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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

BC

a-1

Photo-colorimetric determination of silicic acid in presence of phosphoric acid. M. Carnot (Chem. Obser., [illegible], [illegible]—[illegible], [illegible]—[illegible]; Chem. Zentr., [illegible], [illegible]) SiO_2 is converted by HCl+ $(NH_4)_2MoO_4$ into silicomolybdate, which is reduced with $Na_2S_2O_3$ and compared in a colorimeter. Interference by SiO_2 is inhibited by addition of $KMnO_4$ and then NH_4 [illegible]. J. S. A.

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1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

The photocolorimetric determination of silicic acid in the presence of phosphoric acid in sugar products. M. Černý. *Listy Cukrovar.* 52, 269-73(1934).—The primary and secondary products were used in concns. as high as 50 g. per 200 cc. H_2O; molasses (10 g.) was dild. to 200 cc., heavy liquors to 18° Bg., but satn. or light liquors were not dild. The reagents were: $KMnO_4$ 3 g. per l. (I), NH_4 molybdate 10.0 g. per l. (II), 100 cc. concd. HCl per l. (III), citric acid, 20 g. in 50 cc. H_2O, neutralized with concd. NH_4OH and made to 100 cc. with H_2O (IV), and a concd. soln. of NH_4OH satd. with H_2SO_4, the clear liquid being poured into a buret (V) (this soln. must be prepd. just before being used). For the blue soln. (*A*), 50 cc. of the properly dild. sugar liquid is placed in a 100-cc. volumetric flask and followed by 10 cc. of I, 10 cc. of II, 5 cc. of III, 10 cc. of IV and 5 cc. of V from a buret. After each addn. the soln. is shaken and allowed to stand for the reactions to occur. After the addn. of soln. III at least 1 min. should be allowed for the ppt. to dissolve; after the addn. of IV, 2 or 3 min. is required. If the procedure is carried out correctly, the soln. is blue or blue-green, clear and transparent. The soln. is dild. to exactly 100 cc., allowed to stand 15 min., and read in a Šandera colorimeter to give the total mg. of SiO_2. For the yellow soln. (*B*), 50 cc. of the sugar liquor is placed in a 100-cc. volumetric flask and treated with solns. in the following order: 10 cc. of I, 10 cc. of IV, 10 cc. of II, 5 cc. of III and finally 5 cc. of V. A thorough mixing after each addn. suffices to produce a clear yellow liquid, which is lighter in color than the original. After the soln. has been made up to 100 cc. and has stood 15 min., it is read in the colorimeter to give the mg. of SiO_2 due to the color and chem. reactions of the agents. Calibration curves have to be constructed for solns. *A* and *B* from solns. contg. known amounts of SiO_2. In concns. of 0-2 mg. SiO_2 per 100 cc. the max. error was ±0.04 mg.; higher concns. produced too dark a color for dependable measurements. The presence of 50 mg. of P_2O_5 did not affect the SiO_2 detns.; higher quantities of P_2O_5 produced a turbid soln. The method was controlled by comparing with solns. contg. known amts. of SiO_2 and by adding known amts. of SiO_2 to sugar liquors. The $KMnO_4$ protected the complexes from reduction by substances in the liquors and gave results as dependab[illegible] as those from solns. in distd. H_2O; the $KMnO_4$ was removed by the hyposulfite. The influence of P_2O_5 was eliminated by the excess of NH_4 citrate, which also removed ppts. formed by betaine and choline. Invert sugar did not begin to reduce any of the complexes until after 60 or 120 min., or long after the SiO_2 detns. were completed. Also in *Chem. Obzor* 9, 121-2, 138-40(in English 140)(1934).

Frank Maresh

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1ST AND 2ND ORDERS — PROCESSES AND PROPERTIES INDEX — 3RD AND 4TH ORDERS

28

Movements of silicic acid during the purification of sugar juices. M. Curet. *Lait Cahiers*, 33, 17-32 (1954).—Beet juices [illegible] maintained at 85° in Cr-plated vessels and treated with sufficient water glass to produce a concn. of 0.12 mg. SiO_2 per 100 cc. The mixt. was stirred with c. p. CaO for 5 min. and sed.; at intervals, samples were withdrawn and analyzed for alky., SiO_2 and n. A min. of 0.09-0.11 mg. SiO_2 per 100 cc. occurred in sed. juices with a final alky. of 0.075-0.09% CaO; a decrease of alky. to neutrality increased the SiO_2 in the juices to 0.39-0.64 mg. and an overmatn. increased it to 1.15 mg. per 100 cc. An addn. of MgO to give a 0.3% MgO concn. in the limed juice increased the min. of SiO_2; a max. effect occurred at 0.06% CaO, the SiO_2 in min. increasing from 0.12 to 0.39 mg. per 100 cc. Addns. of Na_2CO_3, corresponding to an alky. of 0.06% CaO, to the limed juice increased the SiO_2 in min. with the decreasing alky.; at 0.06% CaO 0.42 mg. SiO_2 was in min. and at 0.09% CaO 0.84 mg. SiO_2, while controls showed 0.11-0.13 mg. SiO_2 per 100 cc. Addns. of 0.543% N as NH_4OH to the limed juice trebled the min. of SiO_2 over control mins. The alky. at which the SiO_2 went rapidly into min. was 0.03-0.05% for pure CaO, 0.05-0.09% as CaO for 0.3% MgO, 0.10-0.17% for NH_4OH, and 0.11% as CaO for the presence of Na_2CO_3. Among the mins. having an opposite effect, $Al_2(SO_4)_3$ was most effective when the Al_2O_3:SiO_2 ratio was 3:1; in the changes of 0.15 to 0.009% CaO the mg. SiO_2 in min. remained 0.08-0.12. All expts. were repeated with com. limes. From industrial expts., C. concludes that the concn. of SiO_2 in juices going to the evaporators depends upon the degree of matn. When the alky. of the 1st matn. remained at 0.09-0.11% CaO, most of the SiO_2 ppt'd. with the sediments. During the 2nd matn. at an alky. of 0.09-0.09% CaO, addns. of NH_4OH, Na_2CO_3 or MgO increased the SiO_2 in min. If a fraction of the SiO_2 entered into min. during the 1st matn. by an overmatn. process, it was not removed during the 2nd matn. SiO_2 added with the lime during the 2nd matn. easily enters the liquor and remains in min. on account of the low alky. The min. of SiO_2 in the 2nd matn. can be avoided by using lime low in SiO_2 or lime contg. only insol. SiO_2, by adding the entire quantity of lime during the 1st matn. and keeping the CaO above 0.1%, and by avoiding addns. of lime during the 2nd matn.

Frank Marsh

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1ST AND 2ND ORDERS

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3RD AND 4TH ORDERS

Ca

28

The use of amino numbers in studying sugar and fodder beets. V. Nichik and M. Cuzdan. *Lucr. Cabrouar.* 33, 133-48(1934); *Z. Zuckerind. Czechoslovak. Rep.* 59, 284-8, 292-6(1935). Using a modified Sörensen-Partos method (C. A. 30, 4289[1]) for detg. the quantity of total amino N in sugar solns., the authors expressed the detd. total amino N as amino no. and analyzed beets for wt. of root and greens, digestion, dry substance in juices, and ash. In 6 exptl. field plots on different estates, the amino no. was 2.75-5.0 on Aug. 1. In one field the amino no. rose steadily to 7.5 on Nov. 1; in another field a max. of 5.3 occurred on Oct. 1; in the remaining fields, a min. range of 1.5-2.5 occurred in Sept.; on Nov. 1 the amino no. was 2.5-7.5. In comparison to the amino no. on Aug. 1, 2 fields showed an increase; 2, a decrease; and 2, no change. The changes were not dependent upon the season's duration; they were influenced by the ppts.; droughts increased the amino no.; rains decreased it. In pot expts. in which N was absent the amino no. was 2.5-3.0, in the presence of NPK the range was 2.5-4.5, and in the absence of P the range was 5.5-7.5. In soils to which progressively larger quantities of N fertilizers were added, the amino no. rose proportionally. Beets planted in March had completely ripened in Oct. and showed an amino no. of 4.60; beets planted later had a higher amino no. during the harvest period in proportion to the length of the season; beets planted on May 16 developed an amino no. of 5.50 in Oct. A sugar beet sliced into about 30 slices showed that the amino acids were not localized in any specific regions. Growing portions of the root showed an amino no. ranging from 7 to 10. From the same field, sugar beets showed a range of amino no. of 3.5-5.2; for fodder beets the range was 5.5-6.0. In a sugar beet rotting, an abnormal growth, the amino no. of the head of the root was 6.2, of the tip of the root 4.7, and of the tumor 8.0. The amino no. could not be correlated with the digestion or refraction; it was remotely correlated to the wt. of the beet root; in most analyses, the amino no. was correlated with the sol. ash. The first-generation offsprings showed ranges of 5.7-7.2, 1.5-3.5 and 3.5-4.5 when grown in different fields; besides a nutritional factor, the authors believe that a genetic factor is responsible for the wide range of distributions of amino no. under different ecologic conditions.

Frank Marsch

ASB-11A METALLURGICAL LITERATURE CLASSIFICATION

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1ST AND 2ND ORDERS

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3RD AND 4TH ORDERS

BC

B-III-2

Table for determination of invert sugar in presence of sucrose by Fehling's solution. J. Vondrák and [illegible] Czechoslov., 1934, 58, 350—[illegible] have been published by Vondrák (B., 1934, [illegible]) and others showing that if during the boiling of the mixture of invert sugar and Fehling's solution some solid substance, such as talc or glass beads, be added to [illegible] boiling, [illegible] is obtained than in the ordinary way when the liquid boils somewhat intermittently with some superheating. A table has now been compiled giving the Cu nos. with the corresponding invert sugar figures, both in absence and presence of sucrose, boiling being conducted with glass beads in the same liquid. This table is offered to replace those of Mansfeld and others obtained under ordinary conditions of boiling. J. P. O.

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Ca

28

The photocolorimetric determination of silicic acid in the presence of phosphoric acid in sugar-factory products. M. Cerný. Z. Zuckerind. Tschechoslovak. Rep. 99, 273-8(1935). See C. A. 28, 7083[9].

Frank Maresh

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1ST AND 2ND ORDERS

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BC

B-III-1

Application of the method of determining harmful amino-nitrogen in beet. V. Strelix and M. Čanut (Z. Bucherind. Czechoslov., 1955, 59, 284—288, 292—296; cf. B., 1955, 201).—Application of the method in cultural experiments shows the dependence of this factor on climatic and soil conditions. The method is rapid, and where a great no. of determinations have to be made, as in selection tests, it forms a valuable aid in deciding many questions. J. P. O.

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BC

B-III-2

Behaviour of silicic acid in clarification of beet juice. M. Cerný (Z. Zuckerind. Czechoslov., 1955, 59, 305—311).—U[illegible] the Cerný photo-colorimetric method (A., [illegible]), it is shown that if in the first carbonatation the alkalinity be held at 0·09—0·11% CaO, the greater part of the SiO_2 present in the juice will pass into the scums, but if by over-saturation some be allowed to redissolve it cannot be removed in the second carbonatation. Emphasis is laid on the importance of using a quality of CaO for defecation which is low in sol. SiO_2. J. P. O.

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1st and 2nd orders

3rd and 4th orders

CA

11 10

The movement of the main nutritive elements in sugar beets. M. Černý. *Listy Cukrovar.* 58, 199-209 (in German, 210) (1940).—During 2 seasons (1937 and 1938) Č. selected 150 beets (Dobrovice) from 6 exptl. plots in 14-day intervals from June 15 until Nov. 15 and analyzed separately the leaves, head and root. The dry substance of the root and head rose linearly until Aug. 15 and continued to rise linearly at a lower slope until the end of the season; the dry substance of the leaves remained const. at 10% until Sept. and then rose rapidly. The ash in the leaves rose gradually from 2.7% in June to 3.4% on Sept. 15 and quickly to 4.5% on Nov. 1; the ash in the head dropped from 1.3 to 0.9% during the season, and in the root from 1.1% to 0.4%. The total N in the leaves reached a max. of 0.42% on Aug. 15 and declined to 0.37% on Nov. 1, while in the head it reached a max. of 0.34% on July 1, fell to a min. of 0.28% on Sept. 1, and rose again to 0.42% on Nov. 1, and the total N in the root reached a max. of 0.24% on July 1, passed through a min. of 0.16% on Oct. 1 and reached 0.18% on Nov. 1. The K_2O in the leaves reached a max. of 0.78% on Aug. 1, passed through a min. of 0.70% on Oct. 15, and reached 0.77% on Nov. 1, while in the head it dropped from 0.42% to 0.3% during the season, and in the root dropped from 0.38% to 0.2% during the season with most of the change occurring during June and July. The P_2O_5 in the leaves was 0.10% on June 15, dropped to 0.085% on July 15, and rose linearly to 0.13% on Nov. 1; while in the head it ranged from 0.138 to 0.135% from June until Aug. 1, fell to 0.09% on Aug. 15 and rose linearly to 0.155% on Nov. 1 and in the root was 0.14% on June 15, passed through a min. of 0.07% on Sept. 1 and rose to 0.085% during Oct. The sugar in the head was 3% in June, rose linearly to 13% on Aug. 15, and continued to rise linearly reaching 14.5% on Nov. 1; while in the root it was 4.8% on June 15, rose linearly to 16% on Aug. 15 and continued to rise slowly to 16.38% on Nov. 1. The influence of the pptn., parasites, fertilizers, soils, and the removal of leaves upon the chem. compn. is discussed. Toward the end of the season the nutritional elements moved from the leaves to the root with a storage of N and P in the head and K in the entire root. During this period the wilting of the leaves converted the nutritional compds. into sol. forms and enabled an easy diffusion of elements from the leaves into the root. During the vegetative season the movement and the concn. of N and K followed closely that of the sugar, but the movement of P occurred slowly and large changes in the concn. occurred at much later dates.

Frank Marsch

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PROCESSES AND PROPERTIES INDEX

28

Studies of the components of beet pulp. M. Černý. *Listy Cukrovar.* 60, 108-7(1941).—Seven beet brands which have had tendency towards fiber formation for generations showed the following av. values: dry matter 25.87, ash 0.687, sugar 19.08%, elec. cond. 74.31, refraction 35.51 units, blue no. 30.4, dry pulp 4.90%, pulp ash 3.98, dry ashless pulp 4.74, cellulose in the dry ashless pulp 27.98, lignin 7.43, pectins 20.70, and pentosans 16.28%. Five beet brands which have not shown the tendency to form fibrous roots showed the following av.

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A new method for the preparation of penthiamones. Václav Horák and Miloslav Černý (Charles Univ., Prague). *Collection Czech. Chem. Commun.* 18, 379-83(1953).— See *C.A.* 47, 3853g. R. H.

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CERNY, M

CHECHOSLOVAKIA/Organic Chemistry. Natural Compounds and their Synthetic Analogues. E-3

Abs Jour: Ref Zhur-Khimiya, No 6, 1957, 19290

Author : Corny M., Pacak J.
Inst :
Title : Deoxysugar. II. Preparation of 3-deoxy-D-glucose and some of its Derivatives.

Orig Pub: Chem listy, 1955, 49, No 12, 1848-1850, Sb. chekhosl. khim. rabot, 1956, 21, No 4, 1003-1006

Abstract: At the desulphurization of methyl ester of 1,2,4,6-diisopropylidene-3-α-D-glucofuranosyldithiocarbonic acid (boiling 3 hours with skeleton Ni in alcohol) 1,2,4,6-diisopropylidene-3-deoxy-α-D-glucofuranose (I), yield 74%, b.p. 105-115°/3mm (temperature of a waterbath), $n^{21}D$ 1.4513, $[\alpha]_D^{18}$ -8.6° (with 3.7; alc.) is formed. I is boiled 15 min. with conc. HNO_3 in ethyl acetate, and 1,2-

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CERNY Miloslav

CZECHOSLOVAKIA/Organic Chemistry. Naturally Occurring Substances and Their Synthetic Analogues. G-3

Abs Jour: Ref Zhur-Khim., No 13, 1958, 43464.

Author : Pacak Josef, Cerny Miloslav.
Inst :
Title : The Use of Ethyl Ester of Metaphosphoric Acid in the Preparation of Isopropylidene Derivatives of Unsubstituted Monosaccharides.

Orig Pub: Chem. listy, 1957, 51, No 6, 1165-1170.

Abstract: A method has been worked out for the synthesis of isopropylidene derivatives of various sugars by the use of $C_2H_5OPO_2$ (I). The method has been tested with D-glucose, D-galactose, D-fructose, D-sorbose and D-arabinose. I has a good dehydrating action, is soluble in acetone (II) and decomposes it to a

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CZECHOSLOVAKIA/Organic Chemistry. Naturally Occurring Substances and Their Synthetic Analogs. G-3

Abs Jour: Ref Zhur-Khim., No 13, 1958, 43464.

lesser extent than H_2SO_4. The reaction can be effected at elevated temperature (on a water bath, until the sugar is completely dissolved) or at about 20°, with a higher concentration of the condensing agent and longer duration of the reaction. Isolation of the product is effected by salting out of the reaction mixture with a concentrated aqueous solution of K_2CO_3 and treatment of the acetone layer. Formation of by-products from I and II, which depends on concentration of I and II, has been investigated. A study was made of the effect of different conditions of the reaction on the yield of 1,2; 5,6-di-isopropylidene-D-glucofuranose (III). The new method is faster and of better reproducibility than the previously

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Abs Jour: Ref Zhur-Khim., No 13, 1958, 43464.

described. Synthesis of I: a) a mixture of 4500 ml ether and 600 g P_2O_5 is heated to a boil for approximately 45 hours. Then, the ether layer is removed and 1200 ml $CHCl_3$ are added to the residue. After boiling for 5 hours the solution is filtered and precipitated with 2400 ml of ether. The sirup that separates is drawn off and heated on a water bath, in vacuum, to 60° in order to remove the remaining solvents. Yield 330 g, $n^{20}D$ 1.442; b) 2000 ml ether and 500 g P_2O_5 are kept at about 20° for 5 weeks, with shaking at regular intervals of time. The ether layer is then removed and the crude I is heated to boiling with 500 ml $CHCl_3$. The resulting solution is filtered and precipitated with

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Abs Jour: Ref Zhur-Khim., No 13, 1958, 43464.

with 1500 ml ether. The re-precipitated I (420 g) is stored in a desiccator over H_2SO_4. Procedures a and b were carried out using ether and $CHCl_3$ that were not dried. c) see Steinkopf W., Schubart I., Liebigs Ann. Chem., 1921, 424, 1. General method for the preparation of di-isopropylidene derivatives: The reaction was effected using a vigorously agitated mixture of I, anhydrous II and finely powdered sugar. To isolate the product formed on boiling, or by shaking at about 20°, in approximately 300 ml acetone solution containing a maximum amount of 50 g I, there were added 100 ml of aqueous solution of K_2CO_3 (150 g K_2CO_3 in 350 ml water) and after a thorough agitation the separated salts were filtered off, the aqueous

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Abs Jour: Ref Zhur-Khim., No 13, 1958, 43464.

layer was drawn off and extracted three times with $CHCl_3$ using 30 ml $CHCl_3$ for each extraction. The acetone layer was shaken with activated charcoal, filtered, approximately 0.5 g $BaCO_3$ were added to the filtrate, and II was distilled off. The residue was combined with the CHCl -extract of the aqueous layer. The Ba-salts were filtered off, the CHCl layer was separated and the remaining aqueous layer was extracted with 30 ml $CHCl_3$. The crude product was recovered from the combined $CHCl_3$-extracts. Synthesis of III: 30 g I were shaken with 300 ml dry II, 10 g anhydrous D-glucose were added, and the mixture was heated on a water bath, with shaking from time to time, until the glucose was completely dissolved

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CZECHOSLOVAKIA/Organic Chemistry. Naturally Occurring Substances and Their Synthetic Analogs. G-3

Abs Jour: Ref Zhur-Khim., No13, 1958, 43464.

D-fructose were boiled for 10 minutes, yield 51%. There was obtained a mixture of VI and, probably, 2,3;4,5-di-isopropylidene-D-fructopyranose. By recrystallization of the mixture from petroleum ether the VI was isolated, yield 36%, MP 116-118°, $[\alpha]^{17}_{D}$ -160° (c 1.03; water) 2,3;4,6-di-isopropylidene-D-sorbofuranose: 10 g D-sorbose were boiled 1.5 hours with a mixture of 20 g I and 250 ml dry II, yield 31%, BP 120-130°/4 mm. 1,2;3,4-di-isopropylidene-D-arabinopyranose: 3 g I and 30 ml dry II were added to 1 g D-arabinose and the mixture was boiled 1.5 hours, yield 83%, MP 37-40°. The melting points were determined using a block of Kofler [transliterated].

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CZECHOSLOVAKIA/Organic Chemistry. Natural Substances and Their Synthetic Analogues. G

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 74123.

Author : J. Pacák, M. Cerny.
Inst :
Title : Application of Ethyl Ester of Metaphosphoric Acid to Preparation of Isopropylidene Derivatives of Non-Substituted Monosaccharides.

Orig Pub: Collect. Czechosl. chem. communs, 1958, 23, No 3, 490-496.

Abstract: See RZhKhim, 1958, 43464.

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CZECHOSLOVAKIA/Organic Chemistry. Natural Products and Their Synthetic Analogues. G-3

Abs Jour: Ref Zhur-Khim., No 24, 1958, 81743.

Author : Cerny M., Vrkoc J., Stanek J.
Inst :
Title : The Problem of Preparing Acylated Derivatives of Glycopyranozyl Mercaptans

Orig Pub: Chem. listy, 1958, 52, No 2, 311-315.

Abstract: When 333 grams of 2,3,4,6-tetraacetyl-α-D-glycopyranozyl bromide was heated for 15 minutes to boiling point with 60 grams of thiourea in 300 ml acetone and after cooling with ice one obtains 300 grams of crude 2,3,4,6-tetraacetyl-β-D-glucopyranozyl-isothiuronium bromide (I), m.p. 178°C., applied for further investigation. The pure I, m.p. 189°C. (from

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CZECHOSLOVAKIA/Organic Chemistry. Natural Products and Their Synthetic Analogues. G-3

Abs Jour: Ref Zhur-Khim., No 24, 1958, 81743.

mercaptan (VII), yield 60%, m.p. 60-62° C. (from benzene), [α] D + 2.2 ± 0.2 (c 1.2; chloroform), the oxidation of which is similar to that described for the synthesis of IV, produced 2,3,4,2',3',4'-hexa-acetyl-α-α'-α-diarabinopyranozyl sulfide, m.p. 150-151° C., [α] D -212.5 ± 1° (c 1.8; chloroform). In the same way as for V, 1-s-acetyl-2,3,4-tri-o-acetyl-α, D-arabino pyranozyl mercaptan was synthesized from VII, m.p. 80 to 81° C. (from alcohol or benzene), [α] D + 44.2 ± 0.5° (c 1.2; $CHCl_3$). In attempting to synthesize VII by the action of $NaHSO_3$ on VI in the cold from the mother liquors, the amide of the 2,3,4-triacetyl-α-D-arabino pyranozyl thio-carbonic acid, was separated m.p. 128° C. (alcohol,

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AUTHORS: Černý, M. and Pacák, J. CZECH/8-52-11-10/30

TITLE: A New Method for the Preparation of Acetyl Derivatives of β-D-Thioglucopyranosides (Nová metoda pro přípravu acetylovaných β-D-thioglukopyranosidů)

PERIODICAL: Chemické Listy, 1958, Vol 52, Nr 11, pp 2090 - 2093 (Czechoslovakia)

ABSTRACT: The authors state that they have prepared certain acetylated β-D-thioglucopyranosides and β, β'-thiotrehalose by the alkylation of 2, 3, 4, 6-tetra-O-acetyl-β-D-glucosylmercaptan in alkaline media.

Introduction: The most common preparation of thioglycosides, so far, has been the reaction of acetylated glycosyl halides with the sodium or potassium salts of the respective mercaptans. The obvious drawback of this method is the necessity of preparing the required mercaptan, which has not only a markedly unpleasant smell but frequently suffers partial deacetylation during the reaction resulting in a reduced yield and enhanced difficulties in the isolation of the thioglycoside so obtained. The authors state that, as a result, they have worked out a new method which obviates the preparation

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CZECH/8-52-11-10/30

A New Method for the Preparation of Acetyl Derivatives of β-D-Thioglucopyranosides

of the mercaptans. It depends upon the alkylation of 2,3,4,6-tetra-O-acetyl-β-D-glucosylmercaptan with a suitable halide in an alkaline, preferably a carbonate medium. The preparation of 2,3,4,6-tetra-O-acetyl-β-D-glucosylmercaptan from 2,3,4,6-tetra-O-acetyl-α-D-glucosyl-bromide and thiourea has been previously described (Ref 5). Glucosylmercaptan is fairly stable (does not change on keeping for several months) and does not smell in alkylating media and is easily soluble in aqueous acetone solutions. Bromides and iodides proved especially suitable as aklylating reagents and cyano-ethylation with acrylonitrile proceeded easily. Aqueous acetone solutions of potassium carbonate were the most suitable and the alkylation proceeds at normal temperatures in a short time. The reaction is exothermic, especially in the presence of sodium hydroxide. Since there is no deacetylation occurring during the acetylation, the thioglucosides so produced are normally very pure and the yields are good (about 80%). The alkylation of gluco-sylmercaptan with ethylene dibromide yield, according to

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A New Method for the Preparation of Acetyl Derivatives of β-D-Thioglucopyranosides

molar ratios, either β-bromoethyl-2,3,4,6-tetra-O-acetyl-β-D thioglucoside or, as the elementary analysis suggests, 1,2-bis(2,3,4,6-tetra-O-acetyl-β-D-thioglucosyl) ethane. The alkylation of glucosyl-mercaptan with 2,3,4,6-tetra-O-acetyl-α-D-glucosylbromide yielded the acetylated sulphur analogue of isotrehalose. The method of preparation and optical rotation is evidence for β, β'-thiotrehalose. It is possible to replace glucosylmercaptan directly with 2,3,4,6-tetra-O-acetyl-β-D-glucosyl isothiouronyl bromide but the yields of the thioglucosides are lower. The authors claim that the method enables the rapid preparation of a series of thioglucosides which were not previously obtainable because of the instability of the respective mercaptan, e.g. p-nitrobenzyl mercaptan.

Experimental: Preparation of 2,3,4,6-tetra-O-acetyl-β-D-Thioglucoside From Glucosyl Mercaptan. A. In the Presence of Potassium Carbonate. To 2,3,4,6-tetra-O-acetyl-β-D glucosyl mercaptan solution (3.6 g, 0.01 mole) in acetone (10 ml.) was added an excess of the halide (0.02 to 0.03 mole of volatile halides but only 0.011 mole in the

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CZECH/8-52-11-10/30

A New Method for the Preparation of Acetyl Derivatives of β-D-Thioglucopyranosides

case of the non-volatile ones) followed by aqueous solution (10 ml.) of potassium carbonate (1.38 g). The mixture was thoroughly shaken for 30 min in a stoppered vessel; small quantities of liberated CO_2 formed were released from time to time. On completion of the reaction, the reaction mixture was poured, with stirring, into ice-cold water (80 ml.). The syrup which separated out occasionally solidified to a crystal mass immediately but it usually did so after allowing to stand for several hours in the refrigerator. This solid was filtered off, where necessary washed with a little petrol ether and then dried in vacuo. If the syrup failed to solidify even on lengthy standing in the refrigerator it was dissolved in ether, the ether solution shaken successively with dilute KOH, dilute H_2SO_4 and, finally, water. The ether layer was, after separation, dried over anhydrous calcium chloride or magnesium sulphate and, after filtration through a thin layer of granular charcoal, the ether was distilled off

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and the residual syrup crystallised from a suitable solvent. β-cyanoethyl-2,3,4,6-tetra-O-acetyl-β-D thioglucoside was prepared in a similar fashion except acrylonitrile was used in place of the halide. Details of twelve acetylated thioglucosides prepared by this method are given in Table 1.

B. In the Presence of Sodium Hydroxide. Benzyl-2,3,4,6-tetra-O-acetyl-β-D-Thioglucoside. Benzylchloride (2 ml.) was added to a solution of glucosyl mercaptan (3.6 g; 0.01 mol) in acetone (10 ml.) followed by 5% sodium hydroxide solution (10 ml.). The mixture was shaken for 20 min until it warmed to 40 °C. It was then poured into ice-water (80 ml.) and the thioglucoside isolated as above. Yield: 3.2 g (72%) MPt. 98-100 °C.

Preparation of S-alkyl Thioglucosides from 2,3,4,6-tetra-O-acetyl-β-D-glucosyl iso thiouronyl bromide. A. In the Presence of Potassium Carbonate. Methyl iodide (1.8 ml; 0.029 mole) was added to the solution of the isothiouronyl salt (4.87 g; 0.01 mole) in acetone (10 ml.) followed by a solution of potassium carbonate (1.6 g) and sodium

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CERNY, M.; VRKOC, J.; STANEK, J.

"Preparation of acylated glycopyranosyl mercaptans." In German. p. 64.

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS, Praha, Czech., Vol. 24, No. 1, Jan. 1959.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 6, Sept. 59

Unclassified

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

COUNTRY : CZECHOSLOVAKIA
CATEGORY : Organic Chemistry. Natural Substances and Their Synthetic Analogs
ABS. JOUR. : RZKhim., No. 23 1959, No. 82397

AUTHOR : Stanek, J.; Cerny, M.
INST. : -
TITLE : On the Formation of Acetylated Derivatives of Glycosylamines

ORIG. PUB. : Collect. Czechosl. Chem. Communs, 1959, 24, No 3, 1017-1019
ABSTRACT : No abstract.
See RZhKhim, 1958, No 24, No 81741.

CARD: 1/1

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, M.; PACAK, J.

Production of 2,3,4,6-tetra-O-acetyl-β-D-glucopyranosylmercaptan and of sodium and gold-β-D-glucopyranosylmercaptide. Coll Cz Chem 26 no.8:2084-2086 '61.

1. Institut fur organische Chemie, Karlsuniversitat, Prag.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, M.; ZACHYSTALOVA, D.; PACAK, J.

Production of acetylized aromatic β-D-thioglucopyranoside by means of reaction of diazonium salts with 2,3,4,6-tetra-O-acetyl-β-D-glucopyranosylmercaptan. Coll Cz Chem 26 no.9:2206-2211 '61.

1. Institut fur organische Chemie, Karlsuniversitat, Prag.

(Osides) (Diazonium compounds) (Captan)

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

PACAK, J.; CERNY, M.

1,2:3,4-di-O-benzyl-D-galactopyranose. Coll Cz Chem 26 no.9:2212-2216 '61.

1. Institut fur organische Chemie, Karlsuniversitat, Prag.

(Galactopyranose)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, M.; GUT, V.; PACAK, J.

Partial substitution of 1,6-anhydro- D-glucopyranose. Coll Cz Chem 26 no.10:2542-2550 O '61.

1. Institut fur organische Chemie, Karlsuniversitat, Prag.

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CZECHOSLOVAKIA

CERNY, M; BUBEN, I; PACAK, J.

Institute of Organic Chemistry of Charles University, Prague (for all)

Prague, Collection of Czechoslovak Chemical Communications, No 6, 1963, pp 1569-1577

"Syntesis with Anhydro Sugar III. On the Reaction of 2-O-Tosyl-1,6:3,4-Dianhydro-Beta-D-Galactopyranose with Natriumhydroxyde."

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

PACAK, J.; CERNY, M.

Preparation and structural test of the 4,6-O-benzylidene-D-galactopyranose. Cell Cs Chem 28 no.2:541-544 F '63.

1. Institut fur organische Chemie, Karlsuniversitat, Prag.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

Cytology

CZECHOSLOVAKIA

ZAK, M.; CERNY, M.; Biophysical Institute, Faculty of General Medicine, Charles University (Biofyzikalni Ustav Fak. Vseob. Lek. KU), Prague, Head (Prednosta) Prof Dr Z. DIENSTBIER; Biological Institute, Faculty of General Medicine, Charles University (Biologicky Ustav Fakulty Vseob. Lek. KU), Prague, Head (Prednosta) Prof Dr B. SEKLA.

"A Method for the Evaluation of the Mitotic Index and of the Respective Phases of the Mitosis in Bone Marrow by means of Hypotonized Cells."

Prague, Casopis Lekaru Ceskych, Vol 105, No 43, 28 Oct 66, pp 1178 - 1179

Abstract [Author's English summary modified]: An accurate evaluation method of the mitotic index and the respective phases of mitosis in bone marrow in mice is described. The method is based on hypotonizing marrow cells. In the extended nucleus chromosomes can be seen, thus making it possible to evaluate each particular mitotic phase. Accurate evaluation and detailed clasification of the phases can be made. It is, however, impossible to identify the bone marrow cells. The method is suitable for cyto-

1/1 logical studies

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, Miroslav, dr.; CIZINSKY, Zdenek, ing.

Brief report on the Chemical Conference in Ostrava, 1961. Chem prum 11 no.11:589-591 N '61.

1. Ministerstvo chemickeho prumyslu.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

Distr: 4E3d/4E2c(j)

The action of Grignard reagents on the amide group. XX. Reaction of vinylmagnesium bromide with *N*-methylglutarimide. Rudolf Lukeš and Mirko Černý (Czech. Acad. Sci., Prague). *Chem. listy* 51, 1802-8(1957); cf. *C.A.* 51, 17875e.—*N*-Methylglutarimide (I) adds 1 mole $CH_2:CHMgBr$ to form an organometallic coordination compd. with Mg as the central atom which rearranges when heated to give a carbinolate of 1-methyl-2-hydroxy-2-vinyl-6-piperidone, tautomeric with the methylamide of γ-acrylylbutyric acid. This compd. adds another mole $CH_2:CHMgBr$ either by 1,2-addn. to give $Me(BrMg)NCO(CH_2)_2C(CH:CH_2)_2OMgBr$ which yields when acidified $MeNHCO(CH_2)_2C(CH:CH_2)_2OH$ (II), or by 1,4-addn. to give $Me(BrMg)NCO(CH_2)_2C(:CHCH_2CH:CH_2)OMgBr$ which yields on acidification $MeNHCO(CH_2)_2CO(CH_2)_2CH:CH_2$ (III). The 1,4-addn. predominates and the oxo and hydroxy acid are obtained in approx. 2:1 ratio. Adding slowly 87.5 g. I in 250 ml. tetrahydrofuran to $CH_2:CHMgBr$ (from 60.8 g. Mg and 214 g. $CH_2:CHBr$ in 1300 ml. tetrahydrofuran), boiling the mixt. 6 hrs., cooling to 5°, decompg. with 50 ml. H_2O, sepg. the tetrahydrofuran layer, and working up as usual gave a brown oil which was distd. to give 21.4 g. slightly yellowish compd., $b_{0.8}$ 145-9°, yielding on crystn. III, b. 112-14°, m. 69.8° (Et_2O). The mother liquors distd. and the product (50.2 g.) crystd. gave approx. equal amts. of III and II. II m. 95° (Et_2O, C_6H_6). III was identical with the product obtained in 4.07-g. yield by boiling 5 g. I with Grignard reagent (from 2.4 g. Mg and 10.55 g. $CH_2:CHCH_2CH_2Br$) 10 hrs. in Et_2O. Hydrolysis of III by adding 3.5 g. $Ba(OH)_2$ to 1.832 g. III in 50 ml. H_2O, removing NH_2Me by steam distn., decompg. the Ba salt with dil. H_2SO_4, and distg. the oily product gave 0.8 g. $CH_2:CH(CH_2)_3CO(CH_2)_2CO_2H$, m. 33.5°, $b_{0.8}$ 103-5°. Hydrogenation 1.3 g. III over Raney Ni in EtOH

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Rud. of Lukes & Ivko Cerny

with an amt. of II corresponding to 1 double bond gave 0.9 g. $BuCO(CH_2)_4CONHMe$ (IV), m. 76.5°. Total hydrogenation of 0.5 g. III over PtO_2 in EtOH gave $Bu(CH(OH)(CH_2)_4CONHMe$, m. 51.5° (Et_2O), which yielded, when hydrolyzed, lactone of δ-hydroxypelargonic acid, $b_{0.05}$ 73°, d_4^{20} 0.9871, n_D^{20} 1.4503, MR_D 43.04, identical with the product obtained by hydrogenating IV. Refluxing 10 g. III 30 min. and distg. the product very slowly over a long empty column brought about dehydration yielding 3.8 g. 1-methyl-2-buten-3-yl-4,5-dihydro-6-pyridone (V), b_5 121-3°, d_4^{20} 1.0143, n_D^{20} 1.5168, MR_D 49.27. V hydrogenated over PtO_2 in EtOH gave 1-methyl-2-butyl-6-piperidone, $b_{0.05}$ 112-3°, d_4^{20} 0.9700, n_D^{20} 1.4815, MR_D 49.70. II (2 g.) hydrogenated over PtO_2 in Et_2O gave $Et_2C(OH)(CH_2)_3CONHMe$ (VI), $b_{0.05}$ 117-18°, m. 63.2° (Et_2O). Hydrolysis of VI yielded lactone of δ-hydroxy-δ-ethylenanthic acid, b_5 134-6°, n_D^{20} 1.4630, d_4^{20} 1.0039, MR_D 42.93, identical with lactone obtained as a side product from the reaction between I and $EtBr$ (cf. *C.A.* 50, 6989[e]). Alk. hydrolysis of 0.5 g. II gave 7.2 g. Ba salt which yielded, when decompd. with $dil.$ H_2SO_4 and the product distd., 1.1 g. lactone of δ-hydroxy-δ-vinyl-δ-heptenoic acid, $b_{0.05}$ 75.8°, n_D^{20} 1.4838, d_4^{20} 1.0421, MR_D 41.08. When the reaction between I and $CH_2:CHMgCl$ in tetrahydrofuran was carried out without boiling, the ppt. addn. compd. dissolved in EtOH, Mg removed by shaking with K_2CO_3 soln., the filtered soln. evapd., the residue extd. with Et_2O, the ext. distd. and the fraction, $b_{0.05}$ 122-30°, passed over Al_2O_3, the C_6H_6 fraction gave a small amt. of III and the EtOH fraction gave the main product, $b_{0.05}$ 110-12°, apparently impure $EtO_2C(CH_2)_4CONHMe$, identified by hydrolysis and hydrogenation.

L. J. Urbánek

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, Mirko

CZECHOSLOVAKIA / Organic Chemistry. Synthesis. G-2

Abs Jour: Ref Zhur-Khimiya, No 3, 1959, 8304.

Author : Lukes, R., Cerny, M., XX.
Lukes, R., Dolezal, S. XXI.

Inst : Not given.

Title : The Action of Grignard Reagent on Amide-Grouping. XX. Interaction of Vinylmagnesiumbromide with Methylimide of Glutaric Acid. XXI. Synthesis of Higher Monocarboxylic Acids.

Orig Pub: Collect. czechosl. chem. commun., 1958, 23, No 5, 946-953; No 6, 1100-1109.

Abstract: See RZhKhim, 1958, 70862.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

ČERNÝ, M.

2 Mar 4E2c(f)

A

A new method for preparing 1-methyl-2-alkylpiperidines. R. Lukeš and M. Černý (Čsl. akad. věd, Prague). *Collection Czechoslov. Chem. Commun.* 24, 1287–90(1959); cf. *C.A.* 30, 5989[9].—Methylamides of δ-oxo acids were reduced with $LiAlH_4$ to 1-methylamino-5-alcohols; these were transformed to 1-methylamino-5-bromo derivs. which cyclized to *1-methyl-2-alkylpiperidines*. Adding 24 g. $MeCH:CHCO(CH_2)_3CONHMe$ in 500 ml. C_6H_6 to a stirred soln. of 16 g. $LiAlH_4$ in 750 ml. Et_2O, refluxing the mixt. 6 hrs., decompg. by addn. of 16 ml. H_2O, 16 ml. 15% NaOH, and 48 ml. H_2O, filtering off the ppt., boiling it with 500 ml. Et_2O, and evapg. the ether solns. gave 18.95 g. *$MeCH:CHCH(OH)(CH_2)_4NHMe$* (I), b_{12} 123–5°, $b_{0.1}$ 79–80°, m. 33.7–4.0°. Similarly were prepd. (b.p., m.p., yield in %): *$MeCH(OH)(CH_2)_4NHMe$* (II), b_{25} 120–1°, 43–3.5°, 74; *$EtCH(OH)(CH_2)_4NHMe$* (III), $b_{0.1}$ 72–4°, 56°, 75; *$PrCH(OH)(CH_2)_4NHMe$* (IV), b_{12} 128–9°, 63°, 85; *$PhCH(OH)(CH_2)_4NHMe$* (V) [from $PhCO(CH_2)_3CONHMe$, m. 95.5–6°], $b_{0.2}$ 109–113°, 35.5°, 82. Neutralizing 18.95 g. I with *N* HBr, filtering the soln. with C, evapg. *in vacuo*, drying by distn. with $CHCl_3$, dissolving the residue in 400 ml. $CHCl_3$, treating while cooling with 10.5 g. PBr_3, decompg. the mixt. with ice, alkalizing it with 30% NaOH, extg. with Et_2O evapg. the solvent, heating the residue 1 hr. on the steam bath, dissolving in H_2O, alkalizing, and extg. with Et_2O gave 11.35 g. *trans-1-methyl-2-propenylpiperidine*, b_{25} 75–8°, n_D^{20} 1.4638, ν 1608 and 968 cm.$^{-1}$; *picrate* m. 116.5–17° (H_2O). The same compd. was obtained by dissolving 3.6 g. I in 36 g. 40% aq. HBr, refluxing the mixt. 5 hrs., evapg. the soln. *in vacuo*, alkalizing, and steam-distg. (13% yield). Similar treatment of V gave 70–80% *1-methyl-2-phenylpiperidine*, $b_{0.1}$ 46–7°, b_{12} 106–7°, n_D^{20} 1.5272, 1.5277; *picrate* m. 174–4.5° (EtOH); II gave *1,2-dimethylpiperidine*; *picrate* m. 235°. III gave *1-methyl-2-ethylpiperidine*, b. 146–8°, n_D^{20} 1.4471; *picrate* m. 175.5–6°. IV gave *1-methyl-2-propylpiperidine*; *HBr salt* m. 101–2° (Me_2CO); *picrate* m. 108.5–9.5°.

M. Hudlický

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, M.

Action of Grignard reagents on the amide group. XXV. Reaction of allylmagnesium bromide with glutarmethylimide. R. Lukeš and M. Černý (Českoslov. akad. věd, Prague). *Collection Czechoslov. Chem. Communs.* 24, 2722-6(1959); cf. *C.A.* 54, 1289*d*.—Adding dropwise with vigorous stirring 26.3 g. glutarmethylimide (I) in 500 ml. Et_2O to Grignard reagent from 21 g. Mg, 50 g. $CH_2:CHCH_2Br$, and 500 ml. Et_2O, boiling the white cryst. ppt. 2 hrs., decompg. the mixt. with H_2O and working up as usual gave 14.5 g. *trans*-MeCH:CHCO$(CH_2)_3$CONHMe (II) [$b_{0.16}$ 145-7°, m. 50-50.3° (Et_2O), infrared max. 1675 cm.$^{-1}$ (CO-NH) and 1636 cm.$^{-1}$ (C:C)], identified by alk. hydrolysis with boiling $Ba(OH)_2$ to yield MeCH(OH)CH_2CO$(CH_2)_3CO_2H$, b_1 80-3°, m. 16.0°. Mother liquors after II steam-distd. and passed over a Vigreux column gave 0.5 g. 1-methyl-2-propenyl-4,5-dihydro-6-pyridone, b_{12} 122-4°, n_D^{20} 1.5615. Hydrogenation of II over PtO_2 in EtOH gave PrCH(OH)$(CH_2)_3$CONHMe (III), m. 41-1.2°. Alk. sapon. of III (2.5 g.) with $Ba(OH)_2$ gave 1.5 g. PrCH$(CH_2)_3$.CO, b_{12} 115-17°. I failed to react with $(CH_2:CHCH_2)_2AlBr$ to form a new C bond. L. J. Urbánek

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2 gr (NB)

4E 3d

4E20 (y)

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

LUKES, R.; CERNY, M.

Action of the Grignard reagent on the amide group. XXV. Determination of 1-methyl-2-allylpiperidine. In German. Coll.Cz.Chem. 24 no.11: 3596-3600 N '59. (MRAI 9:5)

1. Laboratorium fur heterocyclische Verbindungen, Tschechoslowakische Akademie der Wissenschaften, Prag. Jetzige Adresse: Dioptra, Prag (for Cerny).
(Grignard reagents) (Amides) (Methyl group) (Allylpiperdine)

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

Z/8/60/000/01/006/014
E034/E416

AUTHOR: Mirko Černý

TITLE: Plastic Lenses

PERIODICAL: Chemické listy, 1960, Nr 1, pp 57-65

ABSTRACT: The author quickly traces the historical beginnings of plastic lenses (Ref 1 to 3) in the use of suitable polystyrenes and polymethylmethacrylates. A new step forward was the use of cross linked polymers. The advantages and disadvantages of inorganic and organic glasses are then considered in this introductory passage. Uses: Their use as specialist lenses (eg Schmidt, Fresnel) in TV tube optical image correction, their use in protective glasses and the extent of their mass production in the United States and Great Britain are considered (Ref 4 to 11). Materials: The following plastics are considered - Acrylates (cf Ref 11); styrenes; Acetate celluloses (cf Ref 11); Vinyl compounds (cf Ref 11); Polyester resins (cf Ref 11); Allyl esters (cf Ref 12); the use of pure and mixed polymers of allylmethacrylate and modes of polymerisates in relation to physical lens

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E034/E416

Plastic Lenses

properties are considered (Ref 13 to 18). Pure and mixed polymers of diallylphthalate are examined (Ref 19 to 31) as are those of diethylene glycol-bisallylcarbonate (Ref 32 to 34). Optical properties: The difficulties in control of refractive index and influence of water absorption (Ref 1,35,36) cf Table 1, and the advantage of higher light transmission than inorganic glass are dealt with (Ref 36 to 39). Mechanical, thermal and chemical stability: Plastic hardness is reviewed (Ref 14,38,40,25,26). Thermal resistance is of importance (Ref 34,41) as is resistance to chemical attack which is mentioned and thermal expansion (Ref 42), specific weight and volume contraction (Ref 38,43) attract some attention. Methods of production: Those for inorganic glass lenses are not particularly appropriate thus those suitable for plastics adopted (Ref 35). Moulding is possible as a method of unprecise lens production (Ref 44 to 51) of various types (Ref 52,53). Prepolymer and other thin coatings have their advantages

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Plastic Lenses

and drawbacks (Ref 17,54 to 60,11,38). Neither approach may be considered ideal. Injection - used in the production of optical lenses of not particularly high precision (Ref 61,62,63). Casting - used extensively for high precision lenses (cf Ref 64 to 67, 31,55). Precasting followed by final moulding gives high precision products (Ref 68). Table II reviews the position. Table II: Method of production, type of material used and type of lens produced (after Bronson, Ref 11). Subtitles: Firm; Type of lens; Title; Material; Method. Footnotes: a, 1 contact, 2 planar (not focal), 3 opthalmic, 4 precise, 5 commercial; b, A acetates, B acrylates, C acrylic polymers, D allylesters, E allyl copolymers, F butyrates, G Focalite, H thermoset M 324, I polyester copolymer. c, V injection, S turned, O cast, B ground and polished, L moulded. There are 2 tables and 68 references, 5 of which are Soviet, 5 German,

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Plastic Lenses

2 Chinese, 2 French, 2 Belgian, 1 Swiss and 51 English.

ASSOCIATION: Dioptra, n. p., Praha (Dioptra National Enterprise, Prague)

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

L 33231-66 EWP(j) RM

ACC NR: AP6023844 SOURCE CODE: CZ/0043/65/000/009/0715/0722

AUTHOR: Cerny, Mirko—Cherny, M. (Engineer; Candidate of sciences; Prague); Kraus, Felix (Engineer; Prague); Ettel, V.

ORG: Laboratory for Wood Research, Institute for the Theoretical Basis of Chemical Technology, Czechoslovak Academy of Sciences, Prague (Ustav teoretickych zakladu chemicke techniky Ceskoslovenske akademie ved, Laborator vyzkumu dreva)

TITLE: Distillable phenolic substances obtained in the methanolysis of wood (I)

SOURCE: Chemicke zvesti, no. 9, 1965, 715-722

TOPIC TAGS: distillation, phenol, paper chromatography, chemical separation, wood chemical product

ABSTRACT: Methanolysis of spruce wood yields phenolic substances that can be recovered by distillation; about 1% is obtained in the distillate form. This mixture contains: alpha-methoxypropioguaiacone, vanilloylacetyl, alpha-methoxyguaiacylacetone, guaiacylacetone, alpha-hydroxypropioguaiacone, vanillin, vanillic acid, and its methylester. The separation of this mixture by paper chromatography, and by chromatography on a thin layer of Al_2O_3 is described. Orig. art. has: 4 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 30Nov64 / ORIG REF: 002 / OTH REF: 016

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

L 44630-66 EWP(j) RM

ACC NR: AP6033252 SOURCE CODE: CZ/0043/66/000/002/0132/0140

AUTHOR: Cerny, Mirko—Cherny, M. (Engineer; Candidate of sciences; Prague)

ORG: Laboratory for Research of Wood, Institute for Theoretical Principles of Chemical Technology, Czechoslovak Academy of Sciences, Prague (Ustav teoretickych zakladu chemicke techniky, Ceskoslovenske akademie ved, Laborator vyzkumu dreva)

TITLE: Phenolic substances produced by wood methanolysis suitable for distillation

SOURCE: Chemicke zvesti, no. 2, 1966, 132-140

TOPIC TAGS: methanol, wood chemical product, organic synthetic process, phenol

ABSTRACT: 5 substances found in the product of methanolysis of spruce wood were subjected to action of methanol at 140°C in the presence of sulfur dioxide. Synthesis of alpha-methoxypropionoguiacol and of alpha-methoxyguiacylacetone is described. The author thanks Engineer J. Smolik, Institute of Organic Chemistry and Biochemistry, CSAV, Prague, for carrying out the evaluation of the infrared spectra. The analysis was carried out at the Analytical Section by O. Neubert. Orig. art. has: 1 figure and 1 table. [JPRS: 36,002]

SUB CODE: 07 / SUBM DATE: 16May65 / ORIG REF: 002 / OTH REF: 010

Card 1/1 blg

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, M., MUDr.; CERNA, J.

Systemic administration of corticosteroids in chorioretinitis. Cesk. oftal. 21 no.3:278-280 My '65

1. Oani lecebna v Novych Zamcich v Podkrkonosi (reditel: MUDr. M. Cerny).

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

Z/012/62/000/001/004/007
E112/E453

AUTHOR: Černý Otakar

TITLE: Unit for differential thermal analysis in vacuo

PERIODICAL: Silikáty, no.1, 1962, 81-90

TEXT: A description of a differential thermal analysis unit, which may be also used in vacuo, is presented under three headings: 1) recording and program control; 2) electric resistance furnace; 3) vacuum section. Headings 1 and 2 have been described in greater detail in this journal (1957, 116-124); the present paper is focused on the vacuum section of the unit and on operational techniques. Photographs of the complete unit and of the vacuum section are reproduced (Abstractor's note: Very blurred and poor labelling, giving insufficient detail.). A basic working diagram of the vacuum part is shown in Fig.3. Reference sample and sample (i and j) are placed in a refractory crucible (c), held in position by two refractory double-capillaries (d) which also serve for housing the Pt and Pt/Rh wires of the thermocouple (h = thermocouple junctions). A tungsten block serves as reference sample. The crucible is placed in a quartz tube (b) inserted into the end

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piece by a ground joint (a), fitted with a water-cooling device. The end piece bears a detachable flanged socket, provided with bushings of Mo, through which are led the wires of the thermocouple (g). Wires of molybdenum are also used as supports for electric and thermal insulating sheaths (f). Other lettering in diagram: k = bushings of thermocouple wires for differential temperature; ℓ = bushings of thermocouple wires for measuring reference temperature; m = support wires. The assembly is evacuated by means of a rotary and mercury-vapour diffusion pump. A vacuum of 10^{-5} Torr can be reached. Vacuum up to 10^{-3} is controlled by a thermocouple vacuummeter, lower vacua by an ionization manometer. Heating by means of the electric furnace is then commenced and is programmed. The recording and program part of the unit was checked by a series of DTA of kaolin and SiO_2 in a normal atmosphere, showing good reproducibility of results. The reliable performance of the unit was confirmed by a number of DTA in vacuo of substances, which are oxidized when heated under normal atmospheric conditions, e.g. kovar alloys (fernico), steel sheets, etc. Differential thermograms are presented of the

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Unit for differential ... Z/012/62/000/001/004/007
E112/E453

following: kaolin, SiO_2, SiO_2 contaminated by kaolin, kovar, steel sheet, getter alloy. There are 9 figures and 5 references: 2 Soviet-bloc and 3 non-Soviet-bloc. The reference to an English language publication reads as follows: Ref.1: F.W.Wilburn. J. of Scientific Instruments, no.35, 1958, 403-407.

ASSOCIATION: Výzkumný ústav vakuové elektrotechniky, Praha (Research Institute for Vacuum Electrotechnics, Prague)

SUBMITTED: April 15, 1961

Card 3/4

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

New methods for manufacture of phenol from benzenesulfonic acid. Otakar Černý. *Chem. Průmysl* 3, 124-6 (1953).—A review with 21 patent references. F. J. H.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, O.

"Continual Tube Reactors", P. 327, (CHEMICKY PRUMYSL, Vol. 4, No. 9, Sept. 1954, Praha, Czechoslovakia)

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

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, O.

"Mixing continual reactors."

CHEMICKY PRUMSL, Praha, Czechoslovakia, Vol. 5, No. 10, October 1955.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, No. 9, September 1959.

Unclassified.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

Split-plate distillation column. M. Červinka and O. Černý. *Chem. Průmysl* 5, 232-6(1955).—Relationship between geometric design of the plate and loading of the column was studied on test columns 100 mm., 260 mm., and 125 mm. in diam. A math. correlation of exptl. data found is attempted.

L. A. Helwich

(1)

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

Mixer design and scale-up. Otakar Černý. Chem. Průmysl 6, 447-50(1956).—The influence of operating conditions on the rate of homogenization by mech. agitation was studied. Equations were developed for laminar and turbulent flow which enable one to compute the speed (r.p.m.) of a plant-scale mixer at which the same intensity of homogenization is attained as in a geometrically similar small model in which optimal conditions have been experimentally fixed. —L. A. Helwich

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

Raney nickel catalyzed alkylation of aromatic amines with alcohols. Jaroslav Horyna and Dinkar Cerný (Výzkumný ústav org. syntheses, Pardubice-Rybitví, Czech.). *Chem. Listy* 50, 381-5(1956).—Raney Ni was found a suitable catalyst for alkylation of aromatic amines with alcs. Compared with acid-catalyzed alkylations, Raney Ni-catalyzed alkylation favors the formation of secondary amines and shows less corrosive action. The alkylation was carried out either under atm. pressure the reaction water being [illegible] [illegible] heating [illegible] [illegible] autoclave. The [illegible] [illegible] g. [illegible] EtOH, and 5.05 g. Raney Ni (II) was heated in a stainless autoclave 6 hrs. at 220° (pressure 180 atm.). II was removed by filtration, the filtrate evapd., and the residue analyzed for primary, secondary and tertiary amine. From 150 g. residual oil, there were obtained: 110.1 g. *PhNHEt* (III), b_{10} 120-2°, 12.8 g. *cyclohexanol*, 19.5 g. *PhNEt*$_2$, b_{10} 90.5°, and 3 g. *PhNHBu*. Heating [illegible] g. I, 12 g. EtOH, and [illegible] g. II in a flask [illegible] [illegible] the temp. of the [illegible] [illegible] [illegible] gave [illegible] recovered I and 65.1% III. Heating 186.3 g. I, 102.5 g. BuOH, and 18 g. II 8 hrs. at 210° 36 atm. and distg. the [illegible] in the Jantzen column gave 162 g. [illegible] *NHBu* (IV), b_{10} [illegible]-5°, b_{10} 241° [illegible] [illegible]

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[illegible]

Heating 93.1 g. I and 11 g. II at 180° and adding portion-wise 1[illegible]2 g. BuOH over the period of 12.5 hrs., maintaining the temp. at 180-200°, sep. 17.5 g. H_2O, distg. off the excess BuOH, and filtering off the catalyst gave 1[illegible]7.3 g. of an oil contg. 3.2% recovered I and 71.5% IV. If no water was drawn off during the expt., the yield of IV was only 12.4%, and 82% I was recovered. Heating 108.1 g. p-$C_6H_4(NH_2)_2$, 2.5 g. II, and 122 g. BuOH 6 hrs. at 220° (pressure 46 atm.) and removing the catalyst gave $BuEtCHCH_2OH$, b_{10} 106-10°, b_{10} 180-1°, p-$BuNHC_6H_4NH_2$, m. 81°, b_{10} 170-3°, and 130 g. p-$BuNHC_6H_4NHBu$, b_{10} 181-3°, m. 53.7° (di-Ac deriv., m. 123.5°). Heating 54.[illegible] g. p-$HOC_6H_4NH_2$ (V) 192 g. MeOH and 5.5 g. II 5.5 hrs. at 210° (80 atm.), filtering off the II and distg. the filtrate gave 29.55 g. of a fraction, b_6 153-65° whose extn. with 70 ml. AcOEt sepd. insol. V. The evapd. filtrate (25.55 g.) dissolved in 80 ml. MeOH and treated with 5.7 g. H_2SO_4 yielded 21.4 g. H_2SO_4 salt of p-$MeNHC_6H_4OH$; nitroso deriv., m. 136°.

M. Hudlický

2/2

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, O.

Distr: 4E3d

Continuous production of monochlorobenzene. Otakar Černý and Josef Hájek. Czech. 87,658, Sept. 15, 1958. The construction and function of an all-glass app. are given for the countercurrent, direct chlorination at normal temp.

L. J. Urbánek

APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6"

"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, O.; HAJEK, J.

Relative reactivity of some alkylaromatic hydrocarbons in photochemical chlorination. Coll Cz chem 26 no.2:478-484 F '61.
(EEAI 10:9)

1. Forschungsinstitut fur organische Synthesen, Pardubice-Rybitvi.

(Hydrocarbons) (Alkyl groups) (Aromatic compounds)
(Chlorination) (Photochemistry)

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, O.; HAJEK, J.

Photochemical chlorination of n-hexane and 2,3 dimethylbutane with chlorine and certain chlorination reagents. Coll Cz Chem 26 no.10: p. 2624-31, O '61.

1. Forschungsinstitut fur organische Synthesen, Pardubice-Rybitvi.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, O.; HAJEK, J.

Kinetics of the catalytic tetraline oxidation in the acetic acid medium. Coll Cz Chem 28 no.2:494-503 F '63.

1. Forschungsinstitut fur organische Synthesen, Pardubice - Rybitvi.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

JELINEK, R.; CERNY, O.

Plurifocal laryngeal carcinoma. Cesk. otolaryng. 13 no.2:104-107 Ap '64.

1. Otolaryngologicka klinika (prednosta prof. dr. J. Chvojka), Ustav patologicke anatomie (prednosta docent dr. Vl.Valach) lekarske fakulty PU [Polackeho Universita] v Olomouci.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, O.; HAJEK, J.

Radical formation in catalyzed oxidation of tetralin in the liquid phase. Coll Cz chem 29 no.7:1643-1653 Jl '64.

1. Research Institute of Organic Syntheses, Pardubice-Rybitvi.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, O.; GIBIS, Z.

Data on the mechanism of catalytic decomposition of 1-tetralin hydroperoxide. Coll Cz Chem 29 no.12:2992-3002 D '64.

1. Forschungsinstitut fur organische Syhthesen, Pardubice-Rybitvi.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

JELINEK, R.; CERNY, O.

Dyschylic pseudotumor of the centricular plica of the larunx. Cesk. orolaryng. 13 no.3:161-164 Je'64

1. Otolaryngologicka klinika lekarske fakulty PU (Palackeho university] v Olomouci a Ustav patologicke anatomie lekarske fakulty PU [Palackeho university] v Olomouci (prednosta: doc. dr. V.Valach).

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CA CERNY, PAVEL

Application of capillary chromatography in separation and determination of some metals. Arnošt Okáč and Pavel Černý (Masaryk Univ., Brno, Czech.). *Chem. Listy* 46, 14-15(1952).—Capillary chromatography technique was used for qual. tests of Bi, Sb, and Sn, and for the detection of Cd in the presence of Cu. Impregnate filter paper with a soln. contg. Bi^{3+}, Sb^{3+}, and Sn^{4+} ions, treat with $(NH_4)_2S$ and then $(NH_4)_2S_2$. The thio salts form concentric rings: black Bi_2S_3, barely visible Sb_2S_3, and orange Sb_2S_5. The Sb_2S_5 ring is developed, after drying, with a soln. of $K_2Hg(CNS)_4$ with which it forms a black ppt. of Hg. To detect Cd in the presence of Cu, treat the soln. to be tested with alkali and excess KCN and add to filter paper impregnated with $(NH_4)_2S$. A yellow spot of CdS is formed. If fluorescein is added to the test, its fluorescence is quenched by CdS if observed in ultraviolet light. M. Hudlický

Dept. Analit. Chem., Natural Sci. Faculty, Univ. of Brno.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

ČERNÝ, PAVEL

Phthalocyanine, new reagent in quantitative analysis. Pavel Černý (Slovenská Univ., Bratislava, Czech.). Chemické Zvesti 9, 94-9 (1955).—The properties of inner complex salts of phthalocyanine with metals are discussed. Cu phthalocyanine in concd. H_2SO_4 can be used as new test for oxidative agents: NO_3^-, NO_2^-, ClO_3^-, BrO_3^-, IO_3^-, $Cr_2O_7^{--}$, and MnO_4^-. The anions in higher concn. disturbing the reaction are S^-, $S_2O_3^{--}$, SO_3^{--}, SCN^-, Br^- and I^-. The selectivity of the reaction is increased by prep. the disturbing anions with a soln. of $Hg(OAc)_2$ and $BaCl_2$. This reaction is disturbed by AsO_3^{---}. Jan Micka

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CZECH

Separation and proof of vanadium, molybdenum, and titanium by capillary chromatography. P. Černý (Komenský Univ., Bratislava, Czech.). *Chem. Listy* 50, 2026-8 (1956). — A quali. method is described (cf. *C.A.* 46, 3896i) by using an aq. soln. of pyrocatechol, Na_2SO_4, and AcOH as the detecting reagent. Sensitivity is given for various combinations and ratios of metals. Fe is removed by amyl alc. extn. of the NH_4SCN-complex; Co^{++}, Cu^{++}, and Ni^{++} are converted to sol. cyano complexes; $PtCl_4^{--}$, $AuCl_4^-$, Pd^{++}, and Ce^{4+} are removed by boiling with HCO_2NH_4; and WO_4^{--} is removed by evapg. with concd. HCl to dryness. L. J. Urbánek

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, P.

"Separation and detection of vanadium, molybdenum, and titanium by means of capillary chromatography. In German.

P. 613. Collection of Czechoslovak Chemical Communications. Sbornik Chekhoslovatskikh Khimicheskikh Rabot. (Praha, Czechoslovakia) Vol. 22, no. 2, Apr. 1957.

SO: Monthly Index of East European Accession (EEAI) LC, Vol. 7, No. 5, May 1958

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, PAVEL

CZECHOSLOVAKIA/Analytical Chemistry - Analysis of Inorganic Substances. E-2

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, No 24800
Author : Cerny Pavel
Inst : -
Title : Analytical Application of the Reaction of Salts of Divalent Iron with Violuric Acid.

Orig Pub : Chem. listy, 1957, 51, No 4, 735-738; Collect. czechosl. chem. communs, 1958, 23, No 1, 105-109

Abstract : The very sensitive color reaction of Fe^{2+} with violuric acid (I) is utilized for the detection and photometric determination of Fe. Detection of Fe is carried out by the spot method on filter paper. The reaction takes place in the range pH 3.9-9; on photometric determination of Fe the pH of the medium must be maintained within 8.5-9.0 (use is made of a buffer solution of pH 8.75, containing borax and NH_4OH), since the extinction maximum of the blue solution of the complex (619 m) is observed at pH 8.9. For the reduction of Fe^{3+} to Fe^{2+} most

Card 1/2

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CZECH

Sphene from pegmatite vein near Věrná. P. Černý. *Časopis moravského Muzea, Vědy přírod* 39, 78-[illegible] (English summary).—Crystals of sphene occur in pegmatite with plagioclase (d_4^{20} 85); apatite, and black tourmaline. Goniometric data are given. [Michael Fleischer]

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, P.

Minerals from the amphibolite quarry near Mirosov in Westenr Moravia. p. 93. Brno. Moravske museum. CASOPIS. ACTA. Brno. Vol. 40, 1955.

SOURCE: East European Accessions List, Vol. 5, no. 9, September 1956

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

Černý, Petr.

CZECHOSLOVAKIA/Cosmochemistry. Geochemistry. Hydrochemistry. D

Abs Jour : Ref Zhur - Khimiya, No. 8, 1957, 26536.

Author : Černý, Petr.

Inst :

Title : Bavenite and Associated Minerals from Drahonin.

Orig Pub : Časop. mineral. a geol., 1956, 1, No. 3, 197 - 203.

Abstract : A morphological-microscopic and spectroscopic study of a series of replacements in pegmatite from the neighborhood of Drahonin (Western Moravia) was carried out. The replacements are: beryl ← bertrandite and beryllium albite ($Ab_{89}An_{11}$) ← bavenite and kaolin. The results of the spectral analysis of these minerals are as follows (in %): beryl - much

Card 1/2

Masaryk Univ, Brno

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CERNY, Petr

The morphology of epidote from Zulová. Petr Cerný (Masaryk Univ., Brně, Czech.). Časopis mineral. geol. 4(1) 280-4(1956)(English summary). Michael Fleischer

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CERNY, PETR

CZECHOSLOVAKIA/Cosmochemistry - Geochemistry. Hydrochemistry. D

Abs Jour : Ref Zhur - Khimiya, No 5, 1958, 14065

Author : Cerny Petr
Inst : -
Title : On the Mineralogy of Sulphates from Smolnik.

Orig Pub : Spisy vyd. prirodoved. fak. Masarykovy univ., 1956, F5, No 6, 267-292 (czech.: res. russk. angl.)

Abstract : A description is made on sulphates from ore pit walls of the smolnik pyrite mine. Hypogenic minerals: pyrite, siderite, chalcopyrite, tetraedrite, galenite and sphalerite. The findings of chemical and spectral analyses (in %): Mg-melanterite - FeO 21.70, MgO 2.63, SO_3 29.26, H_2O 46.16, total 99.75; Cu and Zn 1 - 0.01, Ca and Si $<$ 0.01; Cu, Mg-melanterite - FeO 20.25, CuO 3.75, MgO 1.60, MnO traces, SO_3 29.15, H_2O 46.06, total 100.81; Mn>1, Zn and Al 1 - 0.01, Ca, Si, Co and Ni $<$ 0.01, Ag?; Mg-pisenite - FeO 10.42, CuO 0.64, MgO 4.29, MnO traces, SO_3 29.68.

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Černý, Petr.

CZECHOSLOVAKIA/Cosmochemistry. Geochemistry. Hydrochemistry. D

Abs Jour : Ref Zhur - Khimiya, No. 8, 1957, 26527.

Author : Černý, Petr.
Inst : Masaryk University.
Title : Concretions of Xenotime with Zircon from Drahonin.

Orig Pub : Spisy vyd. přírodověd. fak. Masarykovy univ., 1956, F5, No. 6, 293 - 306.

Abstract : A feldspathic pegmatite was studied petrographically and crystallographically; the following minerals are represented in this rock: albite, orthoclase, microcline, quartz, muscovite, zircon, xenotime, tourmaline, spessartite, beryl, arsenopyrite and bertrandite. Xenotime and zircon produce parallel

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CERNY, P.

Parallel growth of xenotime and zircon from Drahonin. p. 293.
(SPISY, No. 376, 1956, Brno, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

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CERNY, P.

Contribution to the mineralogy of sulfates from Smolnik. p. 267.
(SPISY, No. 376, 1956, Brno, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) LC, Vol. 6, No. 12, Dec 1957. Uncl.

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27

Second occurrence of hawleyite—β-CdS. Petr Černý (Masaryk Univ., Brno, Czech.). *Časopis mineral. geol.* 2, 13–16 (1957) (English summary).—Hawleyite occurs mixed with its dimorph, greenockite, in cavities in weathered sphalerite ore in propylitized andesite, near Komňa, southeastern Moravia. Optical and x-ray powder data are given; n_a = 5.815 A. Michael Fleischer

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CZECHOSLOVAKIA/Cosmochemistry. Geochemistry. Hydrochemistry. D

Abs Jour: Ref Zhur-Khim., No 23, 1958, 77032.

Author : Černý, Petr.
Inst :
Title : Desilicified Pegmatites of Western Moravia. I. Drahonín Near Tisnov.

Orig Pub: Práce Brněnské základ. CSAV, 1958, 30, No 5, 161-202.

Abstract: The studied pegmatite veins are found in the belt of ultrabasic rocks represented by two types: apodunite and apoharzburgite serpentines. The first is completely serpentinized, the second contains regions of fresh harzburgite. A large body of quartz-oligoclase rock is situated in the middle of the pegmatite veins belt; the following order of mineral separation is observed in that body: zircon, apatite, biotite, tourmaline, oligoclase, quartz, sericite (vermiculite,

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CZECHOSLOVAKIA/Cosmochemistry. Geochemistry. Hydrochemistry. D

Abs Jour: Ref Zhur-Khim., No 23, 1958, 77032.

3) oligiclase (± green tourmaline, sericite, zoisite). Semiquantitative spectral analyses of the following were carried out: chromite, apodunite and apoharzburgite serpentines, felspars, biotite, tourmalines of various colors, apatite, actinolite, indigolite, corundum and sapphire, chrome spinel, plagioclase alteration products - scapolite and sericite, biotite alteration products - vermiculite and chlorite, spinel alteration and replacement products - magnetite, hydrobiotite and anthophyllite. The optical constants of the minerals were determined. Migration schemes of chemical elements were plotted for the different rock types. It was found that Si was the most mobile in the desilicification process and that K, Li and Al were mobile to a lesser degree; Ca and Na were nearly im-

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CHERNY, P. [Cerny, P.]

Paragenesis of nobium and tantalum rutile in granite pegmatites. (MIRA 18:5)
Min.sbor. 18 no.1:25-31 '64.

1. Moravskiy muzey, Brno, Chekhoslovatskaya Sotsialisticheskaya Respublika.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, R.

Contracting safety valves as stop valves of cables with dry insulation. Elektrotechnik 18 no.11:326-329 N'63.

1. Elektromontazni zavody, Praha.

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CERNY, Robert

Replacing wood in the packaging technique of machine factories.
Tech praca 17 no.4:253-255 Ap '65.

1. Research Institute of Machine Industry Technology and Economics, Prague.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, R.; VYSINSKY, J

ZT-8/3 universal hitches in harvest operations. p.267

(Ministerstvo zemedelstvi) Praha. [Publication on mechanization of agriculture issued by the Ministry of Agriculture. Semimonthly]

Vol. 5, No. 14, July 1955

SOURCE: East European Accessions List (EEAL) Library of Congress.
Vol. 5, No. 1, January, 1956

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, R.; VYSINSKY, J.

Through the correct use of the ZT 8/3 hitch we shall make labor more productive. p.308

MECHANISACE ZEMEDELSTVI. (Minsterstvo zemedelstvi) Praha

Vol. 5, no. 16, Aug. 1955

East European Accessions List Vol. 5 No. 1 Jan. 1956

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

GRENY, R., ins.

Bell-type planetary transmission. Strojirenstvi 11 no.11:823-828 N '61.

1. Zavody presneho strojirenstvi, n.p., Gottwaldov.

(Machinery) (Gearing)

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, R.; HABERMANN, V.

On the effects of tetracycline on the biosynthesis of proteins and nucleic acids with escherichia coli and Bacillus cereus. Coll Cz Chem 29 no.5:1326-1329 My '64.

1. Institute of Medical Chemistry, Charles University, Plzen.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, R., inz.

Tables for calculation of thermal cycles of gas turbines. Strojirenstvi 11 no.12:883-898 D '61.

1. Vyzkumny ustav energeticky, Praha.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CIKHART, J., inz.; CERNY, R., inz.; SMID, V., inz.

Use of the exhaust steam in metallurgical and machine plants.
Energetika Cz 11 no.9:443-445 S '61.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

SMID,V., inz.; CERNY, R., inz.

Examination of concrete cases of the use of secondary power resources. Zdravot tech 6 no.6:270 '63.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

VIACH, J., inz. dr.; CERNY, R., inz.

New trends in the technical development of heating and power plants. Zdravot tech 7 no.1:43 '64

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, Robert, inz.

Efficiency of steam turbines during the load changes.
Energetika Cz 14 no.1:14-15 Ja'64.

1. Vyzkumny ustav energeticky, Praha.

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

S/276/63/000/001/013/028
A006/A101

AUTHORS: Černý, Roman, Mikšovic, František

TITLE: Hydraulic control of the system of the main and auxiliary plungers of a press

PERIODICAL: Referativnyy zhurnal, Tekhnologiya mashinostroyeniya, no. 1, 1963, 6 - 7, abstract 1V26P (Czechosl. patent cl. 47m, v. 22, no. 98495, of February 15, 1961)

TEXT: A patent is issued for the hydraulic control system of 2-plunger hydraulic presses for pressing plastics, extrusion of sheets etc. The presses operate on the following cycle: supply of the main plunger under low pressure; holding under high pressure; forth and back motion of the auxiliary plunger; back motion of the main plunger. These presses are controlled with the aid of heavy and complicated servomechanisms which break down frequently. The patented hydraulic drive simplifies and facilitates considerably the control system of the press. In the schematic diagram (see figure) a continuous thick line indicates the high-pressure line, the dotted lines indicate the control line, and the continuous

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thin line shows the overflow line. Plungers 18 (main) and 20 (auxiliary) main slide valve 9, auxiliary slide valve 10 and control slide valve 3, control piston 5, and plunger 7, are shown in the extremal initial positions. Control slide valve 3 is open. Chambers 11, 12, 22, 26 are connected with the overflow, and chambers 13, 14, 15, 24, 25 with the pressure supply. The unit operates as follows by displacing slide valve 9 into position H, pressure chamber 13 of control piston 5 is connected with the overflow. Spring 4 moves slide valve 3 and control piston 5 until the latter butts against plunger 7. Slide valve 3 connects the small cylinder 22 of plunger 18 with the pressure supply source. The plunger moves forth and sucks up the liquid from the reservoir through valve 1. Prior to closing the device, auxiliary slide valve 10 is brought into position L, cylinder 15 is connected with the overflow and shuts valve 1. When the instrument is closed, pressure increases in cylinder 22 and the liquid enters through valve 23 into cylinder 12 and chamber 11. The piston then moves the plunger into position F and the slide valve 3 controlling spring 4 is shifted in the direction of arrow B. In this position valve 3 connects cylinder 26 of the auxiliary plunger with the pressure supply. The plunger performs the operational stroke and supplies the material to the press form. Then main slide valve 9 returns into position G, chamber 13 is

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Hydraulic control of the system of...

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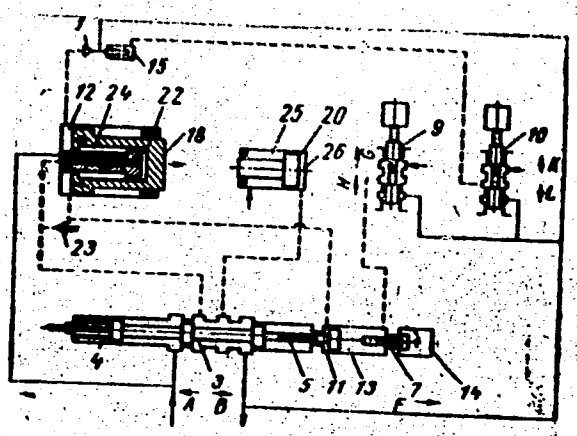
A006/A101

Figure



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CERNY, Rudolf; CHAN, Bohumil, ins.

Protection of rapid closing equipment against pressure waves.
Energetika Cs 13 no.6:338 Je '63.

1. Zkusebni technik, Veltechna, Domazlice (for Cerny).
2. Technik vodni elektrarny Orlik, Solenice 25/II (for Chan).

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"APPROVED FOR RELEASE: 06/19/2000 CIA-RDP86-00513R000308110002-6

CERNY, Rudolf

Relation of the Scientific Technical Society to standardization. Normalizace 12 no. 3: 74 Mr '64.

1. Branch standardization Technician, Zavody Vitezneho unora, Hradec Kralove.

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