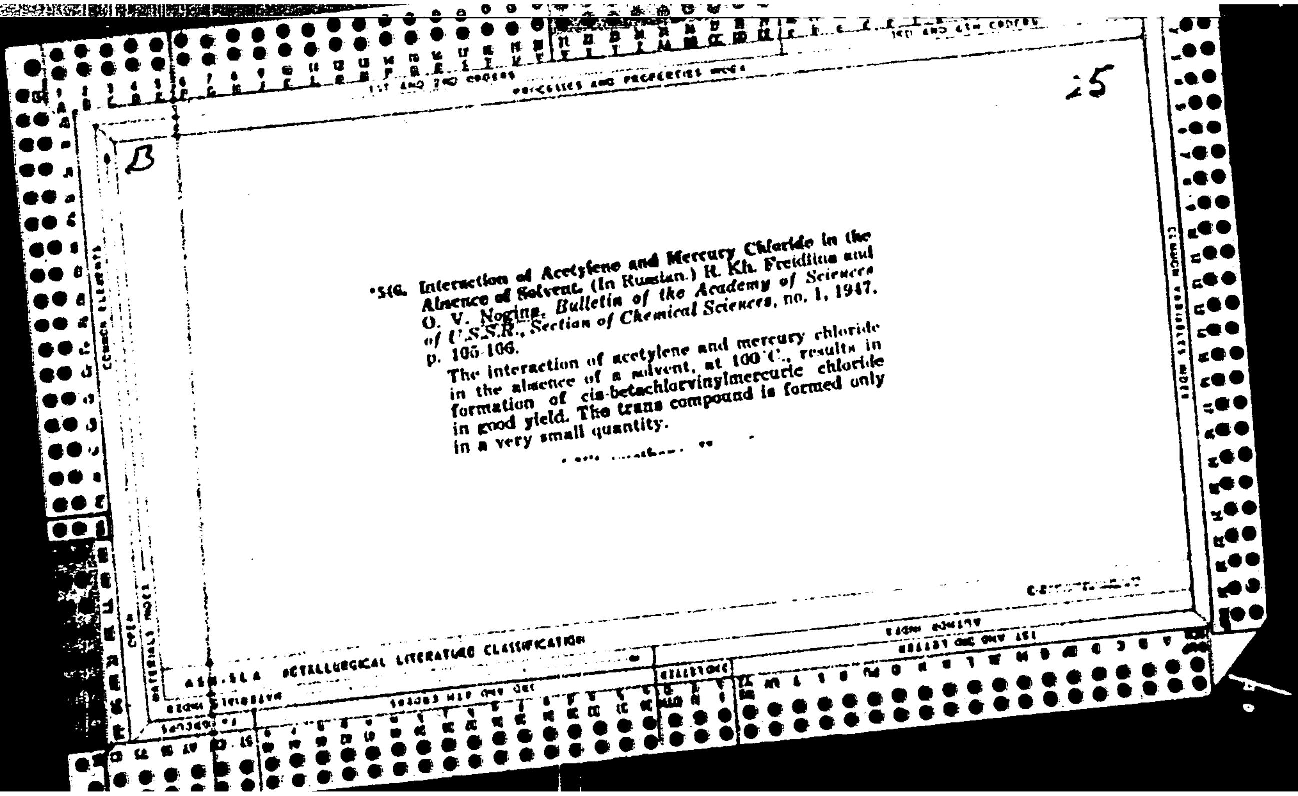
BARTEL'S, A.V.; GRANAT, N.Ye.; NOGINA, O.P.; SALGANNIK, G.M. [deceased]; SMIRNOV, G.I.; STEPANOV, L.G.; KHANOVA, T.M., red.; YANKELEVICH, Ye.I., red.; GABERLAND, M.I., tekhn.red.

[Lecture course for pregnant women] Kurs lektsii dlia beremennykh zhenshchin. Pod red. L.G.Stepanova. Izd.3. Moskva, Medgiz, 1959. 231 p. (MIRA 12:8)

1. Nauchno-issledovatel'skiy institut akusherstva i ginekologii Ministerstva zdravookhraneniya RSFSR (for all except Khanova, Yankelevich, Gaberland). 2. Direktor Nauchno-issledovatel'skogo instituta akusherstva i ginekologii Ministerstva zdravookhraneniya RSFSR (for Stepanov).
(PRENATAL CARE)

BERKOVITS, Rozaliya Naumovna, kand.med.nauk; EYGES, Nadezhda Romanovna;
NOGINA, Ol'ga Pavlovna, kand.med.nauk; AKSARINA, N.M., kand.med.
nauk, red.; KARMANOVA, Ye.G., red.; ZATVAN, B.A., tekhn.red.

[Mother's diary] Dnevnik materi. Red.-sost.O.P.Nogina. Red.
N.M.Aksarina i E.G.Karmanova. Moskva, In-t sanitarnogo prosv.
M-va zdravookhraneniia SSSR, 1960. 178 p. (MIRA 13:7)
(CHILDREN--CARE AND HYGIENE)



B

25

PROCESSES AND PROPERTIES INDEX

•516. **Interaction of Acetylene and Mercury Chloride in the Absence of Solvent.** (In Russian.) R. Kh. Freidlina and O. V. Nogina. *Bulletin of the Academy of Sciences of U.S.S.R., Section of Chemical Sciences,* no. 1, 1947, p. 105-106.

The interaction of acetylene and mercury chloride in the absence of a solvent, at 100°C., results in formation of cis-betachlorvinylmercuric chloride in good yield. The trans compound is formed only in a very small quantity.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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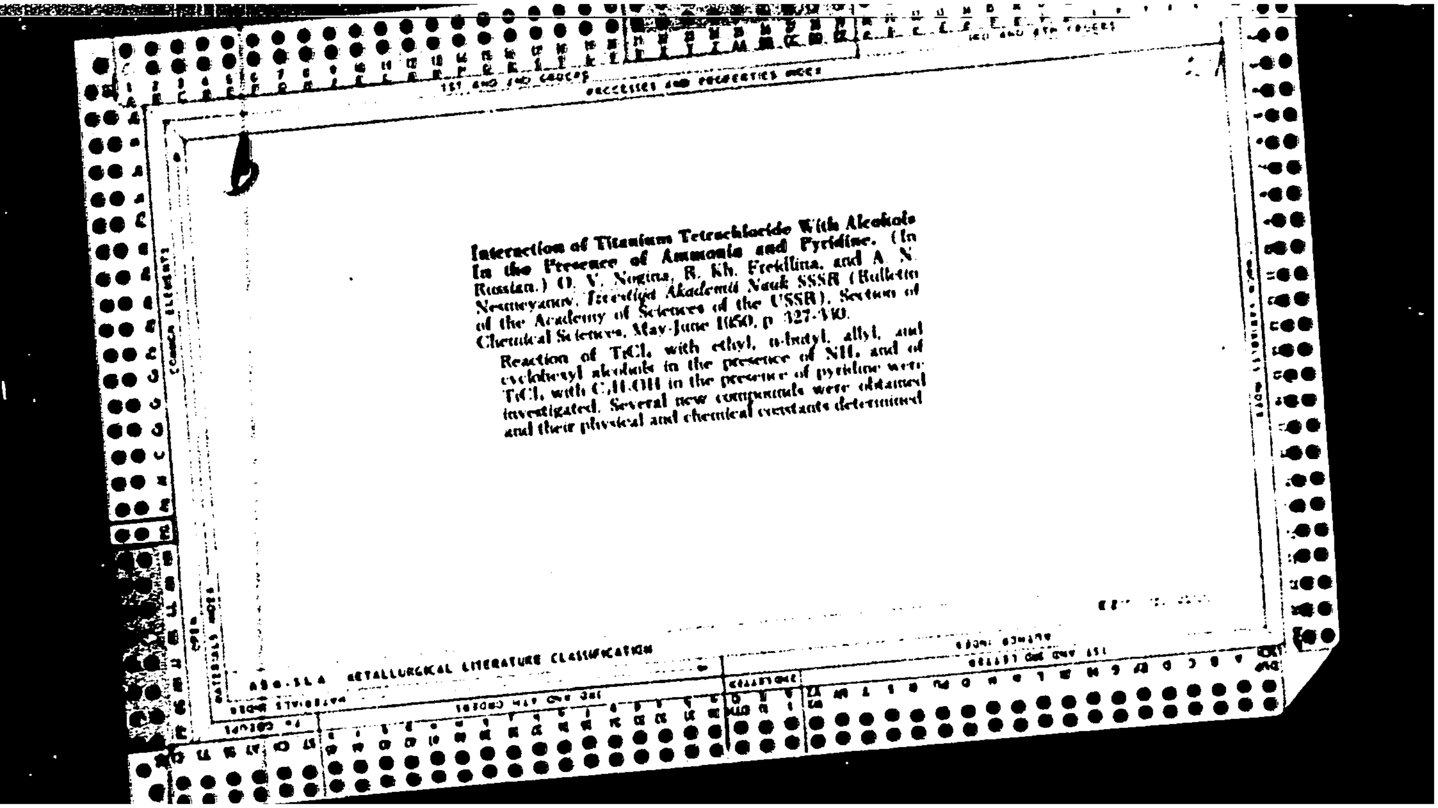
A

Action of bromine on alkyl chlorocarbonates. R. Kh. Freidlina, O. V. Nogina, and A. N. Nesmeyanov (Inst. Org. Chem., Moscow). *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1949, 631-5.—Heating 90 g. EtO_2CCl with 132 g. Br 18 hrs. on a steam bath gave 20.5 g. $BrCH_2CH_2Br$, av. yield 10-15%. Similarly, PrO_2CCl (80 g.) gave 15.6 g. 1,2-dibromopropane, b_{20} 62-3°, n_D^{20} 1.5192, d_4^{20} 1.9245 (24%); BuO_2CCl gave 43% MeCHBr-CHBrMe, b_{10} 51-2°, b. 161°, n_D^{20} 1.5150, d_4^{20} 1.7802; iso-BuO_2CCl gave 40% mixed 1,2-dibromoisobutane and 1,2,3-tribromo-2-methylpropane, resp., b_{20} 62-3°, n_D^{20} 1.5088, d_4^{20} 1.7628, and b_{10} 105-6°, n_D^{20} 1.5670, d_4^{20} 2.1935.
G. M. Kosolapoff



Interaction of Titanium Tetrachloride With Alcohols in the Presence of Ammonia and Pyridine. (In Russian.) O. V. Nogina, R. Kh. Freidlina, and A. N. Nesmeyanov. *Izvestiya Akademii Nauk SSSR* (Bulletin of the Academy of Sciences of the USSR), Section of Chemical Sciences, May-June 1950, p. 327-330.

Reaction of $TiCl_4$ with ethyl, n-butyl, allyl, and cyclohexyl alcohols in the presence of NH_3 and of $TiCl_4$ with C_2H_5OH in the presence of pyridine were investigated. Several new compounds were obtained and their physical and chemical constants determined.

NOGINA, O.V.
CA

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Reaction of titanium tetrachloride with alcohols in the presence of ammonia and pyridine. O. V. Nogina, R. Kh. Freidlina, and A. N. Nesmeyanov. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* **1950**, 327-30. $TiCl_4$ does not yield $(RO)_4Ti$ in reactions with ROH unless HCl is eliminated immediately by means of alk. reagents. Slow addn. of 63 g. $TiCl_4$ to 60 g. EtOH, 85 g. pyridine, and 200 ml. C_6H_6 with ice cooling, followed by 2 hrs. at 60-70° and filtration, gave 67% $(EtO)_3TiCl$, b_{10} 147.5-50.0°; possibly the pyridine-HCl remaining in the filtrate reacted with the neutral ester during distn. $(EtO)_4Ti$ (10.5 g.), 8 g. pyridine-HCl, and 85 ml. C_6H_6 heated 2 hrs. at 70-5° gave 77% $(EtO)_3TiCl$; $(BuO)_4Ti$ does not react in these conditions. Addn., with ice cooling, of 35 g. $TiCl_4$ to 200 g. BuOH, followed by passage of NH_3 to a 14.5-g. wt. gain, and heating 2 hrs. at 70°, gave after filtration 68% $(BuO)_4Ti$, b_4 180-2°, a 66% yield is obtained with 120 g. BuOH in 250 ml. C_6H_6 treated with 60 g. $TiCl_4$, followed by NH_3 as above; reaction in C_6H_6 with pyridine as the acid-binding agent gave a 51% yield. Slow addn. of 25 g. $TiCl_4$ to 150 g. $CH_2:CHCH_2OH$ with cooling, followed by dry NH_3 (wt. gain 9.5 g.) and heating 1 hr. at 70-80° gave 38% $(CH_2:CHCH_2O)_4Ti$, b_5 141-2°; a 42% yield is obtained when C_6H_6 is used as a diluent; the product b_4 150-8°. Slow addn. of 25 g. $TiCl_4$ to 150 g. EtOH with ice cooling, followed by dry NH_3 (wt. gain 9.4 g.), then heating 40 min. at 70°, filtration on cooling, concn. in vacuo, diln. with C_6H_6 to ppt. residual halide, and repeated filtration, gave 70% $(EtO)_4Ti$, b_4 128-9°. Addn. of 10.0 g. $TiCl_4$ to 35 g. cyclohexanol in 150 ml. C_6H_6 with cooling, followed by dry NH_3 for 10 hrs. with cooling, filtration, and distn. gave 58% $(C_6H_{11}O)_4Ti$, $b_{0.6}$ 204-5°, b_4 180.5-2.0°. G. M. Kosolapoff

FREYDLINA, R. Kh.; NOGINA, O.V.; NESMEYANOV, A.N.

Bromine

Effect of bromine on alkylchloracarbonates. Uch. Zap. Mosk. un., No. 132, 1950.

9. *Monthly List of Russian Accessions*, Library of Congress, October 1952, Uncl.

NOGINA, O. V.

USSR/Chemistry - Organic Titanium Compounds Sep/Oct 51

"Action of Chlorine and Bromine on Alkylorthotitanates," A. N. Nesmeyanov, R. Kh. Freydlina, O. V. Nogina, Inst of Org Chem, Acad Sci USSR

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 5, pp 518-523

Found that action of Cl_2 and Br_2 on Et, n-Pr, and Bu orthotitanates gives good yield of compds of type $(RO)_2TiHal_2 \cdot ROH$ and that orthoalkyltitanates cause ester condensation of aldehydes according to Tishchenko. Synthesized following previously unknown compds: $(RO)_2TiBr_2 \cdot ROH$ (R = Et, Pr, Bu, resp); $(RO)_2TiCl_2 \cdot ROH$ (R = Pr, Bu, resp); $(PrO)_3TiCl$ by interaction of pyridine chlorohydrate with Pr orthotitanate; and $(RO)_4Ti$ (R = ClEt, Bz, MeOEt, EtOEt, resp by re-esterification.

PA 195T7

NOGINA, O. V.

NOGINA, O. V. -- "Development of Methods for the Synthesis and Study of the Characteristics of Organic Compounds Containing Titanium." Sub 20 Mar 52, Inst of Organic Chemistry, Acad Sci USSR. (Dissertation for the Degree of Candidate in Chemical Sceinces.)

SO: Vechernaya Moskva January-December 1952

NOGINA, O.V.; FREYDLINA, R.Kh.; NESMEYANOV, A.N.

Synthesis of trialkoxytitanium chlorides. Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci. '52, 81-5 [Engl. translation].

(CA 47 no.19:9911 '53)

NOGINA, O. V.

4

③ Chem

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

Preparation of alkoxytitanium trichlorides from titanium tetrachloride and alcohols. A. N. Nesmeyanov, R. Kh. Freidlina, and O. V. Nogina. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* [illegible] (Engl. translation).—See *C.A.* 48, 567c. H. L. H.

NOGINA, O.V.

Chem Abs V48
1-25-54
Organic Chemistry

Preparation of alkoxytitanium trichlorides from titanium tetrachloride and alcohols. A. N. Nesmeyanov, R. Kh. Freidlina, and O. V. Nogina. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1952, 1037-40; cf. Jennings, *et al.*, *C.A.* 30, 5180^4.—Reaction of $TiCl_4$ with small proportions of ROH yields $ROTiCl_3$ as the sole product. The reagents thoroughly dry and the reaction must be protected against atm. moisture. To 142.5 g. $TiCl_4$ and 800 ml. petr. ether (b.50-80°) was gradually added 30 g. PrOH in 200 ml. petr. ether, the mixt. was refluxed 3 hrs., concd., and chilled, yielding a ppt. which was sepd. and distd. giving after 2 distns. 96.5% *$PrOTiCl_3$*, b_{11} 83-5°, b_{22} 100-2°, m. 65-6°. Similarly 142 g. $TiCl_4$ and 23 g. EtOH in petr. ether gave, after 8 hrs. reflux, decantation from a ppt. concn. of the soln., and chilling, 87.5% *$EtOTiCl_3$*, b. 185-6°. $TiCl_4$ (95 g.) and 24.7 g. iso-BuOH in 225 ml. CCl_4 gave after 9 hrs. reflux and chilling, nearly 100% *iso-$BuOTiCl_3$*, b_9 92-4°, m. 81-3°. iso-AmOH (44 g.) and 142.5 g. $TiCl_4$ in petr. ether gave after 5 hrs. reflux 95.5% *iso-$AmOTiCl_3$*, b_{17} 110-11°, m. 50-60°; $C_6H_{11}OH$ and $TiCl_4$ similarly gave after 3 hrs. reflux nearly 100% *$C_6H_{11}OTiCl_3$*, b_8 120-2°, m. 47.5-9.0°; $MeOCH_2CH_2OH$ (38 g.) and 142.5 g. $TiCl_4$ in 275 ml. CCl_4 gave after 4 hrs. reflux nearly 100% *$MeOCH_2CH_2OTiCl_3$*, which sublimed slowly at 160-80° at 5 mm., and the sublimed product, m. 164-6°; it was insol. in petr. ether, CCl_4, C_6H_6, or Et_2O. O. M. Kosolapoff

NF
7-28-54

USSR/Chemistry - Titanium Compounds Jan/Feb 52

"A New Method for Synthesizing Trialkoxytitanium Chlorides," O. V. Nogina, R. Kh. Freydlina, A. N. Nesmeyanov; Inst of Org Chem, Acad Sci USSR

"Iz Ak Nauk, Otdel Khim Nauk" No 1, pp 74-77

The new synthesis is based on the re-etherification of thiethoxy titanium chloride, and proceeds as follows:

$$(C_2H_5O)_3TiCl + 3\ ROH \rightleftarrows (RO)_3TiCl + 3\ C_2H_5OH.$$

208T6

USSR/Chemistry - Titanium Compounds (Contd) Jan/Feb 52

A number of heretofore unknown compds was synthesized by this method, which is quick and gives an almost quant yield.

208T6

NOGINA, O. V.

NOGINA, O.V.

Chem 5

③

Chem Abs v48
1-25-54
Organic Chemistry

Allyl orthotitanate. O. V. Nogina and R. Kh. Freidlina. Akad. Nauk S.S.S.R., *Inst. Org. Khim., Sintezy Org. Soedinenii, Sbornik* 2, 10-11; cf. *C.A.* 44, 8854i.—In app. provided with drying tubes for exclusion of moisture 102 g. dry allyl alc. and 250 ml. dry C_6H_6 is treated with ice cooling with 60 g. $TiCl_4$ over 30-40 min., after which the mixt. is satd. with NH_3 (not less than 25 g. gain in wt.) and filtered. The filtrate yields 41-6% $(CH_2:CHCH_2O)_4Ti$, b_1 141-2°, which is very hygroscopic and readily hydrolyzed.

G. M. Kosolapoff

1-28-54

Chem Abs V48
1-25-54
Organic Chemistry

[illegible]. O. V. Nosina. Abd. [illegible] Khim., Sintez Org. Soedinenii, [illegible] 2, 1[illegible](1952); cf. C.A. 44, [illegible].—To 92 g. abs. EtOH, 150 g. dry pyridine, and 300 ml. dry C_6H_6 is added with ice cooling and stirring 95 g. $TiCl_4$. The mixt. is then heated 2 hrs. at 60-70°, cooled with ice-NaCl and filtered. The filtrate yields 68% $(EtO)_3TiCl$, b_{10} 174-6°. All moisture must be exluded on handling this product.

G. M. Kosolapoff

6/8/54
BW

NOGINA, O.V.

Chem Abs V48
1-25-54
Organic Chemistry

Chem
③

Ethyl orthotitanate. O. V. Nogina and A. B. Belyavskii. Akad. Nauk S.S.S.R., Inst. Org. Khim., Sintezy Org. Soedinenii, Sbornik 2, 104-5(1952); cf. C.A. 44, 8851i.—To 600 ml. abs. EtOH is gradually added with cooling and stirring 142 g. $TiCl_4$, after which the mixt. is satd. with dry NH_3 with ice cooling until 51 g. gain is reached. The mass is rapidly filtered concd. in vacuo, refiltered, and distd. yielding 67-70% $(EtO)_4Ti$, b_1 130-2°, b. 230-7°. All operations must be done with complete exclusion of moisture.

G. M. Kosolapoff

NF
7-28-54

NOGINA, O.V.

NESMEYANOV, A.N., akademik; NOGINA, O.V.

Reaction of dialkoxy-titanium-oxides with tetra-alkoxy-silanes. Dokl. AN SSSR 117 no.2:249-251 N '57. (MIRA 11:3)
(Titanium organic compounds) (Silane)

NESMEYANOV, A.N.; NOGINA, O.V.; FREYDLINA, R.Kh.

Preparation of hexaalkyloxydititanoxanes $(RO)_3Ti -- O -- Ti(OR)_3$. (MLRA 9:8)
Izv.AN SSSR.Otd.khim.nauk no.3:373-375 Mr '56.

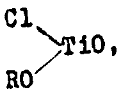
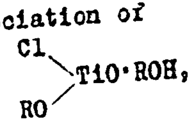
1. Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR.
(Titanium organic compounds)

5 (4) SOV/62-59-8-32/42

AUTHORS: Nesmeyanov, A. N., Nogina, O. V., Dubovitskiy, V. A.

TITLE: Effect of the Time Factor on the Degree of Association of Titanium Alkoxyl Derivatives in a Benzene Solution

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 8, pp 1496-1498 (USSR)

ABSTRACT: This brief survey discusses the property dealt with in numerous papers (Refs 1-3) of the alkoxyl derivatives of titanium to associate in aqueous benzene solutions. It has been shown that the methods used for the determination of the molecular weight (kryoscopy and ebullioscopy) yielded a higher molecular weight than corresponded to the monomer. The authors of the present paper now succeeded in showing that the degree of association of the substances: $(RO)_4Ti$, $ClTi(OR)_3$, $(RO)_2TiO$,  $\mathrm{Cl(RO)TiO}$,  $\mathrm{Cl(RO)TiO \cdot ROH}$, $Cl_2TiO \cdot 2ROH$ changes gradually. It diminishes and, after some hours, equals 1. The decomposition rate of the associates, however, is not high, while the activation energy of the

Card 1/2

Effect of the Time Factor on the Degree of Association of Titanium Alkoxyl Derivatives in a Benzene Solution SOV/62-59-8-32/42

dissociation of the associates is considerable. Figures 1 and 2 show the change in molecular weight of some of the relevant substances in the course of time. The table contains the molecular weights of the substances under investigation. Some substances had been synthesized by the authors for the purposes of this paper and had actually been obtained for the first time. It was seen from the curves that initial monomers are formed by dissociation. Thus it is possible to use kryoscopy for the determination of the molecular weights of the compounds under investigation. The authors will report on the newly synthesized substances in future papers. There are 3 figures, 1 table, and 5 references, 1 of which is Soviet.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: February 18, 1959

Card 2/2

66174

SOV/20-128-5-28/67

~~5(2,5)~~ 5.3700(B)

AUTHORS: Nesmeyanov, A. N., Academician, Nogina, O. V., Dubovitskiy, V. A.

TITLE: Activation Energy of the Disaggregation Process of Associated Titanium Alkoxyl Derivatives

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 128, Nr 5, pp 964 - 965 (USSR)

ABSTRACT: The association degree of these derivatives decreases comparatively slowly in diluted benzene solutions. Within several hours all associates disappear (Ref 1). The association of these derivatives is explained by intermolecular coordination bonds between the oxygen atoms of one molecule and the titanium atoms of the adjacent molecules (Refs 2-5). The dependence of this phenomenon on temperature was investigated and the activation energy of disaggregation determined in this paper. The method of cryoscopy was used for this purpose. Figure 1 shows the kinetic curves of the disaggregation process of the associates of tetra-n-propoxy titanium at various temperatures. The values of activation energy were computed from the dependencies of the initial velocities on temperature (Fig 2). They are 7.7 kcal/mol for tetra-n-propoxy titanium, 8.0 kcal/mol

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66174
S07/20-128-5-28/67

Activation Energy of the Disaggregation Process of Associated Titanium Alkoxyl Derivatives

for associated tetraethoxy titanium, and 8.1 kcal/mol for di-n-propoxy titanium oxide. Limit concentration at which the association degree of titanium alkoxyl derivatives decreases to 1 depends little on the structure of the titanium compound (Fig 3). The structure of the alkyl, however, has a distinct effect on this phenomenon. Spatial obstacles influence the association degree of the titanium derivatives mentioned. Association does not take place at all if there is a ramified carbon chain of tetraalkoxy titanium at the carbon atom adjacent to titanium (tetraisopropoxy titanium, tetratertiary butoxy titanium, references 2,6) in the case of concentrations of benzene solutions up to 2.0 mol%. If the ramification of the alkyl chain in tetraalkoxy titanium occurs on the β- [illegible] γ-carbon atom, the tetraalkoxy titaniums are associated in benzene solutions. Also in this case the association degree decreases gradually and reaches 1 after several hours. There are 3 figures, and 6 references, 1 of which is Soviet.

Card 2/3

66174
SOV/20-128-5-28/67

Activation Energy of the Disaggregation Process of Associated Titanium Alkoxyl Derivatives

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds of the Academy of Sciences, USSR)

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SUBMITTED: July 9, 1959

Card 3/3

NOGINA, O.V.

82101
S/062/60/000/07/04/007
B015/B054

5.3700

AUTHORS: Nesmeyanov, A. N., Nogina, O. V., Berlin, A. M., Kudryavtsev, Yu. P.

TITLE: Chemical Transformations of Dialkoxy Titanium Oxides

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1960, No. 7, pp. 1206-1214

TEXT: The authors describe the chemical properties of dialkoxy titanium oxides. They continued the investigation of deposition to the>Ti = 0 bond, studied the etherification reactions, and found the substitution of alkoxyls by halogens as well as a substitution reaction of the oxygen bound to titanium with two chlorine atoms. They obtained the first compounds of a hitherto unknown series of titanium-containing organic compounds, i.e., ethoxy-, n-propoxy-, and n-butoxy titanium oxide chlorides. By the action of chlorine on di-n-propoxy- and diisobutoxy titanium oxides, they produced the compounds $Cl_2TiO \cdot 2n\text{-}C_3H_7OH$ and $Cl_2TiO \cdot 2i\text{-}C_4H_9OH$. On the reaction of dialkyl dichloro silanes with dialkoxy titanium oxides, the following exchange of oxygen with two chlorine atoms takes place:

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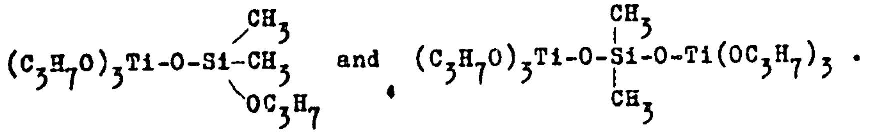
Chemical Transformations of Dialkoxy Titanium Oxides

82101
S/062/60/000/07/04/007
B015/B054

$(n\text{-}C_3H_7O)_2TiO + Cl_2SiR_2 \longrightarrow (n\text{-}C_3H_7O)_2TiCl_2 + [OSiR_2]_x$. A similar reaction takes place by the action of tetra-n-propoxy silane on the compound $Cl_2TiO \cdot 2n\text{-}C_3H_7OH$, namely $Cl_2TiO \cdot 2n\text{-}C_3H_7OH + (C_3H_7O)_4Si \rightarrow Cl_2Ti(OC_3H_7)_2 \cdot n\text{-}C_3H_7OH + n\text{-}C_3H_7OH + [OSi(OC_3H_7\text{-}n)_2]_x$. By the linkage of dimethyl di-n-propoxy silane with di-n-propoxy titanium oxide, the following compounds were obtained:



$$(C_3H_7O)_3Ti\text{-}O\text{-}Si(CH_3)_2(OC_3H_7) \quad \text{and} \quad (C_3H_7O)_3Ti\text{-}O\text{-}Si(CH_3)_2\text{-}O\text{-}Ti(OC_3H_7)_3 .$$

There are 8 references: 7 Soviet and 1 British.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: January 23, 1959

Card 2/2

83900

S/020/60/134/003/013/020
B016/B054

5.3700

AUTHORS: Nesmeyanov, A. N., Academician, Nogina, O. V., and Berlin, A. M.

TITLE: Interaction of Cyclopentadienyl Sodium With Alkoxy Titanium Chlorides

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 3, pp. 607-608

TEXT: The authors investigated the reactions of cyclopentadienyl sodium with alkoxy titanium chlorides, and isolated mono-π-cyclopentadienyl derivatives of titanium: cyclopentadienyl-triethoxy- and tri-n-propoxy titanium (see Diagram). They are colorless liquids distillable in vacuo and very sensitive to air moisture. The authors indicate the established and calculated yields and molecular weights of the two derivatives. As opposed to the ordinary alkoxy derivatives of titanium, the π-cyclopentadienyl-trialkoxy derivatives are not associated in solutions, not even at a concentration of 1.7 mole%. The molecular weight of $C_5H_5Ti(OC_2H_5)_3$, cryoscopically determined in benzene solution, corresponds

X

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83900

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B016/B054

Interaction of Cyclopentadienyl Sodium With Alkoxy Titanium Chlorides

to that of the monomeric compound. The authors proved the structure of π-cyclopentadienyl-triethoxy- and tri-n-propoxy titanium by conversion into the known (Refs. 7,8) cyclopentadienyl-titanium trichloride (see Diagram). Further, the authors allowed ethoxy-titanium trichloride to react with cyclopentadienyl sodium, and determined and calculated the physical constants of $(C_5H_5)_2Ti(OC_2H_5)Cl$. The π-cyclopentadienyl-trialkoxy derivatives of titanium are decomposed by alcohols at 70-80°C within 1 h, while corresponding tetraalkoxy titanium and cyclopentadiene are formed. The latter was isolated as cyclopentadienyl thallium. By reactions of π-cyclopentadienyl-tri-n-propoxy titanium with acetyl chloride, the authors obtained mixed chloride alcoholates of π-cyclopentadienyl titanium: 1) cyclopentadienyl-di-n-propoxy-titanium chloride which is disproportionated by vacuum distillation; 2) cyclopentadienyl-n-propoxy-titanium dichloride. Both compounds are greenish-yellow, viscous liquids decomposing under the action of air moisture, but still storable at lower temperatures. There are 8 references: 2 Soviet and 2 US.

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S/020/60/134/006/018/031
B016/B067

5.3700 2209, 1318, 1312 only

AUTHORS: Nesmeyanov, A. N., Academician, Nogina, O. V., and Dubovitskiy, V. A.

TITLE: Slow Dissociation of the Associates of the Alkoxyl and Alkyl Derivatives of Metals in Solutions

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 134, No. 6, pp. 1363-1366

TEXT: In earlier papers (Refs. 1,2) the authors described the slow disintegration of associates of the alkoxyl titanium derivatives in dilute benzolic solutions. In the present investigation they observed that the phenomenon occurs also in the solutions of organic compounds of other metals. It was found that the degree of association in the alkoxyl derivatives of tin, zirconium, and aluminum cryoscopically determined decreases with time and that within some hours it becomes equal to one. Fig. 1 shows the curves of the variation with time in the molecular weights of $(n\text{-}C_3H_7O)_4Sn$ in benzolic solution with a concentration of

X

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84573

Slow Dissociation of the Associates of the Alkoxyl and Alkyl Derivatives of Metals in Solutions

S/020/60/134/006/018/031
B016/B067

0.100 mol% (Curve 1) and an analogous curve (2) for $(n-C_4H_9O)_4Zr$ (concentration 0.161 mol%). The production method of tetra-n-propoxy-tin and of tetra-n-butoxy-zirconium (Refs. 4,5) and of other products used is described. Fig. 2 gives the analogous curves (1,2,3) for $(iso-C_4H_9)_2AlOC_2H_5$ in benzolic solution (concentration 0.099 mol%) and for $(n-C_3H_7O)_3Al$ as well as for $(iso-C_4H_9O)_3Al$. The authors state that at constant concentration and temperature the dimer of triethyl aluminum in dilute benzolic solution slowly dissociates to the monomer stage. Fig. 3 shows a curve similar to those already obtained for $(C_2H_5)_3Al$, and Fig. 4 shows a curve for $(n-C_4H_9O)_4Ti$ (1) in nitrobenzolic solution as well as (2) for $(n-C_3H_7O)_4Ti$ in dioxane solution. Curve (3) illustrates the variation in the molecular weight of tetra-n-propoxy-titanium dissolved in cyclohexane. There are 4 figures and 23 references: 7 Soviet, 7 US, 2 French, 3 German, and 4 British.

X

Card 2/3

84673

Slow Dissociation of the Associates of the Alkoxyl and Alkyl Derivatives of Metals in Solutions

S/020/60/134/006/018/031
B016/B067

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds of the Academy of Sciences, USSR)

SUBMITTED: July 12, 1960

Card 3/3

20938

S/062/61/000/003/004/013
B117/B208

5 3700 2203,1164

AUTHORS: Nesmeyanov, A. N., Nogina, O. V., and Dubovitskiy, V. A.

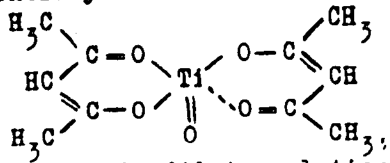
TITLE: Synthesis of dialkoxy (aryloxy) titanium oxides by ester interchange of di-n-propoxy-titanium oxide

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, no. 3, 1961, 437-441

TEXT: The authors outlined the possibility of obtaining dialkoxy (aryloxy) titanium oxides and bis(triethyl-siloxy)titanium oxide by ester interchange of the easily accessible di-n-propoxy titanium oxide. $(C_2H_5O)_2TiO$ and $(i\text{-}C_5H_{11}O)_2TiO$, $(n\text{-}C_6H_{13}O)_2TiO$, $(C_6H_5O)_2TiO$, $[(C_2H_5)_3SiO]TiO$, hitherto not yet described, were prepared in this way. Diphenoxy titanium oxide was also prepared in the form of its molecular compound with phenol. All experiments were carried out with completely dry raw materials under exclusion of atmospheric moisture. The ultrared spectra of these compounds were obtained on a double-beam UR-spectrophotometer. The spectra were taken of solutions of the substances in carbon disulfide and carbon tetra-

Card 1/3

chloride, as well as of a paste in vaselin oil. But no characteristic frequencies were found in the range of 600-1400 cm^{-1} that could be assigned to the Ti=O bond. Also titanium oxide bis-acetylacetonate was prepared by reaction of di-n-propoxy titanium oxide with acetylacetone. This compound was prepared by hydrolysis by A. Jamamoto, S. Kambara (see below) who have assigned it a cyclic dimeric structure. Cryoscopic determination of the molecular weight of titanium oxide bis-acetylacetonate showed, contrary to this statement, that this compound has obviously the structure



and is a monomer in dilute solutions. The attempt of carrying out the addition to the Ti=O double bond in titanium oxide bis-acetylacetonate gave no addition product but dialkoxy titanium bis-acetylacetonate. Thus, the reaction proceeded according to the formula

$$(C_5H_7O_2)_2TiO + Si(OR)_4 \longrightarrow (C_5H_7O_2)_2Ti(OR)_2 + OSi(OR)_2,$$

Synthesis of dialkoxy (aryloxy)...

S/062/61/000/003/004/013
B117/B208

where R = C_2H_5; n-C_3H_7. The authors thank L. A. Kazitsyna and G. A. Rudenko of the Moskovskiy gosudarstvennyy universitet (Moscow State University) for determining the IR spectra of di-n-propoxy titanium oxide samples. N. A. Chumayevskiy is thanked for taking the IR spectra of the remaining compounds, which was done at the laboratorya akad. I. V. Obreimova (Laboratory of Academician I. V. Obreimov) of the authors' association. There are 5 figures and 8 references: 5 Soviet-bloc and 3 non-Soviet-bloc. The reference to the English-language publication reads as follows: A. Jamamoto, S. Kambara, J. Amer. Chem. Soc. 79, 4344, 1957.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-organic Compounds, Academy of Sciences USSR)

SUBMITTED: January 8, 1960

Card 3/3

23589
S/062/61/000/005/004/009
B118/B208

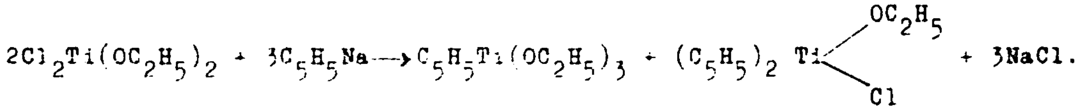
5.3700 2209, 1164, 1282

AUTHORS: Nesmeyanov, A. N., Nogina, O. V., and Berlin, A. M.

TITLE: Mono-π-cyclopentadienyl derivatives of titanium

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 5, 1961, 804 - 807

TEXT: The authors studied the reaction of sodium cyclopentadienyl with diethoxy-titanium dichloride



$$2Cl_2Ti(OC_2H_5)_2 + 3C_5H_5Na \longrightarrow C_5H_5Ti(OC_2H_5)_3 + (C_5H_5)_2Ti\left<\begin{matrix}OC_2H_5\\ Cl\end{matrix}\right. + 3NaCl.$$

The separated liquid cyclopentadienyl-triethoxy-titanium which was analytically confirmed is not associated in solution, contrary to the common alkoxy-titanium derivatives. Its molecular weight, cryoscopically determined in benzene, corresponds to that of the monomer compound, even in a concentration of 1.7 mole %. Its structure was confirmed by conversion with acetyl chloride to cyclopentadienyl titanium trichloride $C_5H_5TiCl_3$.

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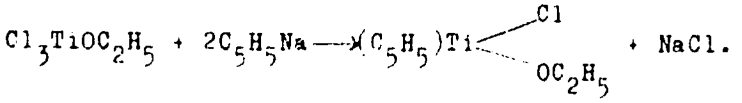
Mono-π-cyclopentadienyl... B118/B208

Its melting point is by 20°C higher than that found by R. D. Gorsich (see below). The second yellow, crystalline product of the above reaction corresponds to dicyclopentadienyl titanium ethoxy-chloride. To obtain only cyclopentadienyl trialkoxy-titanium in the reaction of sodium cyclopentadienyl with alkoxy titanium chlorides, tri-n-propoxy-titanium chloride was used as titanium derivative, which gave, as was expected, cyclopentadienyl-tripropoxy-titanium $C_5H_5Ti(OC_3H_7)_3$ in a yield of 96 %. With acetyl chloride the latter gives cyclopentadienyl titanium trichloride:

$$C_5H_5Ti(OC_3H_7)_3 + 3CH_3COCl \rightarrow C_5H_5TiCl_3 + 3CH_3COOC_3H_7.$$

The reaction of sodium cyclopentadienyl with ethoxy-titanium trichloride took place according to the formula



$$Cl_3TiOC_2H_5 + 2C_5H_5Na \rightarrow (C_5H_5)Ti\begin{matrix}Cl \\ OC_2H_5\end{matrix} + NaCl.$$

The attempt of an ester interchange of cyclopentadienyl triethoxy-titanium with propyl alcohol was unsuccessful, as this alcohol converts this

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S/062/61/000/005/004/009
B118/B208

Mono-π-cyclopentadienyl...

π-cyclopentadienyl compound to tetrapropoxy-titanium $(C_3H_7O)_4Ti$ under mild conditions. Ethyl alcohol reacts similarly forming tetraethoxy-titanium (95 % yield) and cyclopentadiene (97 % yield, in the form of thallium cyclopentadienyl). To obtain mixed chloride alcoholates of π-cyclopentadienyl titanium, $C_5H_5Ti(OR)Cl_2$ and $C_5H_5Ti(OR)_2Cl$, π-cyclopentadienyl propoxy-titanium was allowed to react with acetyl chloride (1:2 and 1:1), where $C_5H_5Ti(OC_3H_7)Cl_2$ and $C_5H_5Ti(OC_3H_7)_2Cl$, respectively, resulted. The reaction products are green-yellow viscous liquids, not stable to atmospheric moisture, but stable when stored at 1 - 5°C. There are 11 references: 3 Soviet-bloc and 8 non-Soviet-bloc. The 4 references to English-language publications read as follows: C.L. Sloan, W. A. Barber, J. Amer. Chem. Soc. 81, 1364 (1959); M. A. Lynch, I. C. Brantley, Chem. Abstr. 52, 11126 (1958); A. K. Fischer, G. Wilkinson, J. Inorgan. Nuclear Chem. 2, 149 (1956); R. D. Gorsich, J. Amer. Chem. Soc. 80, 4744 (1958).

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental-Organic Compounds of the Academy of Sciences USSR)

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23589
S/062/61/000/005/004/009
B118/B208

Mono-π-cyclopentadienyl...

SUBMITTED: April 8, 1960

X

Card 4/4

NESMEYANOV, A.N.; NOGINA, O.V.; BERLIN, A.M.; GIRSHOVICH, A.S.; SHATALOV, G.V.

Acyl and alkoxyl derivatives of bis-(cyclopentadienyl)titanium and the refraction increment of the $-C_5H_5Ti$ group. Izv. AN SSSR Otd.khim.nauk no.12:2146-2151 D '61. (MIRA 14:11)

1. Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR.
(Titanium compounds)

S/062/62/000/007/012/013
B117/B180

AUTHORS: Nesmeyanov, A. N., Kogina, O. V., and Surikova, T. P.

TITLE: Alkylation of bis(cyclopentadienyl)titanium dichloride $(C_5H_5)_2TiCl_2$

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 7, 1962, 1314

TEXT: The authors are the first to have achieved aromatic substitution in cyclopentadienyl titanium derivatives by means of $(C_5H_5)_2TiCl_2$. Alkylation of bis(cyclopentadienyl)titanium dichloride took place under the action of ethylene on a $(C_5H_5)_2TiCl_2$ solution in chloroform at a pressure of 30 atm without the catalyst $AlCl_3$. Double sublimation in vacuo yielded $C_{10}H_4(C_2H_5)_6TiCl_2$. Diethyl-bis(cyclopentadienyl)titanium dichloride $C_{10}H_8(C_2H_5)_2TiCl_2$ was obtained under the same conditions in the presence of $AlCl_3$. Monoethyl-bis(cyclopentadienyl)-titanium dichloride

Card 1/2

Alkylation of bis...

S/062/62/000/007/012/013
B117/B180

$C_{10}H_9(C_2H_5)TiCl_2$ was obtained without $AlCl_3$ by the action of triethyl amine on $(C_5H_5)_2TiCl_2$. The infrared spectra of the resulting compounds showed bands characteristic of methyl and methylene groups. [Abstracter's note: Essentially complete translation.]

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences USSR)

SUBMITTED: May 17, 1962

Card 2/2

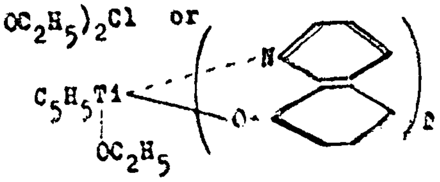
S/062/62/000/008/013/016
B101/B180

AUTHORS: Nesmeyanov, A. N., Nogina, O. V., and Dubovitskiy, V. A.

TITLE: Data on the titanium - cyclopentadienyl ring bond in $C_5H_5Ti(OC_2H_5)_3$ and $(C_5H_5)_2Ti(CCOCH_3)_2$

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 8, 1962, 1481-1483

TEXT: Using the method of A. K. Fischer, G. Wilkinson (J. Inorg. and Nucl. Chem. 2, 149, (1956)) the ionic nature of the Ti bond in sandwich compounds was checked by reaction with $FeCl_2$ or Fe (II) acetyl acetonate, in argon atmosphere, and tetrahydrofuran solvent at 65°C. Results: (1) no ferrocene is formed from $(C_5H_5)_2TiCl_2$, $(C_5H_5)_2Ti(C_6H_5)_2$, $C_5H_5TiCl_3$; ✓ $C_5H_5Ti(OC_2H_5)Cl_2$, $C_5H_5Ti(OC_2H_5)_2Cl$ or



Card 1/2

S/062/62/000/008/013/016
B101/B180

Data on the titanium - ...

(synthesized for the first time, report printing). (2) ferrocene is formed from $C_5H_5Ti(OC_2H_5)_3$ and $(C_5H_5)_2Ti(OCOCH_3)_2$. (3) the ionic nature of the bond in $C_5H_5Ti(OC_2H_5)_3$ and $(C_5H_5)_2Ti(OCOCH_3)_2$ was further demonstrated by the ease with which these compounds hydrolyze in the presence of water at 60-80°C. (4) The compound $C_5H_5Ti(OC_2H_5)_2Cl$ was synthesized for the first time by reaction between CH_3COCl and $C_5H_5Ti(OC_2H_5)_3$; b.p. 113-114°C/0.5 mm Hg, n_D^{20} 1.5812, d_4^{20} 1.2253. There are 2 tables.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Elemental Organic Compounds of the Academy of Sciences USSR)

SUBMITTED: February 17, 1962

Card 2/2

NESMEYANOV, A. N.; NOGINA, O. V.; DUBOVITSKIY, V. A.

Alkylation of bis-(cyclopentadienyl) titanium dichloride by means of acetyl chloride. Izv. AN SSSR Otd. khim. nauk no.12: 2254-2255 D '62. (MIRA 16:1)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

(Titanium compounds) (Acetyl chloride)

ACCESSION NR: AP3000124 S/0062/63/000/005/0831/0835

AUTHOR: Nesmeyanov, A. N.; Nogina, O. V.

TITLE: Cyclopentadienyl ethoxy titanium bis-(8-oxyquinolinate)

SOURCE: AN SSSR. Izvestiya. Otdeleniye khimicheskikh nauk, no. 5, 1963, 831-835

TOPIC TAGS: cyclopentadienyl ethoxy titanium bis-(8-oxyquinolinate), dipropyloxytitanium bis-(8-oxyquinolinate), bis-(8-oxyquinolinate) titanium oxide, octaethoxytrititanium oxane

ABSTRACT: Cyclopentadienyl ethoxy titanium bis-(8-oxyquinolinate) was obtained by reacting cyclopentadienyl triethoxy-titanium with 8-oxyquinoline in benzene solution. The cyclopentadienyl ring can be split from cyclopentadienyl ethoxy titanium bis-(8-oxyquinolinate) with propyl alcohol to yield dipropyloxytitanium bis-(8-oxyquinolinate); with water to form the bis (8-oxyquinolinate)titanium oxide; or with oxygen to give octaethoxytrititanium oxane. Acetyl chloride acts on cyclopentadienyl ethoxy titanium bis(8-oxyquinolinate) to form cyclopentadienyl-titanium-(8-oxyquinolinate) chloride. IR curves for both titanium compounds are given. "Spectra were obtained at the Institut khimii prirodny*kh soyedineniy AN SSSR (Institute of Chemistry of Natural Compounds) by Yu. N. Sheynker and L. B.

Card 1/2

ACCESSION NR: AP3000124

Senyavina, for which the authors express their gratitude." Orig. art. has 2 figures and 1 equation.

ASSOCIATION: Institut elementoorganicheskikh soyedineniy Akademii nauk SSSR (Institute of Organoelemental Compounds, Academy of Sciences SSSR)

SUBMITTED: 28Jun62 DATE ACQ: 12Jun63 ENCL: 00

SUB CODE: CH NO REF SOV: 001 OTHER: 002

Card 2/2

L 15463-63 EWP(j)/EPF(c)/EWT(m)/BDS ASD Pc-4/Pr-4 RM/WW/MAY

ACCESSION NR: AP3005440 S/0020/63/151/005/1100/1103 68 67

AUTHORS: Vol'pin, M. Ye.; Dubovitskiy, V. A.; Nogina, O. V.; Kursanov, D. N. (Corr. member AN SSSR)

TITLE: Combining titanocene (dicyclopentadienyl titanium) with tolane

SOURCE: AN SSSR. Doklady*, v. 151, no. 5, 1963, 1100-1103

TOPIC TAGS: dicyclopentadienyl titanium ditolane, titanocene, dicyclopentadienyl titanium, tolane, diphenylacetylene, 1,2,3,4-tetraphenylbutadiene, titanoceneditolane

ABSTRACT: Because of its carbenoid character, dicyclopentadienyl titanium was selected for reaction with diphenylacetylene (tolane) in a 1:2 ratio to form the stable titanoceneditolane. The latter cleaved upon brominating to form titanocene dibromide and the dibromide of a Ti-free hydrocarbon. Heating, or treatment with aqueous or non-aqueous KOH, gave 1,2,3,4-tetraphenylbutadiene. Orig. art. has: 10 formulas.

ASSOCIATION: Institute of organometallic compounds, Academy of Sciences, SSSR

Card 1/1

DVORYANTSEVA, G.G.; SHEYNKER, Yu.N.; NESMEYANOV, A.N., akademik; NOGINA, O.V.;
LAZAREVA, N.A.; DUBOVITSKIY, V.A.

Infrared spectra of some cyclopentadienyl compounds of titanium.
Dokl. AN SSSR 161 no.3:603-606 Mr '65. (MIRA 18:4)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i Institut
khimii prirodnykh soyedineniy AN SSSR.

NESMEYANOV, A.N., akademik; DUBOVITSKIY, V.A.; NOGINA, O.V.; BOCHKAREV, V.N.

Mass spectra of some monocyclopentadienyl derivatives of titanium. Dokl. AN SSSR 165 no.1:125-126 N '65. (MIRA 18:10)

1. Institut elementoorganicheskikh soyedineniy AN SSSR i Institut khimii prirodnykh soyedineniy AN SSSR.

SOV/58-59-8-18453

Translated from: Referativnyy Zhurnal Fizika, 1959, Nr 8, p 204 (USSR)

AUTHOR: Presnov, V.A., Nogina, S.S.

TITLE: On Oxide Platings of Copper

PERIODICAL: Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, 1958, Nr 36, pp 231-240

ABSTRACT: X-ray, electron-image and microscopic investigations were conducted of oxide platings of Cu, obtained by heating Cu up to different temperatures for various durations of heating. The question of the durability of oxide platings is discussed. It was found that an oxide obtained at a temperature of $\sim 950^{\circ}C$ possesses the greatest durability of adhesion with metal.

L.A. Gus'kov

Card 1/1

SOV/58-59-8-18452

Translated from: Referativnyy Zhurnal Fizika, 1959, Nr 8, p 204 (USSR)

AUTHORS: Presnov, V.A., Nogina, S.S.

TITLE: A Study of the Wetting of Various Metallic Surfaces With Fused Glass

PERIODICAL: Tr. Sibirsk. fiz.-tekhn. in-ta pri Tomskom un-te, 1958, Nr 36, pp 241-247

ABSTRACT: An experimental study was conducted of the wetting of pure and oxidized metals with glass. The authors came to the conclusion that the wetting of metallic surfaces with fused glass depends on a correlation between the acid and basic properties of the interacting phases (the fused glass, the oxidized metal). Wetting capacity with acid glasses improves in proportion to the oxidation of the metals to the oxides with the stronger basic properties. The bibliography contains 6 titles.

L.A. Gus'kov

Card 1/1

NOGINA, V.T., nauchnyy sotrudnik.

Typing foot-and-mouth disease virus with serums of cattle recovered from that disease. Veterinariia 34 no.4:50-54 Ap '57. (MIRA 10:4)

1. Novosibirskaya nauchno-issledovatel'skaya veterinarnaya stantsiya.
(Foot-and-mouth disease) (Serum)

NOGINA, V. T. (Novosibirsk Scientific Research Veterinary Station).

"Obtaining type-specific foot and mouth disease sera from mature rabbits"

Veterinariya, vol. 39, no. 8, August 1962, p. 69

NOGINA, V.T., nauchnyy sotrudnik

Antigenic and complement-fixing properties of the cultured strains of the virus of the A and O types of foot-and-mouth disease. Veterinariia 41 no.2:17-19 F '64. (MIRA 17:12)

1. Novosibirskaya nauchno-issledovatel'skaya veterinarnaya stantsiya.

NOGINA, V.T.

Obtaining type-specific foot-and-mouth disease serums from adult rabbits. Veterinariia 39 no.8:69-73 Ag '62. (MIRA 17:12)

1. Novosibirskaya nauchno-issledovatel'skaya veterinarnaya stantsiya.

L 46951-66 EWT(l)/EWT(m)/EWP(t)/ETI IJP(c) JD/AT

ACC NR: AP6031027 SOURCE CODE: UR/0109/66/011/009/1616/1623

55

AUTHOR: Kozel, S. M.; Kolachevskiy, N. N.; Noginov, A. M.

53
B

ORG: none

TITLE: Experimental investigation of spectral distributions of noise in Ge 27 and Si 27 photodiodes 15

SOURCE: Radiotekhnika i elektronika, v. 11, no. 9, 1966, 1616-1623

TOPIC TAGS: photodiode, photodiode noise, SEMICONDUCTOR BAND STRUCTURE, PHOTOELECTRIC PROPERTY

ABSTRACT: The spectral distribution of noise was measured by three spectroanalyzers within a 2 cps —35 Mc band. Measurement of the spectral density of photocurrent fluctuation in the 0.2—2-Mc band showed that the excess noise varied widely in individual Ge diodes of the same lot. At 500 cps, the noise characteristics of Ge diodes were unstable as evidenced by a slow build-up of 1-f noise after turning on the diode: in some specimens, the noise increased by one order of magnitude in 20 min.; the time of settling of the excess noise strongly depended on the bias voltage. Plots of the noise current vs. frequency (0.25—35 Mc) representing the shot effect of Ge photodiodes in the plateau region are shown. The G. Spescha et al. conclusion (Sci. Electrica, 1959, 5, 4, 121) that the photodiode is more inertial with respect to a modulated light signal than with respect to

Card 1/2 UDC: 621.383.52:621.391.822

Card 2/2 afs

OZEROV, R.P.; NOGINOV, N.V.

X-ray examination of objects of the Scientific Research Institute of Fertilizers, Insecticides, and Fungicides. [Trudy] NIUIF no.164:43 '59. (MIRA 15:5)
(Phosphorites) (X rays--Industrial applications)

GOL'DIN, L.L., doktor fiz.-mat. nauk; KOZEL, S.M.; KOLACHEVSKIY,
N.N.; MAZAN'KO, I.P.; NOGINOVA, L.V.; RADKEVICH, I.A.;
ROGOZINSKIY, K.A.; KUZNETSOVA, Ye.B., red.

[Laboratory manual on physics] Rukovodstvo k laboratornym zaniatiiam po fizike. Moskv , Izd-vo "Nauka," 1964. 579 p.
(MIRA 17:6)

NOGINSKIY, N.A., kandidat geologo-mineralogicheskikh nauk; PODOBEDOV, N.S., kandidat geograficheskikh nauk.

Volcanoes of the eastern Sayan Mountains. Priroda 42 no.11:97-98 N '53.
(MLRA 6:11)

(Sayan Mountains--Volcanoes) (Volcanoes--Sayan Mountains)

NOGINSKIY, V.M., inzh.; SHUSTAREV, Yu.N.

Mechanization, automation and advanced technological processes in the woodworking industry. Mekh.i avtom.proizv. 15 no.8: 17-20 Ag '61. (MIRA 14:9)

(Leningrad Province—Woodworking industry)
(Automation)

NOGINSKIY, V.M.; SHELUDCHENKO, Ye.M., red.; MILIKESOVA, I.F., tekhn. red.

[Improvement and mechanization of production processes at the Leningrad Veneer Factory] Usovershenstvovanie i mekhanizatsiia proizvodstvennykh protsessov na Leningradskom fanernom zavode. Moskva, TSentr.in-t tekhn. informatsii i ekonomicheskikh issledovanii po lesnoi, bumazhnoi i derevoobrabatyvaiushchei promyshl., 1962. 18 p. (MIRA 17:3)

NOGIRNA, I.O.

Amount of phenylalanine in proteins of food products in foci of endemic goiter. Vrach. delo no.5:112-116 My '61. (MIRA 14:9)

1. Kafedra gigiyeny pitaniya i kommunal'noy gigiyeny (zav. - prof. A.I.Stolmakova) L'vovskogo meditsinskogo instituta.
(GOITER) (ALANINE) (PROTEINS)

NOGMANKHODZHAYEVA, M.S.; FISHER, P.Z.

Effect of alkali concentration on the overvoltage of hydrogen on electrolytic iron-nickel alloys. Dokl. AN Uz. SSR no.6:21-25 '58.
(MIRA 11:9)

1. Institut khimii AN UzSSR. Predstavleno akademikom AN UzSSR A.S. Sadykovym.
(Iron-nickel alloys) (Electroplating)

KOMISAR, Mikhail Il'ich; BERTINOV, A.I., prof., retsenzent; NOGODYAYEV, L.K., inzh., retsenzent; ISTRATOV, V.N., dotsent, kand.tekhn. nauk, red.; SHEYNFAYN, L.I., izdat.red.; ORESHKINA, V.I., tekhn.red.

[Aircraft electric machinery] Aviatsionnye elektricheskie mashiny. Moskva, Gos.izd-vo obor.promyshl., 1959. 499 p. (MIRA 12:12)
(Airplanes--Electric equipment)

NOGOTKOV - RYUTIN, V A

YANOVSKIY, M.I.; KAPUSTIN, D.S.; NOGOTKOV-RYUTIN, V.A.

The method of rapid determination of molar radioactivity during chromatography of C^{14} labeled gases. Probl. kin. i kat. 9:391-398 '57. (MIRA 11:3)

(Radioactivity--Measurement)
(Gases)
(Chromatographic analysis)

ACCESSION NR: AP4004149 S/0294/63/001/002/0276/0280

AUTHORS: Anisimov, S. I.; Nogotov, Ye. F.

TITLE: Steady-state theory of a thermal explosion

SOURCE: Teplofizika vy*sokikh temperatur, v. 1. no. 2, 1963, 276-280

TOPIC TAGS: thermal explosion, thermal explosion stationary theory, temperature distribution, iteration method, temperature jump, steady state theory, explosion

ABSTRACT: The conditions under which stationary temperature distribution is possible in a medium containing temperature-dependent heat sources is analyzed mathematically, with a particular aim of determining the critical dimension of the region containing the heat sources (D), beyond which stationary temperature distribution becomes impossible (thermal explosion becomes possible). The problem reduces essentially to an investigation of the existence of a solution of the boundary value problem $\Delta t + qf(u) = 0$ in the domain (D) with

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ACCESSION NR: AP4004149

$u = u_0$ on the boundary of this domain. It is shown that some results can be obtained with the aid of known existence and uniqueness theorems for the solutions of integral equations. By way of an example a detailed analysis is made of the one-dimensional problem

$$T' + q \exp(-1/T) = 0; \quad 0 \leq x \leq 1$$

$$T(1) = T_0, \quad T'(0) = 0$$

(T - temperature in units of activation energy E, $q = Q\ell^2/Ek$ - dimensionless parameter, in which k - thermal conductivity of the medium, Q - intensity of heat release in the chemical reaction, and ℓ - dimension of the vessel) for which uniqueness and existence conditions are obtained. 'In conclusion the authors are grateful to M. A. Yel'yashevich and A. S. Kompaneyets for a discussion of some results of the present work.' Orig. art. has: 10 formulas and 1 table.

ASSOCIATION: Institut fiziki AN BSSR (Physics Institute, AN BSSR)

SUBMITTED: 07Jun63 DATE ACQ: 26Dec63 ENCL: 00

Card 2/2

NOGOVA, -JARMILA

CZECHOSLOVAKIA / General Division, Problems of Teaching A-7

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 162

Author : Nogova, Jarmila

Inst : Not Given

Title : Moss Gardens in Schools

Orig Pub : Prirod. vedy skole, 1956, 6, No 2, 159-164

Abstract : Described is a method of preserving living moss in aquariums or in wide throated bottles, fully covered with glass. In such closed chambers there should always be ahumid atmosphere, the plants demand to be periodically watered with cold water or better, to be sprayed with an atomizer. Around the separate species sticks with signs are stuck. The species recommended for planting are: Polytrichum, Atrichum, Rhytidiadelphys, Hylocomium, Sphagnum, Leucobryum, Funaria, and Mnium. The usual places of growth, and the morphological and anatomical peculiarities of these species are shown.

Card : 1/1

KARIMOV, Z.K.; NOGOVITSINA, P.S.; ZHELTUKHIN, Ye.N.

Age related structure of viral hepatitis (Botkin's disease) morbidity. Zhur. mikrobiol., epid. i immun. 40 no.4:136-139 Ap '63. (MIRA 17:5)

1. Iz I Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova i Tul'skoy gorodskoy sanitarno-epidemiologicheskoy stantsii.

SOLODOVNIKOV, Yu.P.; ZHELTUKHIN, Ye.N.; NOGOVITSINA, P.S.

Typhoid fever in Tula during the period 1887-1962. Zhur.mikrobiol., epid. i immun. 42 no.2:37-41 F '65. (MIRA 18:6)

1. I Moskovskiy ordena Lenina meditsinskiy institut imeni Sechenova i Tul'skaya gorodskaya sanitarno-epidemiologicheskaya stantsiya.

USHATIN, V.S.; SAVITSKIY, N.F., red.; NOGOVITSYN, V.N., red.

[Use of a slide rule in the calculation of a.c. networks; methodological manual for students of technical institutions] Primenenie logarifmicheskoi lineiki pri raschete elektricheskikh tsepei peremennogo toka; uchebno-metodicheskoe posobie dlia uchashchikhsia tekhnikumov. n.p. Rosvuzizdat, 1963. 14 p.
(MIRA 17:4)

KARIMOV, Z.K.; NOGOVITSINA, P.S.; ZHELTUKHIN, Ye.N.

Seasonal nature of viral hepatitis (Botkin's disease).
Zhur. mikrobiol., epid. i immun. 33 no.11:140-143 N '62.
(MIRA 17:1)

1. Iz 1-go Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova i Tul'skoy gorodskoy sanitarno-epidemiologicheskoy stantsii.

NOGOVITSYN, Yu.M., inzhener.

Increasing the slagless power of a boiler. Energetik 5 no.8:13-14 Ag '57. (MIRA 10:10)

(Boilers)

NOGOVITSYN, Yu. M. inzh

NOGOVITSYN, Yu.M., inzh.

Differential pressure regulator for feed water. Energetik 5 no.10: 11 O '57. (MIRA 10:12)

(Feed-water regulation)

NOGOVITSYN, Yu.M., inzh.

Raising the economy of operation of an electric power plant.
Energetik 8 no.4:14-15 Ap '60. (MIRA 13:8)
(Electric power plants)

NOGOVITSYNA, A. P.

"Thick Growing Perennial Herbaceous Grasses in Krasnodarskiy Kray and Their Role in the Utilization of the Grass-Field-Crop Rotations." Cand Agr Sci, All-Union Inst of Plant Growing, Leningrad, 1954. (RZhGeol, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

BERGMAN, A.G.; NOGOYEV, K.

Interaction of urea with sodium and potassium halides and nitrates. Report No.1: Ternary systems consisting of urea - potassium nitrate and potassium halides. Izv.AN Kir.SSR.Ser. est.i tekh.nauk 4 no.9:149-154 '62. (MIRA 16:4)
(Urea) (Potassium nitrate) (Potassium halides)

BERGMAN, A.G.; NOGOYEV, K.

Reaction of urea with sodium and potassium halides. Report No.2. Izv. AN Kir. SSR. Ser. est. i tekh. nauk 5 no.4:59-67 '63.

Reaction of urea with sodium and potassium halides. Report No.3. (69-77) (MIRA 16:10)

BERGMAN, A.G.; NOGOYEV, K.

Systems $CO(NH_2)_2$-L[illegible]$_3$; Li,Na, [illegible]$_3$ and Na,K,NH_4 [illegible]$_3$.
Zhur. neorg. khim. 9 no.6:1423-1426 Je '63 (MIRA 17:8)

1. Rostovskiy inzhenerno-stroitel'nyy institut i institut fizicheskoy i neorganicheskoy khimii AN Kirgizskoy SSR.

NOGOYEV, K.; BERGMAN, A.G.

Interaction in the ternary systems of urea and ammonium nitrate with sodium and potassium nitrates. Zhur. prikl. khim. 36 no.8:1680-1686 Ag '63. (MIRA 16:11)

BERGMAN, A.G.; NOGOYEV, K.

Interaction of urea with sodium and potassium nitrates. Zhur. prikl. khim. 36 no.8:1864-1867 Ag '63. (MIRA 16:11)

BERGMAN, A.G.; NOGOYEV, K.

Fusibility curve of the ternary system consisting of lithium, potassium, and ammonium nitrates. Zhur.neorg.khim. 7 no.2:351-355 F '62. (MIRA 15:3)

1. Rostovskiy inzhenerno-stroitel'nyy institut.
(Alkali metal nitrates) (Systems (Chemistry)) (Melting points)

NOGRADI, A. 1948

(Inst. of Infectious Diseases & Bacteriology, Vet. Fac. Budapest)

Hung. Acta. Physiol., Budapest, 1948 1/6(248-252)
Abst: Exc. Med. IV, Vol. 11, No. 4, p. 401

NOGRADI, A. 1948

(Inst. fur Suechenlehre und Bakter, der Veterinarmedizinischen Fak. in Budapest)

"On Induced Mutation Phenomena in B. Anthracis and B. Mesentericus."

Experientia, Basle, 1948, 4/7(276-277)
Abst: Exc. Med. IV, Vol. 11, No. 2, p. 147

NOGRADI, GY.

NOGRADI, Gy.

"Accelerating the Speed of Turnover of Liquid Assets in Industry", P. 20. (TOEBTERMELES, Vol. 7, No. 3, Mar. 1953, Budapest, Hungary)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, No. 1, Jan. 1955, Uncl.

NOGRADI, M.; MATOLESY, K.; ZOLLNER, GY.

Some workshop experience concerning the continuous operation of manufacturing caprolactam. p.472.

MAGYAR KEMIKUSOK LAPJA. (Magyar Kemikusok Egyesulete) Budapest, Hungary.
Vol. 14, no. 12, Dec. 1959.

Monthly List of East European Accessions. (EEAI) LC Vol. 9, no. 2,
Feb. 1960 Uncl.

TETTAMANTI, K., Professor (Budapest); SAWINSKY, J. (Budapest); NOGRADI, M.
(Budapest)

Equilibria of the ternary system caprolactam(water) organic solvent, in the liquid state. Periodica polytechn chem 4 no.3:201-218 '60.
(EEAI 10:5)

1. Department of Chemical Engineering, Polytechnical University and Research Institute of Industrial Organic Chemistry and Plastics, Budapest.

(Chemical equilibrium) (Systems (Chemistry)) (Water)
(Solvents) (Organic compounds) (Liquids)
(Nitrobenzene) (Benzene) (Carbon tetrachloride)
(Trichloroethylene) (Chloroform) (Cyclohexanol)
(Hexahydroazepinone)

TETTAMANTI, K., prof., dr.(Budapest XI., Muegyetem rakpart 3); NOGRADI, M.
(Budapest XI., Muegyetem rakpart 3)

The influence of ammonium sulphate on the distribution of caprolactam in the water/trichloro ethylene system. Periodica polytechn chem 5 no.1:15-23 '61.

1. Department of Chemical Engineering, Polytechnical University, Budapest and Research Institute for Organic Chemical Industry, Budapest.

FARKAS, Lorand; NOGRADI, Mihaly

Remarks about the structure of zapotin and zapotinin. Pt. 1.
Magy kem folyoir 71 no.3:132-135 Mr '65.

1. Chair of Organic Chemistry of Budapest Technical University.
Submitted July 15, 1964.

L 01186-66

ACCESSION NR: AP5025819

HU/0005/65/071/006/0270/0272

/8
B

AUTHOR: Farkas, Lorand; Pallos, Laszlo; Nogradi, Mihaly

TITLE: Aurones and aurone glucosides. Part 8: Synthesis of maritimeine, one of the glucosides in Coreopsis maritima

SOURCE: Magyar kemiai folyoirat. v. 71, no. 6, 1965, 270-272

TOPIC TAGS: carbohydrate, plant chemistry, organic synthetic process

ABSTRACT: [Part 7 of this series was published in Planta Medica, Vol 12, 1964, p 296] 6,7-dihydroxy-2-(3,4-dihydroxybenzal)-cumaranone-(3)-β-D-glucoside-(6), proven to be identical with one of the glucosides in Coreopsis maritima (melting point: 207-208°C; $[\alpha_D^{20}]$:-98°), was synthesized by the condensation of 6,7-dihydroxy-cumaranone-(3)-β-D-glucoside with protocatechol aldehyde in acetic anhydride, followed by saponification. Orig. art. has: 2 formulas.

ASSOCIATION: Muszaki Egyetem Szerves-Kemiai Tanszeke, Budapest (Department of Organic Chemistry at the Technical University)

SUBMITTED: 17Dec64

ENCL: 00

SUB CODE: GC, LS

NR REF SOV: 000

OTHER: 0"?

JPRS

Card 1/1 Kc

L 01185-66

ACCESSION NR: AP5025820 HU/0005/65/071/006/0272/0273

18
B

AUTHOR: Farkas, Lorand; Pallos, Laszlo; Nogradi, Mihaly

TITLE: Aurones and aurone glucosides. Part 9: A new synthesis of leptosine

SOURCE: Magyar kemiai folyoirat, v. 71, no. 6, 1965, 272-273

TOPIC TAGS: carbohydrate, plant chemistry, organic synthetic process

ABSTRACT: 6-hydroxy-7-methoxy-2-(3,4-dihydroxybenzal)-cumaranone-(3)-β-D-glucoside-(6), proven to be identical with leptosine, one of the glucosides in Coreopsis grandiflora Nutt., was synthesized from 6-hydroxy-7-methoxycumaranone-(3)-β-D-glucoside-(6)-tetraacetate by condensation with protocatechol aldehyde in acetic anhydride, followed by saponification. The product had a melting point of 235-237°C. Orig. art. has: 5 formulas.

ASSOCIATION: Muszaki Egyetem Szerves-Kemiai Tanszeke, Budapest (Department of Organic Chemistry at the Technical University)

SUBMITTED: 17Dec64 ENCL: 00 SUB CODE: GC, LS

NR REF SOV: 000 OTHER: 009 JPRS

Card 1/1

L 33626-66

ACC NR: AP6025014 SOURCE CODE: HU/0005/65/071/011/0477/0479

AUTHOR: Farkas, Lorand; Major, Adam; Nogradi, Mihaly

23
B

ORG: Department of Organic Chemistry, Budapest Technological University, Budapest (Budapesti Muszaki Egyetem Szerves-Kemiai Tanszeke)

TITLE: Synthesis of two dihydrochalcone glucosides from Malus trilobata and M. sieboldii arborescens

SOURCE: Magyar kemiai folyoirat, v. 71, no. 11, 1965, 477-479

TOPIC TAGS: organic synthetic process, hydrogenation, hydrolysis, plant chemistry

ABSTRACT: Catalytical hydrogenation of the chalcone obtained from 2-benzoyl-phloroacetophenon-4-β-D-glucoside and p-hydroxybenzaldehyde gave phloretin-4'-β'D-glucoside. This was identical with the dihydrochalcone isolated from Malus trilobata. Partial hydrolysis of 3-hydroxyphloretin-2',4'-di-β-D-glucoside yielded 3-hydroxyphloretin-4'-β-D-glucoside, identical with the dihydrochalcone isolated from Malus sieboldii arborescens. [JPRS: 33,906]

SUB CODE: 07, 06 / SUBM DATE: 17Mar65 / OTH REF: 013

Card 1/1 vmb

C916 0179

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13. The reaction mechanism of the methylation of arylamines with tosylesters, by F. [illegible] and M. Vajda. (Magyar Kémikusok Lapja — Journal of the Hungarian Chemical Society, Vol IV, No 12, pp 700–711, Dec., 1949)

Toluene sulfonyl arylamides were methylated with toluenesulfonic methylester in the presence of potassium carbonate. It was observed that this reaction takes place in two consecutive phases: (1) first the formation of a tosyl arylamide potassium salt, (2) then the methylation occurs in the form of an ionic reaction. Two compounds were produced which have not yet been mentioned in the trade literature, namely: tosylanilide potassium (melting point of product obtained by recrystallization from alcohol [illegible] °C) and tosyl-o-anisidine potassium (melting point of product obtained by recrystallization from alcohol [illegible] °C). Both compounds can be methylated quantitatively in 30 minutes. The course of the reaction can be easily followed by acidimetric titration of the unconsumed potassium salts.

METALLURGICAL LITERATURE CLASSIFICATION

NOGRADI T.

HUNGARY/Chemistry - Catalysts 1951

"Role of the Hydrogen Pressure in the Kinetics and Mechanism of Catalytic hydrogenations," in English, Z. Csuros, I. Geczy, T. Nogradi, Org Chem Tech Inst, U Tech Sci, Budapest

"Acta Chimica Acad Sci Hungaricae" Vol 1, No 1, pp 168-181

Examd kinetics and mech of catalytic hydrogenation reaction of double bonds with respect to hydrogen pressure, and retarding effect of reaction product under these conditions. Modified course of max-min curve and studied by systematic variation of substrate concn and by hydrogenation without solvents. In the case of octene-2 without solvent, max-min curve disappeared and gave place to monotonous function.

181T25

NOGRADI, T.

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CH

Antituberculous agents. I. Thiosemicarbazones and hydrazides. L. Toldy, T. Nógrádi, L. Vargha, G. Ivánovics, and I. Koczka (Research Inst. Pharm. Ind., Budapest). *Acta Chim. Acad. Sci. Hung.* 4, 303-13(1954)(in German)(English summary).—Several new thiosemicarbazones and hydrazides were prepd. and their antituberculous activities tested. Some of the cycloalkyl ethers of p-HOC$_6$H$_4$CH:NNHCSNH$_2$ were active but extremely toxic while the hydrazides showed a weak activity compared to isonicotinic acid hydrazide. The following p-ROC$_6$H$_4$CH:NNHCSNH$_2$ were prepd. and tested [R, m.p. (from EtOH), and minimum effective diln. in molar concn. given]: H, —, M/10000; Me, —, M/2560000; Pr, —, M/320000; iso-Pr, —, M/120000; CH$_2$:CHCH$_2$, —, M/320000; Bu, —, M/80000; *MeCH:CHCH$_2$*, 193-4°, M/50000; C$_8$H$_{17}$, 110-11°, M/10000; CH$_2$:CH(CH$_2$)$_9$, 99-101°, M/10000; C$_{12}$H$_{25}$, 107-9°, M/30000; C$_{16}$H$_{33}$, 105-15°, M/25000; C$_{18}$H$_{37}$, 95-7°, inactive; HO$_2$CCH$_2$, —, inactive in M/10000; PhCH$_2$, —, M/40000; *cyclohexyl*, 162-3°, M/640000; *2-cyclohexen-1-yl*, 162-4°, M/320000; *2-(1-cyclopenten-1-yl)ethyl*, 142-4°, M/1600000; *2-(1-cyclohexen-1-yl)ethyl*, 171-2°, M/400000; *2-(2-cyclohexen-1-yl)ethyl*, 139-40°, M/100000; *PhCH:CHCH$_2$*, 191-2°, inactive; *Ph(CH$_2$)$_3$*, 138-9°, M/320000; p-AcNHC$_6$H$_4$CH:NNHCSNH$_2$, —, M/640000. The following R:NNHCSNH$_2$ [R, m.p. (from EtOH), minimum effective diln. given]: p-O$_2$NC$_6$H$_4$CH:CHCH, —, M/80000; p-MeOC$_6$H$_4$CH:CHCH, —, M/160000; p-MeOC$_6$H$_4$CH:CHC(Me), —, M/160000; p-CH$_2$:CHCH$_2$OC$_6$H$_4$CH:CHC(Me), 141-2°, M/320000; 4-PhS(O$_2$)C$_6$H$_4$CH, 229-30°, M/40000; 4-(4-H$_2$NC$_6$H$_4$SO$_2$)C$_6$H$_4$CH, 205-7°, M/ N.CMe:N.C(NH$_2$):CCH, 270° (from AcOH), inactive; *quinoxaline-2-aldehyde*, 259° (decompn.), inactive in M/10000; CH:N.NPh.N:CCH, 223° (decompn.), M/320000; p-EtS(O$_2$)C$_6$H$_4$CH, —, M/50000. The hydrazides of the following acids (acid and minimum effective diln. given): isonicotinic acid, M/4000000; p-MeOC$_6$H$_4$CO$_2$H, M/5000; p-O$_2$NC$_6$H$_4$CO$_2$H, inactive at M/50000; p-H$_2$NC$_6$H$_4$CO$_2$H, M/100000; 2,4-HO(NH$_2$)C$_6$H$_3$CO$_2$H, M/800000; nicotinic acid, inactive at M/5000; cinchoninic acid, inactive at M/5000; 2-phenylcinchoninic acid, inactive at M/5000; *2-hydroxycinchoninic acid* (I), inactive at M/5000; *8-hydroxy-7-quinolinecarboxylic acid* (II) inactive at M/50000; *8-hydroxy-5-nitro-7-quinolinecarboxylic acid* (III), *2-quinoxalinecarboxylic acid* (IV), M/5000; *4-hydroxy-1,5-naphthyridine-3-carboxylic acid* (V), inactive at M/40000; *5-nitro-2-furancarboxylic acid* (VI), M/40000; thiazole-4-carboxylic acid, inactive at M/5000; *2-amino-4-thiazolecarboxylic acid* (VII), M/40000; *2-phenyl-1,2,3-triazole-4-carboxylic acid* (VIII), inactive at M/50000. The following hydrazones were prepd. (min. effective diln. given): p-ZNHN:CHC$_6$H$_4$OH (Z = isonicotinoyl), M/640000; p-ZNHN:CHC$_6$H$_4$OH, M/1280000; 3,4-MeO(HO)C$_6$H$_3$CH:NNHZ M/1280000; p-ZNHN:CHC$_6$H$_4$NHAc, M/2560000. p-HOC$_6$H$_4$CHO (IX) (122.4 g.), 400 ml. MeOH, 91.8 g. CH$_2$:CHCH$_2$Cl, and 65 g. powd. KOH warmed 18 hrs. at 60°, the mixt. dild. with H$_2$O, the sepd. oil extd. with C$_6$H$_6$, the ext. dried, evapd., and the residue distd. gave 132.8 g. p-CH$_2$:CHCH$_2$OC$_6$H$_4$CHO (X), b$_{12}$ [illegible]°. Similarly, 12.2 g. IX, 23 g.

Na (3.15 g.) in 100 ml. EtOH treated with 25.81 g. IX followed by 20.82 g. $PhCH:CHCH_2Cl$, after 3 days at room temp. the sepd. cryst. product filtered, dried,

(5)

p-$MeCH:CHCH_2OC_6H_4CHO$, b_4 140–4°; *p*-$\overline{CH_2.CH_2.CH_2.CH_2.CH:C}CH_2CH_2OC_6H_4CHO$, b_1 160–6°; *p*-$\overline{CH_2.CH_2.CH_2.CH:C}CH_2CH_2OC_6H_4CHO$, b_1 160–5°. A mixt. of 13 g. X, 30 ml. Me_2CO, 650 ml. H_2O, 350 ml. EtOH, and 20 ml. 10% aq. NaOH shaken frequently over 3 days at room temp., dild. with H_2O, the product filtered, and recrystd. gave 3.24 g. *p*-$CH_2:CHCH_2OC_6H_4CH:CHAc$ (XVII), m. 57–9°. Treating 7 g. XVII and 6 g. X with 20 ml. 10% aq. NaOH, filtering after 24 hrs., and recrystg. gave 6.5 g. *p*-$CH_2:CHCH_2OC_6H_4CH:CHCOCH:CHC_6H_4OCH_2CH:CH_2$-*p*′, m. 122–4° (from EtOH), which did not react with $H_2NNHCSNH_2$. *p*-$O_2NC_6H_4SO_2C_6H_4CH(OAc)_2$ (7.6 g.) in 100 ml. EtOAc hydrogenated 50 min. over Pd-C, the mixt. filtered, the filtrate evapd. *in vacuo*, and the residue recrystd. from EtOH gave 3.38 g. *p*-H_2N *analog*, m. 172–3°. The thiosemicarbazones were prepd. from the oxo compds. in the usual manner. Et 2-hydroxycinchoninate (1 g.) and [illegible] boiled 2 hrs. and recrystd. gave I, m. 287–8° and recrystd. from 100 ml. EtOH gave 10 g. *p*-$PhCH:CHCH_2OC_6H_4CHO$ (XI), m. 90–1°. XI (5 g.) in 60 ml. EtOAc hydrogenated over Pd-C at atm. pressure at room temp. and the product distd. gave a quant. yield of *p*-$Ph(CH_2)_3OC_6H_4CHO$, b_1 190–5°. A soln. of 4.6 g. KOH, 10 g. IX, and 18 g. 2-cyclohexen-1-yl chloride (RCl) (R = 2-cyclohexen-1-yl) in 50 ml. EtOH let stand overnight, dild. with H_2O, extd. with C_6H_6, and the ext. distd. yielded 8 g. *p*-ROC_6H_4CHO, b_1 155–8°. RCH_2CO_2Et (XII) (67 g.), 200 ml. abs. EtOH, and 5 ml. concd. H_2SO_4 boiled 3 hrs., concd. to 1/3 the vol. *in vacuo*, dild. with 200 ml. H_2O, the oil extd. with C_6H_6, and the ext. distd. yielded 63 g. XII *Et ester* (XIII). XIII (63 g.) in 400 ml. abs. EtOH warmed to 50°, the source of heat removed, the soln. treated over 10 min. with 39.75 g. Na, the latter consumed after stirring 1 hr., the warm soln. poured into 1 l. H_2O, extd. with five 200-ml. portions of Et_2O, the exts. washed with H_2O, dried, the Et_2O evapd., and the residue distd. gave 24 g. RCH_2CH_2OH (XIV), b_7 85–7.5°. Similarly prepd., 50% $\overline{CH_2.CH_2.CH_2.}$

24

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$b_{7.5}$ 160-3°, m. 87-8° (from C_6H_6-ligroine). XX (1 g.) in 10 ml. EtOH added dropwise to 3 ml. $N_2H_4.H_2O$ in EtOH and the product recrystd. yielded II, m. 140-5° (decompn.) (from EtOH). Et 5-nitro-8-hydroxy-7-quinolinecarboxylic acid (m. 140-60°) with $N_2H_4.H_2O$ gave III, m. 230-5° (decompn.) (from EtOH). Similarly were prepd. V, colorless needles, m. above 350° (from H_2O); VIII, m. 177-8° (from MeOH); VII, colorless needles, m. 196-7°. Et 5-nitro-2-furancarboxylate (XXI) (2.5 g.) in 200 ml. abs. EtOH treated at 0° with 680 mg. $N_2H_4.H_2O$, left 2 days at 0°, the soln. treated with C, the EtOH distd. *in vacuo*, and the residue recrystd. from EtOH gave impure VI which was purified by subliming out unchanged XXI and recrystg. the residue twice from EtOH, yielding 0.0 g. VI, m. 162-4°.

active at M/10000; 2,4-HO(BzHN)$C_6H_3CO_2H$ (VI), M/10000; 4,2,6-$O_2N(HO)_2C_6H_2CO_2H$, inactive at M/10000; 4,2,6-$H_2N(HO)_2C_6H_2CO_2H$, M/20000; p-$H_2NC_6H_4$CH:CHCO$_2$H, inactive at M/10000; *p-H_2N[illegible].CH:CHCO$_2$Pr* (VII), inactive at M/10000; I (control), M/640000. 2,4-AcO(O_2N)$C_6H_3CH_2Br$ (4 g.) and 2 g. fused KOAc in 20 ml. AcOH refluxed 2.5 hrs., the mixt. dild. with H_2O, and recrystd. gave 2.5 g. *2,4-Ac(O_2N)$C_6H_3CH_2OAc$* (VIII), m. 75-6° (from EtOH). Hydrolysis of 3.2 g. VIII in 40 ml. 30% alc. HCl by boiling 4 hrs., the EtOH distd., the residue extd. with C_6H_6, and the C_6H_6 removed left 2 g. *2,4-HO(O_2N)$C_6H_3CH_2OH$* (IX), yellow oil; *p-nitrobenzoate*, m. 203-5° (from EtOH). Catalytic reduction of 1.8 g. IX in 50 ml. EtOH with Pd-C (the substance absorbed 925 ml. H in 30 min.), the mixt. filtered, the filtrate concd. *in*

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C_5H_5N, treated with 5% HCl, finally washed with H_2O and EtOH, and repeatedly recrystd. from C_5H_5N to give 64 g. 2,4-HO[2,4-HO(O_2N)C_6H_3CONH]$C_6H_3CO_2Et$ (X), m. 251-2°. Hydrogenation of 5 g. X in 250 ml. EtOAc over 10% Pd-C gave the H_2N compd. (XI), colorless needles, m. 200-1° (from AcOH). Hydrolysis of XI with aq. NaOH gave

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crude IV which, pptd. from C_5H_5N with abs. EtOH, colorless, decompd. 242-3°. I (3 g.) and 2.9 g. phthalic anhydride (XII) in 150 ml. EtOAc let stand 24 hrs. at room temp., the material filtered, and washed with EtOAc afforded IVa acid, decompd. 188-90° with gas evolution, becoming solid, and then m. 215-20°. I Et ester (3.6 g.) and 3 g. XII in 50 ml. EtOAc let stand overnight, the cryst. product filtered, and washed with EtOAc gave 4.7 g. IVa, m. 179-80° (decompn.). IVa (1 g.) heated 1 hr. at 200° and recrystd. yielded V, m. 192-3° (from AcOH). Benzoylation of 15.3 g. I in aq. Na_2CO_3 gave 20 g. VI, m. 210-1° (from EtOAc). p-$HO_2CCH:CHC_6H_4NH_2$.HCl (5 g.) and 60 ml. PrOH treated 4 hrs. with dry HCl while warming on the water bath, the soln. cooled, the cryst. material filtered, and washed with a little PrOH gave 3 g. VII. HCl, m. 210° (decompn.).

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