

PRIBIL, RUDOLPH

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Complexometric titrations (chelometry III. Screening of aluminum, magnesium, and calcium with ammonium fluoride. Rudolf Pribil (Výzkumný ústav farm. biochem., Prague, Czech.). Chem. Listy 48, 41-4 (1954); cf. C.A. 48, 3850a.—A simple procedure for detg. Zn, and possibly Cd and Ni, in the presence of Al, Ca, and Mg is based on the pptn. of the last three cations as fluorides and on the suppression of their ionization with excess  $\text{NH}_4\text{F}$ . To det. Zn in the presence of Mg, treat a not-too-acidic soln. with 2-4 ml. of a buffer (51 g.  $\text{NH}_4\text{Cl}$  and 350 ml. 25%  $\text{NH}_4\text{OH}$  and  $\text{H}_2\text{O}$  to make one l.) and 3 g.  $\text{NH}_4\text{F}$ , dil. to 150 ml., and titrate with a soln. of complexon(III). In the presence of Ca, the buffer must be added prior to the  $\text{NH}_4\text{F}$ , in the presence of Al, the pptn. may be carried out even in reversed order. In the presence of Ni, both Zn and Ni are screened with KCN, Zn is demasked by solid  $\text{CCl}_3\text{CHO}$ , Mg or Al pptd. with  $\text{NH}_4\text{F}$ , and Zn titrated as above.

M. Hudlický

FRIEIL, R.

"Complexometric Titrations (chelometry). V. Screening Aluminum and Iron in Titrations to Eriochrome Black T.", P. 382, (CHEMICKÉ LISTY, Vol. 48, No. 3, Mar. 1954, Praha, Czechoslovakia)

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

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✓ 1187. A new qualitative test for vanadium.  
R. Pribil and J. Michal (*Chem. Listy*, 1954, 48 [4],  
621-622).—When a soln. containing V at pH 6 to 7  
is shaken with a 0.5 per cent. soln. of quercetin  
in a (1 + 1) mixture of ether and acetylacetone,  
the organic layer turns an intense red colour. The  
reaction is extremely sensitive, 2 µg of V in 1 ml  
being detectable. The disturbing effect of Fe can  
be masked by the addition of complexone IV (di-  
sodium 1:2-diaminocyclohexanetetra-acetate). A  
soln. of quercetin in acetone turns green in the  
presence of V and is also suitable for the detection  
of the metal. G. GLASER

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PRIBIL, R.

CZECH

2037. Compleximetric titrations (chelometry).  
 VIII. Screening of cations with 2,2-dimercapto-  
 propanol. R. Pribil and Z. Ronbal (*Chem. Listy*,  
 1954, 48 (5), 818-824).—A 10 to 25 per cent.  
 ethanolic soln. of 2,2-dimercapto-  
 propanol (I) is an excellent screening agent for Pb, Bi and many other  
 cations with which it forms colourless or faintly  
 coloured salts soluble in aq. NH<sub>3</sub>. Besides reacting  
 with the free cations, I also reacts with their com-  
 plexes with EDTA (II), quantitatively liberating  
 II. Thus the use of I, either alone or in conjunction  
 with other screening agents such as KCN and  
 triethanolamine (III), results in a considerable  
 increase in the selectivity of compleximetric deter-  
 minations. *Determination of Mg in the absence of  
 Ca, of Ca in the absence of Mg, or of total Ca plus  
 Mg*—To the weakly acidic soln. add I, then a buffer  
 soln. (prepared by mixing a soln. of 64 g of NH<sub>4</sub>Cl  
 in 300 ml of H<sub>2</sub>O with 350 ml of 26 per cent. aq. NH<sub>3</sub>  
 and diluting to 1 litre) until the ppt. disso. *ves*, and  
 titrate the mixture with 0.01 to 0.05 M II, using  
 Eriochrome black T (IV) as indicator; at the end-  
 point the colour changes from wine-red to clear  
 blue. Pb, Cu, Cd and Hg do not interfere, nor does  
 Bi in amounts  $\leq$  50  $\mu$ g. *Determination of Ca in the  
 presence of Pb, Mg, Fe, Al and other cations*—Treat  
 the soln. with a few ml of III and then dropwise  
 with I until the yellow ppt. of Pb or of Bi no longer  
 forms; dissolve the ppt. by adding 10 to 20 ml of 2 N  
 NaOH. Determine Ca by direct titration with II  
 to murexide. Ni, Co, Mn and B give highly  
 coloured complexes with I and must be absent.  
*Determination of Ni and Zn in the presence of each  
 other*—Treat the soln. with an excess of II, basify it

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*R. M. Hill*

with the buffer soln. and determine the excess of II by titration with  $MgSO_4$ , with IV as indicator. This gives the total Ni and Zn content. Add a few ml of I (immediate colour change from wine-red to blue owing to the formation of Zn complex) and re-titrate the liberated II with  $MgSO_4$ , thus giving the Zn content. Proceed similarly to determine Ni in the presence of Hg, Cd, Pb or Bi. The procedure is unsuitable for determining Ni in the presence of Cu, Co or Mn. *Determination of Mn and Pb in the presence of each other*--To the weakly acidic soln. add 0.1 to 0.3 g of  $NH_4OH$  and a few ml of III, and determine the combined content of both metals by direct titration with II. To obtain the amount of Pb present, treat the soln. with a slight excess of I and titrate the liberated II with  $MgSO_4$ . *Determination of Ni, Zn and Mg (or total Co plus Mg)*

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FRIBIL, R.

"Complexometric Titrations (Chelatometry). III. Contribution to the Determination of Nickel in the Presence of Cobalt", p. 625, (CHEMIE 1954, Vol. 48, No. 6, June 1954, Praha, Czech.)

SC: Monthly List of East European Accessions (EAI), IC, Vol. 4, No. 3, March 1955, Uncl.

P. 81814, R.

Use of complexons in chemical analysis. XLIII. A new modification of iodometric determination of manganese. Rudolf Pfitz and Jaroslav Vulterin (Karlova Univ., Prague, Czech. *Lity* 43, 1123-4 (1954); *cf. C.A.* 48, 5722g. —  $Mn^{++}$  gives in slightly acidic medium in the presence of 1,2-diaminocyclohexane-*N,N,N',N'*-tetraacetic acid (I) with  $PbO_2$  a stable ruby-red complex of  $Mn^{2+}$  which can be determined iodometrically or by potentiometric titration with Mohr's salt.  $Fe^{2+}$ ,  $Cu^{2+}$ , and other cations do not interfere when bound in complexes. The method is suitable for the detn. of alloys and ores with 1-82% Mn content. A sample is dissolved in  $HNO_3$ ,  $SiO_2$  removed, an aliquot treated with 0.1M I, the soln. neutralized with NaOH to pH 5, and after addn. of 10-20 ml.  $AcO_2$  and 10 ml.  $Ca(OAc)_2$ , oxidized with 0.3-1.5 g.  $PbO_2$ . The soln. is filtered through a dense fritted-glass funnel, the ppt. washed with  $H_2O$ , and the filtrate titrated with 0.1N  $Na_2S_2O_3$  after addn. of 1 g. KI. Mn can be detd. colorimetrically in the same soln. The optimum concn. of Mn is 0.21-2.74  $\mu g.$  in 50 ml. soln. M. Hudlicky

*Pribil, K.*

*Z.*

*Pribil, R.: Komplexometrické titrace. Prague: Státní  
Nápr. Tech. Lit. 1955. 74 pp. Kčs 4.54. Reviewed in  
Chem. Listy 50, 170(1956).*

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*Pribil, R.: ~~Complexometric~~ Complexometric Titration. Prague: National Technical Literature  
Publishing House. 1955. 74pp. Kcs. 4.54. Reviewed in Chem. Listy 50, 170(1956).*

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FRUMIL, Rudolf

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Kompleksny V. Khimicheskoy Analize (complexons in Chemical Analysis)  
Moskva, 1 zd-vo 1 Nostrannoy Literaturny, 1955.

187 P. Diagrams., Graphs, Tables.

Published in Czechoslovakia under Title: Kompleksny V. Chemické Analyse.  
Praha, 1953

Bibliography: P. 173-176.

Příbil R.

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1812. Compleximetric titrations (chelometry).  
 XI. ~~1,2-Diaminocyclohexane~~-NNN'-tetra-  
 acetic acid as volumetric reagent. Stepwise deter-  
 mination of iron and manganese (magnesium,  
 calcium); determination of copper in presence of  
 iron, nickel, cobalt and manganese. R. Příbil (*Coll.  
 Czech. Chem. Comm.*, 1955, 20 [1], 192-199). The  
 properties of the complexes of a number of metals  
 with disodium 1:2-diaminocyclohexane-NNN'-  
 tetra-acetate (I) are discussed with relation to their  
 volumetric determination. For the stepwise deter-  
 mination of Fe and Mn, titrate the Fe with I at  
 pH 2 with salicylic acid as indicator, then titrate  
 the Mn with Eriochrome black T as indicator after  
 adding hydroxylamine and triethanolamine and  
 making the soln. alkaline; the stepwise determina-  
 tion of Fe and Mg or Ca is similar, but no triethanol-  
 amine is needed. For the determination of Cu in  
 the presence of Fe, Ni, Co or Mn, add an excess of I  
 and back-titrate with MgSO<sub>4</sub> to give total metals;  
 then add KCN and H<sub>2</sub>O<sub>2</sub> (or hydroxylamine in the  
 case of Fe) to break down the Cu complex, and  
 titrate the I released. (This is a translation into  
 German of a paper originally published in *Chem.  
 Listy*, 1955, 49, 170.) A. R. ROGERS

Handwritten initials or signature.

PRIBIL, R.

715. Compleximetric titrations (chelometry).  
XII. 1:2-Diaminocyclohexane-NNN'-tetra-acetic  
acid as a volumetric reagent. Determination of iron,  
aluminium and titanium. Z. Štr and R. Pribil  
(Inst. Org. Chem., Czech. Coll. Chem. Comm.,  
Commun., 1955, 20 (4), 871-876.—Aluminium  
interferes in the indirect compleximetric titration  
of Fe with 1:2-diaminocyclohexane-NNN'-tetra-  
acetic acid (Chenta reagent) (I). Aluminium, as  
well as Ti, forms a stable complex with I in a soln.  
buffered with pyridine or with a mixture of pyridine,  
aq. NH<sub>3</sub>, and NH<sub>4</sub>Cl. All three metals can be  
determined singly in weakly alkaline pyridine soln.  
by the addition of an excess of 0.05 M I, the  
unchanged I being back-titrated with 0.05 N ZnCl<sub>2</sub>  
or ZnSO<sub>4</sub> soln.; Eriochrome black T is used as the  
indicator. When the ions of all three metals are  
present, Fe<sup>III</sup> can be determined if Al<sup>III</sup> and Ti<sup>IV</sup>  
are complexed by the addition of a 2 per cent.  
soln. of NH<sub>4</sub>F. J. H. WATON

PM. ~~2/28/55~~

PRIBIL, Z.

CZECH

Use of complexons in chemical analysis. XLIV. Iodometric determination of higher oxides of lead and manganese. Rudolf Pribil and Jaroslav Šihálek (Karlova Univ., Prague). ~~Chem. Abstr.~~ 49, 61-1 (1956); ~~et. C. 21~~ 48, 13520a. A simple iodometric method for detg. Pb and Mn oxides is based on the reduction of the oxides with KI in the presence of complexon, which prevents the formation of insol. products like PbI<sub>2</sub> and forms Fe and Cu complexes which do not react with KI. To det. PbO<sub>2</sub>, weigh 0.2 g. (0.03-0.05 g. for semimicrodetn.) PbO<sub>2</sub>, add 1.5-2 g. (0.5 g.) freshly dissolved KI, 10-15 ml. (2-5 ml.) 0.1M complexon, and 10 ml. (5 ml.) 5% AcOH. Stir 2-5 min. mechanically or 15-20 min. magnetically until the sample dissolves, dil., and titrate I with 0.05-0.1N Na<sub>2</sub>S<sub>2</sub>O<sub>4</sub>. To det. PbO in PbO<sub>2</sub>, add a known amt. 0.1M complexon, and after finished titration with Na<sub>2</sub>S<sub>2</sub>O<sub>4</sub>, neutralize with NH<sub>3</sub>, to methyl orange, add 2 ml. of a buffer (54 g. NH<sub>4</sub>Cl and 360 ml. 25% NH<sub>3</sub> in 1 l.), Eriochrome Black T, and titrate excess complexon with MgSO<sub>4</sub> from blue to red-wine. The amt. of complexon consumed gives the total Pb content. If the sample contains traces of Cu, Zn, etc., KCN is added before retitration. To det. MnO<sub>2</sub>, weigh 50 mg., add 10 times the wt. KI, 10 ml. 0.1M complexon, 0.5 g. NaOAc, 10 ml. 5% AcOH, stir 10-15 min., dil., and titrate I with Na<sub>2</sub>S<sub>2</sub>O<sub>4</sub>. M. Hudlický.

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PRIBIL, R.

CZECH

Use of complexons in chemical analysis. XLV. Paper  
onophoresis of inorganic compounds. K. Macek and R.  
Přibil (Výzkumný ústav farm. biochem. Pragoc). Chem.  
Zpr. 49, 307-8 (1955); cf. C.A. 49, 5200c. — Addn. of com-  
plexon III made possible ionophoretic sepn. of some metals  
which otherwise could not be sep'd. from each other. Com-  
plexes with Cu, Fe, Bi, and Th are very strong, even in 2%  
HNO<sub>3</sub>. The method was successfully applied to the sepn. of  
Cu, Fe, and Bi. M. Hudlický

PRIBIL, RUDOLF

✓ Recent advances in chelatometry. Rudolf Pribil (Pharm. & Biochem. Research Inst., Prague). ~~Chem. Abstr. (London)~~ E. H. J. 72, 141-5(1935).--10 references.

P. K. Bilal R.

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Polarographic determination of copper and zinc in casein hydrolyzates. B. Kaktš, M. Smid, and R. Pribil (Research Inst. Pharmacy and Biochem., Prague). *Pharmazie* 11, 773-81 (1956).—In place of polarographic detn. of small amts. of Cu and Zn in injectable solns. of casein hydrolyzates, as heretofore carried out, detns. were made after extrn. of the corresponding diethyldithiocarbamate (D) in Ar JEt. By soln. of the I complex with Hg, the 2 metals are carried over in aq. soln., and after addn. of NH<sub>4</sub> buffer detd. polarographically together. (The AcOEt must be removed by distn. before polarography.) The newer method is easier and gives more precise and reproducible results than the older.

G. M. Hocking

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Pribil, R.

822. Compleximetric titrations (Chelatometry). XVII. The determination of copper, iron, aluminium and titanium. Z. Šir and R. Pribil (Res. Inst. for Found. Metall. Vester, near Prague). Coll. Czech.

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Chem. Commun., 1950, 21 (4), 866-872 (in German).  
—A method for the determination of Fe, Al and Ti in pyridine soln. by back-titration with ZnSO<sub>4</sub> with Eriochrome black T as indicator, is described. If NH<sub>4</sub>F is added, Fe only is determined in the presence of Al and Ti. Iron and Cu give a deep blue colour with catechol violet (I) in pyridine acetate buffer (pH 5.5 to 8.0), which is suitable for the detection of the end-point in EDTA titrations. Since Cu and Fe do not form complexes with F<sup>-</sup> they can be determined in the presence of Al and Ti. The following methods are recommended for the analysis of Fe-Al-Cu alloys. Dissolve 1 g of alloy in HBr (5 ml), add KCl (2 g) and evaporate to dryness on a water bath. Dissolve the residue in dilute HCl (1 + 1) (1 ml) and water (100 ml). Precipitate the Cu with H<sub>2</sub>S, filter and ash the pptd. CuS, dissolve the residue in HCl (2 ml), remove any co-pptd. Fe and Al by pptg. the hydroxides with pyridine, and determine the Cu by titration with EDTA, with I as indicator. Combine the Fe and Al portions, boil to expel H<sub>2</sub>S and dilute to 50 ml. To an aliquot (25 ml) add 0.05 M EDTA (50 ml), pyridine (5 ml) and I (10 drops) and

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*Sin 2, Pyridil, P.*

back-titrate with  $\text{CuSO}_4$  soln. To a further aliquot add  $\text{NH}_4\text{F}$  soln. (2%) (16 ml), EDTA (10 ml) and pyridine (10 ml), and back-titrate with  $\text{CuSO}_4$  soln. The content of Fe is given by the second titration and the sum of Fe and Al is given by the first titration, Al being calculated from the difference. An alternative procedure involves pptn. of the Cu with oxalate. Most metals, except Mg and the alkaline earths, interfere. P. S. SROSS

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PRIBIL, R.

910. The use of silver permanganate in analysis.

VII. A simple and rapid method for the detection of the elements in organic compounds. J. Křel and R. Pribil. Chem. a Biochem. Rev. Inst. Czech. Acad. Sci., Prague, Czechoslovakia, 1956, 21 (3), 955-959 in German.

*Chem*

A simple micro-method for the detection of C, H, N, Cl, Br, I, S, P and As in organic compounds is described. From 0.1 to 1 mg of the compound is gently fused in a special tube with the decomposition product of  $AgMnO_4$ . H is detected by the formation of dew in the cold part of the tube. C by the formation of  $CO_2$  which is detected by  $Ba(OH)_2$ ; Hg condenses on the cold part of the tube and is detected by dithizone; the halogens give silver halides which are leached out differentially (aq.  $NH_3$  dissolves  $AgCl$  and  $AgBr$ , 30%  $AgNO_3$  dissolves  $AgI$ ; S gives silver and manganese sulphates which are detected with  $BaCl_2$ ; P and As give phosphate and arsenate which are detected with molybdate; and N gives nitrate and nitric acid which are detected with diphenylamine. The full procedure can be carried out in a few minutes.

P. S. STROSS

*MMK*

PŘIBL, R.

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2072. Xylenol orange: new indicator for the EDTA titration. J. Korbí and R. Příbl (Inst. Chem., Czechoslovak Acad. Sci., Prague, Czechoslovakia). *Chemist Analyst*, 1956, 45 (4), 162-163.—Xylenol orange, [6-di(carboxymethyl)amino(methyl)-o-cresol]sulphonphthalein (I), retains the acid-base properties of o-cresolphthalein and acts as a metal indicator even in acid soln., giving a distinct colour change in direct EDTA titration. Examples of its use are given. The results of the titrations are very accurate. In soln. as acid as  $M HNO_3$ , and at  $90^\circ$ ,  $Zr^{4+}$  may be titrated with EDTA soln. By appropriate pH adjustments, certain pairs of metals, e.g., Bi and Zn, Bi and Pb, or Bi and Cd, may be titrated successively in a single sample soln. The procedures described are also suitable for use on a micro-scale.

O. M. WHITCOM

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PRIBIL, Rudolf

✓ Analytical applications of silver permanganate. V.  
Complexometric determination of combustible sulfur as  
manganese (II) sulfate. Jiří Kórbí and Rudolf Pribil  
(Pharm. and Biochem. Research Inst., Prague). *Chem.  
Listy* 50, 232-5(1956); cf. *C.A.* 50, 727g.—Thermal de-  
compr. product of  $\text{AgMnO}_2$  (cf. *C.A.* 50, 3944c) calcined at  
500° for 3 hrs. serving as contact and adsorption material  
quantitatively converted products of S combustion to  
 $\text{Ag}_2\text{SO}_4$  and  $\text{MnSO}_4$ . The reaction was carried out with  
4-22 mg. S in a combustion tube that was heated 1-2 min.  
to 450-500° in a stream of  $\text{O}_2$ . After rinsing out the contents  
with 50 ml. hot water and boiling for a short time, solid  
 $\text{MnO}_2$  and 0.5 g. urea peroxide hydrate divided into 3  
portions was added successively to the soln. under vigorous  
stirring, thus effecting a complete conversion of  $\text{Ag}_2\text{SO}_4$  to  
an equiv. amt. of  $\text{MnSO}_4$ . Following the addn. of  $\text{NH}_4\text{OH} \cdot \text{HCl}$   
to prevent opalescence and Eriochrome T as  
indicator,  $\text{MnSO}_4$  was titrated with 0.05N soln. of di-Na

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salt of ethylenediaminetetraacetic acid. The method exceeds all other known methods in speed, the whole procedure taking less than 30 min. VI. A simple and rapid qualitative test for elements in organic compounds. *Ibid.* 236-9.—Destructive oxidation carried out in a glass pipet (diam. 0.4, length 13 cm.) by heating 0.1-1.0 mg. of an org. compd. with 50 mg. of the decompn. product of Ag-MnO<sub>2</sub> (cf. *loc. cit.*) gives rise to reaction products which are partly liberated (H<sub>2</sub>O, CO<sub>2</sub>, Hg) partly absorbed by the reaction material as Ag compds. The presence of H is shown by the moisture on the glass sides, CO<sub>2</sub> reacts with Ba(OH)<sub>2</sub>, metallic Hg condenses on the glass sides and is detected visually or with dithizone. Compds. absorbed in the mixt. are eluted gradually according to their different solubilities in water or NH<sub>4</sub>OH and the individual elements are detd. as follows: N with diphenylamine, S as BaSO<sub>4</sub>, halogens as Ag salts, P and As with Mo reagent.

L. J. Urbánek

PRIBIL R.

1987. Complexometric titrations potentiometry  
XVIII. Determination of cobalt and copper in cobalt  
and its salts.

*Chem*

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... separation of Co in the form of  $NH_4CO_3$ , Ni in  
the filtrate can be determined with EDTA (ethylenediamine  
salt) (I) and Cu with 1:2-diaminodiphenylacetate  
acetate and disodium salt (II) (part of agent II).  
Procedure: Dissolve the cobalt salt in a minimum  
of  $H_2O$  and add 100 to 200 ml of precipitant. If  
necessary, add a few ml of aq.  $NH_3$  to dissolve the  
amorphous ppt. Boil for 10 min., set aside for  
30 min. in a water bath, cool slowly, filter, and wash  
the ppt with warm  $H_2O$  containing aq.  $NH_3$  and  
hydroxylamine. The removal of Co can be made  
quant. by using a repeated pptn., but this is not  
necessary. To the filtrate add HCl to a pH of  
6 to 6.5, an excess of standard I, then aq.  $NH_3$  to a  
pH of 8 to 10, and titrate with  $MgSO_4$  soln. (for  
Ni and traces of Cu, add  $H_2O$  and KCN and titrate  
again with  $MgSO_4$  for Ni). For determining Ni and  
Cu in cobalt salts, use the same procedure for the  
removal of Co, then add an excess of standard II,  
titrate with  $MgSO_4$  (for Cu, Ni and traces of Co),  
add  $H_2O$  and KCN and continue with the titration  
(for Cu, the difference between the titrations with

I and II corresponds to the content of Ni. *Prep-*  
*aration of the ppt:* Dissolve 1.000 g  $Na_2HPO_4$  (30  
g),  $NH_4Cl$  (38 g), and hydroxylamine hydrochloride  
(4 g) in  $H_2O$  (300 ml) and add conc. aq.  $NH_3$  (250 ml).  
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Fribil, Rudolf

✓Complimentary duration (chelation) XXDI Kyo- 2

or for a complimentary duration (chelation) M. Hudlak?

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PRIFIL, RUDOLF

"Komplexometrie. [vyd. 1.] Praha, Statni nakl. technicke literatury.  
[Complexometry. 1st ed. Fibl., tables]"

Vol. 1. [Basic determination] 1957. 103 p.

p. 103 (Praha, Czechoslovakia)

Monthly Index of East European Accessions (SEAI) LC, Vol. 7, No. 6, June 1958.



PRIBIL, R.

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Chem

2477. Some new metallochromic indicators of the  
complexone type. J. Křiváň and K. Luky (Pharm.  
and Biochem. Res. Inst., Czech Acad. Science,  
Prague). Chem. & Ind., 1957, (8), 233-234.  
A series of twelve 3:3'-bis-NN-di(carboxymethyl)-  
arainomethyl derivatives of acid-base indicators  
of the phthalein and sulphonephthalein groups have  
been prepared by condensation of 1 mole of the

phthalein or sulphonephthalein dye with 3 moles of  
iminodiacetic acid and 3 moles of formaldehyde.  
Their colour changes, and characteristics as com-  
plexometric indicators, are described.

W. J. WRIGHT

W. J. Wright

PRIBIL R.

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Complexometric titrations (chelometry). XXV. Xylenol Orange as a new, specific indicator. J. Kóbl, R. Pribil, and A. Eimr. *Collection Czech. Chem. Commun.* 22, 661 (1957) (in German).—Xylenol Orange [3,3'-bis[bis-(carboxymethyl)amino-methyl]-o-cresolsulfonephthalein], was found to be an exceptionally satisfactory indicator in acid soln. The comp.d. itself is a bright-red powder. In water alone it changes color from yellow to red-violet at about pH 6. With a variety of cations it forms an intensely red to red-violet complex in acid soln. The lower limit of pH at which a color change is observed for certain cations is: Zr<sup>4+</sup>, 1N HNO<sub>3</sub>; Bi<sup>3+</sup>, 0.5N HNO<sub>3</sub>; Fe<sup>3+</sup>, 0.2N HNO<sub>3</sub>; Th<sup>4+</sup>, 0.1N HNO<sub>3</sub>; Se<sup>4+</sup>, 0.05N HNO<sub>3</sub>; Ph<sup>3+</sup> or Al<sup>3+</sup>, pH 3; Zn<sup>2+</sup>, Co<sup>2+</sup>, or La<sup>3+</sup>, pH 4; Cu<sup>2+</sup>, pH 5; Mn<sup>2+</sup>, Ni<sup>2+</sup>, Cd<sup>2+</sup>, and Hg<sup>2+</sup>, pH 6. It was found possible to titrate some of these cations in the presence of others; a more thorough study of this aspect of the problem is forthcoming.

Jean S. Donnelly

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HUNGARY / Analytical Chemistry. Analysis of Organic Substances. E-3

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57236.

Author : ~~Pribil R.~~, Koros E., Barcza L.

Inst : Not given.

Title : Complexometric Determination of Mercury Compounds.  
III. Determination of Mercury in Organic Compounds.

Orig Pub: Acta pharmac. hung., 1957, 27, No 6, 243-245.

Abstract: Complexometric method for the determination of Hg has been adopted to organic compounds. A 0.20 gr sample of an organic substance is decomposed by heating in the presence of 2cc of concentrated H<sub>2</sub>SO<sub>4</sub> and of 2cc of H<sub>2</sub>O<sub>2</sub>. Under these conditions

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HUNGARY / Analytical Chemistry. Analysis of Organic Substances. E-3

Abs Jour: Ref Zhur-Khimiya, 1958, No 17, 57236.

Abstract: Hg is completely oxidized to  $Hg^{2+}$ . The solution is then diluted, pH is adjusted at 4.5-6, 1-2cc of 20% solution of hexamethylenetetramine is added and the resulting solution is titrated with 0.005 M solution of complexon III in the presence of the xylenol orange indicator. Mercury compounds containing N decomposed with the aid of  $HNO_3$  and  $H_2O_2$  in order to prevent formation of the almost insoluble amido-sulfate complex of  $Hg(2+)$ . For Part II refer to Ref Zhur-Khimiya, 1958, 39356.

Card 2/2

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PRIBYL, R.

POSSNER, M., MUDr.; PRIBYL, R., MUDr.

Personal experiences with the treatment of purulent lesions of fingers & hand by prolonged immersion lavage technic of R Malek. Rozhl. chir. 36 no.1:49-58 Jan 57.

1. Chirurgické oddelení OUNZ Kolin, prednosta MUDr, M. Possner.
  - (PARONYCHIA, ther.  
prolonged immersion lavage technic of Malek (Cz))
  - (OSTEITIS, ther.  
prolonged immersion lavage technic of Malek in  
purulent osteitis of fingers & hand (Cz))
  - (ARTHRITIS, ther.  
prolonged immersion lavage technic of Malek in  
purulent arthritis of fingers & hand (Cz))
  - \* (FINGERS, dis.  
purulent osteitis & arthritis, ther., prolonged immersion  
lavage technic of Malek (Cz))

CZECHOSLOVAKIA/Analytical Chemistry. General Questions.

E-1

Abs Jour:Ref Zhur-Khim., No 13, 1958, 42989.

Author : I. Korbl Jiri, Pribil Rudolf  
II. Korbl Jiri, Kraus Eduard, Jancik Fedir, Pribil Rudolf.

Title : Metalochromatic Indicators. I. Preliminary Communication. II. 3,4-Dihydroxy-4'-Nitroazobenzene and 3,4-Dihydroxy-Azobenzene-4'-Sulfonic Acid as Simple Metalochromatic Prototypes of Pyrocatechol Violet.

Orig Pub: Chem. listy, 1957, 51, No 2, 302-310; 311-314; Sb. chekhosl. khim. rabot, 1957, 22, No 4, 1122-1130.

Abstract: I. Indicators used in complexometry can be subdivided into 3 groups: 1) Colorless compounds which produce a characteristic color with definite cations, the chromophore being in this

Card : 1/5 *Pharm. & Biochem. Research Inst., Prague.*

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CZECHOSLOVAKIA/Analytical Chemistry. General Questions.

E-1

Abs Jour: Ref Zhur-Khim., No 13, 1958, 42989.

case the deformed cation (salicylic and sulfo-salicylic acid, tyron,  $\text{NH}_4\text{SCN}$ , KI, thiourea); 2) Substances which produce with certain cations a turbidity or strongly colored adsorption products (oxalic acid, galloycyananin); 3) Organic dyestuffs capable of forming complexes with a sharp change in color (murexide, Eriochrome Black T, Pyrocatechol Violet (I), Pyrogallol Red, Xylenol Orange, etc.). Substances of the last mentioned group must be regarded as complexometric indicators in the direct meaning of the term; they are being designated as "metallochromatic indicators" (MI). All MI have the properties of acid-base indicators and also include complex-forming groups which are a part of

Card : 2/5

CZECHOSLOVAKIA/Analytical Chemistry. General Questions.

E-1

Abs Jour: Ref Zhur-Khim., No 13, 1958, 42989.

the resonance system of the indicator. The range of color change of MI, on formation of a complex with the cation is within the limits of its acid-base changes. The functional mechanism of MI ensues from its complex-forming characteristics and its properties as an acid-base indicator. In the presence of the cation with which the MI forms a complex, there takes place, within the pH range of the complex occurrence, a disturbance of the acid-base color change of the MI; it is desirable that this disturbance be associated with sharp color changes within the pH range that is advantageous for the determination of the given cation. The function of MI depends upon its color system, acid-base properties, the complex-forming group, and

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CZECHOSLOVAKIA/Analytical Chemistry. General Questions.

E-1

Abs Jour: Ref Zhur-Khin., No 13, 1958, 42989.

the effect of the other substituents. The properties of suitable MI are determined from this standpoint. II. By coupling of diazotized p-nitraniline or sulfanilic acid were prepared 3,4-dihydroxy-4'-nitro-azobenzene (II) and the Na-salt of 3,4-dihydroxy-azobenzene-4'-sulfonic acid (III), which are the simplest forms of MI of I type. MI II and III can be utilized for complexometric determination of the same cations which are determined with I. All 3 indicators have the same complex-forming groups, as a result of which they differ from one another only in range and pH interval of color changes on formation of complexes with the cations. On determination of Bi with III better results were obtained than with I. The

Card : 4/5

CZECHOSLOVAKIA/Analytical Chemistry. General Questions.

E-1

Abs Jour: Ref Zhur-Khim., No 13, 1958, 42989.

titration of small amounts of Th, and also of Zn, Cd, Co and Ni at pH of about 10 can be readily effected by the use of III. For determination of Cu, Ca, etc., in strongly alkaline media, II can be successfully utilized. The synthesis of II and III is very simple and occurs with a high yield.

Card : 5/5

*Pribil Rudolf*

CZECHOSLOVAKIA/Analytical Chemistry - Analysis of  
Inorganic Substances.

E-2

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 24756

Author : Korbl Jiri, Pribil Rudolf

Inst : -

Title : Complexometric Titration (Chelatometry). XXIX. Selective  
Masking and Determination of Mercury.

Orig Pub : Chem. listy. 1957, 51, No 4, 667-671; Sb. chekhosl. khim.  
rabot, 1957, 22, No 6, 1771-1776

Abstract : Thiosemicarbazide (I) is used as a new selective reagent  
for the masking of  $Hg^{2+}$ . In an acidic medium I forms  
with  $Hg^{2+}$  a white rapidly darkening precipitate which dis-  
solves in an excess of I to form a colorless solution in  
which Hg is combined with I as a very stable complex.  
In an alkaline solution this complex is decomposed with  
separation of HgS.  $Ag^+$ ,  $Cu^{2+}$  and  $Fe^{3+}$  also react with  
I; other cations either do not react with I, or form

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CZECHOSLOVAKIA/Analytical Chemistry - Analysis of  
Inorganic Substances.

E-2

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 24756

pharmaceuticals. I can also be used in microdeterminations of some metals by precipitation with cupral or by selective extraction of diethyl-dithiocarbaminates with a suitable organic solvent. In such a case the cations being determined are displaced from their compounds with cupral by the action of HgCl and are transferred into the aqueous phase in which they are determined by the described procedure after Hg<sup>2+</sup> has been masked by an addition of I. Communication XXVIII see RzhKhim, 1958, 24773.

Card 3/3

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E-2

CZECHOSLOVAKIA/Analytic Chemistry - Analysis of Inorganic Substances.

Abs Jour : Ref Zhur - Khimiya, No 10, 1958, 32159

(light blue - gray), and pH above 12.7 (gray - dark blue). I produces complexes with many cations in a wide range of pH, the color of these complexes varies from intensely blue to blue-violet. The majority of these complexes can be directly titrated with complexone III solution. At such occasion, I produces the most sharp color change at pH from 0 to 6.5 (blue - yellow) and from 11.5 to 12.7 (blue - gray-yellow). In an acid medium, the existence ranges of I complexes with separate cations and the titration conditions for Bi, Th, Sc, La, Pb, Zn and Cd are the same as those of xylenol orange (II) (RZhKhim, 1957, 44807). The presence of NH<sub>4</sub> salts does not interfere with the titration. In an acid solution strongly buffered with urotropin, Hg and Co can be also determined with I; great amounts of NH<sub>4</sub><sup>+</sup> and Cl<sup>-</sup> interfere with the determination of Hg; the determination

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CZECHOSLOVAKIA/Analytic Chemistry - Analysis of Inorganic Substances.

"APPROVED FOR RELEASE: 03/14/2001

CIA-RDP

Abs Jour : Ref Zhur - Khimiya, No 10, 1958, 32159

E-2

of Co is carried out at 800. I is unsuitable for the direct determination of Al, Ni, Cu, Zr and Fe<sup>3+</sup>. Zn, Cd and Pb (in the presence of tartrate), Ca, Sr, Ba, Mg, Mn and small amounts of Co and Cu can be determined with I in an alkaline medium (NH<sub>4</sub>OH or NaOH). The NaOH medium is especially suitable for the titration of Ca, Sr and Ba; the NaOH concentration should be less than 0.05 - 0.06 M. Ca can be determined also in the presence of small quantities of Al and Fe. As compared with II, I possesses a sharper color change in alkaline media; besides, I is less subject to oxidation in such a medium than Erio Chrome Black T. See Report XXIX in RZhKhim, 1958, 24756.

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CZECHOSLOVAKIA/Analytic Chemistry - Analysis of Inorganic  
Substances.

E-2

Abs Jour : Ref Zhur - Khimiya, No 10, 1958, 32161

of water, 3 to 5 drops of 0.1%-ual aqueous solution of III is added and the solution is alkalinized with 0.1 n. NaOH solution (5 mlit). If there were in the analyzed solution free  $\text{Ca}^{2+}$  ions, the yellow color of the solution changes into blue; in such a case, free Ca is titrated off with 0.01 M solution of I. If there were no  $\text{Ca}^{2+}$  ions in the solution, the solution acquires a smoky color after alkalization; in such a case, the present free I is titrated off with 0.01 M  $\text{CaCl}_2$  solution. After that, 0.8 mlit of 1 n.  $\text{HNO}_3$  and 0.25 g of solid hexamethylenetetramine are added to the same solution (up to pH of about 5) and the complete present I is determined by titration with 0.05 M  $\text{Pb}(\text{NO}_3)_2$  solution. The insignificant excess of Pb is eliminated by adding a drop of 0.05 M solution of I, the solution is alkalinized with 25%-ual  $\text{NH}_4\text{OH}$  to pH = 11.5 to 12.5 (10 mlit)

Card 2/3

*Pribil, R.*

CZECHOSLOVAKIA / Analytic Chemistry. General Topics. E

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60556.

Author : V - Jiri Korbl, Bohumil Kakac; VI - Jiri Korbl,  
Rudolf Pribil; VII - Jiri Korbl, Eduard Kraus,  
Rudolf Pribil.

Inst : -

Title : Metallochromic Indicators. V. Properties of Methyl-  
thymol Blue as of Acid-Base Indicator. VI. Analogues  
of o-Cresolphthalein Complexon. VII Glycinethymol  
Blue.

Orig Pub: Chem. listy, 1957, 51, No 9, 1680-1685; No 10, 1804-  
1808; 1809-1813.

Abstract: The behavior of methylthymol blue (I, 3,3'-bis-N,

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CZECHOSLOVAKIA / Analytic Chemistry. General Topics. E

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60556.

Abstract: valent of NaOH. It may be assumed from the shape of the titration curve that the values of  $pK_1$  to  $pK_3$  of I under 4.5 are close one to another; the corresponding proton detachment of I proceeds without any color change. The magnitude of  $pK_4$  may be assumed to be 7.3. The light absorption curves of  $8 \cdot 10^{-5}$  M solution of I at various pH-s within the range from 5 to 14 are crossing at isobestic points in the majority of cases and depending on the light wave length, which indicates simple equilibria of the corresponding I ions. The values of  $pK_4 = 7.2$ ,  $pK_5 = 11.15$  and  $pK_6 = 13.4$  were obtained from the course of the extinction curve of a 8 .

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CZECHOSLOVAKIA / Analytic Chemistry. General Topics. E

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60556.

Abstract: ties of 3,3'-bis-N,N-di-(carboxymethyl)-aminomethyl derivatives of phenolphthalein (phenolphthalein complexon, III) and thymolphthalein (thymolphthalein complexon, IV) were studied and a comparison with the analogous derivative of o-cresol-phthalein (o-cresolphthalein complexon, V was carried out). Schwarzenbach and his coworkers proposed V as an indicator for complexometric determination of alkali-earth metals. The regions of color changes of III, IV and V depending on pH coincide with the regions of corresponding initial acid-base indicators according to spectrophotometric measurements. But the weak coloration of III, IV and V appears

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CZECHOSLOVAKIA / Analytic Chemistry. General Topics. E

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60556.

Abstract: already at pH = 7 to 8; it becomes more intensive with the rise of pH in consequence of the formation of colored ions. The color intensity of individual forms depends on the fact, whether a symmetrical, or an asymmetrical resonance system is being produced, at which occasion it is necessary to take into consideration the hydrogen bridges between the phenol O-s and N atoms. The alkaline form of III is purple, that of IV is blue, and that of V is violet. A qualitative color change from blue into reddish-gray is observed in IV near pH = 12. The color of III becomes weaker at pH = 13 to 14 analogously to the initial indicator. The least and, consequently, the most favorable intensity rise of the coloration proper together with pH is observed at IV. III, IV and V possess

Card 6/11

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CZECHOSLOVAKIA / Analytic Chemistry. General Topics. 3

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60556

Abstract: the metallochromic properties only in an alkaline medium contrarily to analogous derivatives of sulfo phthaleins. I with  $\text{Ca}^{2+}$ ,  $\text{Sr}^{2+}$ , and  $\text{Ba}^{2+}$  produces colored reactions. Many other cations cause blocking of III connected with its discoloration; a blocked III does not react with cations, with which it would produce a positive reaction otherwise. IV and V behave similarly, but cases of their blocking occur more seldom. The positive color reaction of III, IV and V with  $\text{Ca}^{2+}$  are still clear enough at  $\text{pH} = 9$ , but with  $\text{Sr}^{2+}$  and, first of all, with  $\text{Ba}^{2+}$  they are already expressionless. To the contrary, the intensity of III coloration

Card 7/11

CZECHOSLOVAKIA / Analytic Chemistry. General Topics. E

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60556.

Abstract: in strongly alkaline solution is decreased by the interaction with  $Ca^{2+}$ . The functional range of IV as of a metallochromic indicator is shifted to the more alkaline medium in comparison with V, which is of advantage at the complexometric determination of Sr and Ba. Besides, solutions titrated with IV as indicator are practically colorless in the optimum range of pH (high  $NH_4OH$  concentrations or little amounts of NaOH). Consequently, IV is more suitable as an indicator than V.

VII. A new metallochromic indicator, glycinethymol blue (VI, 3,3'-di-(N-carboxymethylaminomethyl)-thymolsulfonephthalein) was prepared by elimination of a N-carboxymethyl group from 1-oxy-2-N,N-di-(carboxymethyl)-aminomethylaryl complex producing

Card 8/11

CZECHOSLOVAKIA / Analytic Chemistry. General Topics. E

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60556.

Abstract: groupation in combination with II. Its preparation by the condensation of II with formaldehyde and glycine is similar to the preparation of I. The Na salt of VI is a dark brown powder easily soluble in water. The first acid-base transition of VI from a yellow coloration into a red one is shifted to the range of lower pH magnitudes as compared with II (pH = 2.8 to 1.2). The second transition of VI color (yellow - blue) takes place approximately in the same range of pH as in case of I; the intensity decrease of the blue coloration is not clear enough at high values of pH in the case of VI. The complex formation properties of

Card 9/11

CZECHOSLOVAKIA / Analytic Chemistry. General Topics. E

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60556.

Abstract: VI are lower as compared with I or other similar indicators ( $\text{Ni}^{2+}$ ,  $\text{Fe}^{3+}$  and  $\text{Pd}^{2+}$  produce complexes). Starting from  $\text{pH} = 3$ . VI produces complexes of dark blue color with numerous cations at various pH magnitudes. At the titration with ethylenediaminetriacetate (VII) solution, the color transitions are clear in the case of  $\text{Cu}^{2+}$ ,  $\text{Zn}^{2+}$ ,  $\text{Pb}^{2+}$  and  $\text{Hg}^{2+}$ , and they are lengthy in the case of  $\text{Pd}^{2+}$ ,  $\text{Ni}^{2+}$ ,  $\text{Co}^{2+}$  and  $\text{Fe}^{3+}$ . The application of VI is practically important first of all for the direct complexometric determination of  $\text{Cu}^{2+}$  in an acid medium; VI is suitable for that purpose more than 1-(2-pyridylazo)-2-naphthol or variamine blue B first of all because the Cu complex is well soluble and due to the clear change of color.  
Method of work: a corresponding volume of 0.05 M

Card 10/11

CZECHOSLOVAKIA / Analytic Chemistry. General Topics. E

Abs Jour: Ref Zhur-Khimiya, No 18, 1958, 60556.

Abstract: solution of the sample ( $\text{CuSO}_4$ ) is diluted to 100 ml and 1 ml of 1 n.  $\text{HNO}_3$ , 5 to 10 drops of 0.1% - ual aqueous solution of VI (Na salt) and 3 ml of 20% - ual hexamethyleletetraamine are added. The intensively blue solution of pH about 5 is titrated with a 0.05 M VIII solution until a pure yellow or emerald green color is produced (depending on the Cu content).  $\text{Ni}^{2+}$  and  $\text{Fe}^{3+}$  interfere. See report IV in RzhKhim, 1958, 53348.

Card 11/11

CZECHOSLOVAKIA/Analytic Chemistry. Analysis of Inorganic Substances.

E

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 73701.

Author : Miloslav Houda, Jiri Koerbl. Vladimir Bazant, Rudolf Pribil.

Inst : ~~www.chem.uzh.uz~~

Title : Complexometrical Titration (Chelatometry).  
XXXV. Indirect Determination of Aluminum With Xylenol Orange.

Orig Pub: Chem. Listy, 1957, 51, No 12, 2259-2265.

Abstract: The conditions of quantitative formation of Al chelate with ethylenedinitrylo-tetraacetic acid (I), as well as the condition of reverse titration of the excessive I with  $Pb(NO_3)_2$ ,  $ZnSO_4$  and  $Th(NO_3)_4$  with the application of xylenol

Card : 1/4



CZECHOSLOVAKIA/Analytic Chemistry. Analysis of Inorganic Substances.

E

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 73701.

orange (II) were studied. It was established that a quantitative interaction of  $Al^{3+}$  with I takes place only in a weakly acid medium, below the pH of the start of Al salt hydrolysis; a more acid medium is not an obstacle. The presence of great amounts of neutral salts results in a slow formation of the Al chelate with I, but the formation can be accelerated by boiling the solution. The lower limit of pH at the reverse titration of the I excess is a little lower than 3. It is necessary to buffer the titration solutions with hexamethylenetetramine or the acetate buffer solution, which is especially important at the titra-

Card : 2/4

CZECHOSLOVAKIA/Analytic Chemistry. Analysis of Inorganic Substances.

E

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 73701.

tion with ZnSO solution. All the studied salts  $Pb(NO_3)_2$ ,  $ZnSO_4$ ,  $Th(NO_3)_4$ , especially  $Pb(NO_3)_2$ , which can be used also as the main substance, are suitable for the reverse titration of I. But in the last case, the presence of a large amount of  $SO_4^{2-}$  interferes with the titration. The presence of  $SO_4^{2-}$  is caused by the formation of  $PbSO_4$  suspension, which disappears very slowly in the vicinity of the equivalency point. If  $Th(NO_3)_4$  is used for the reverse titration, it will be necessary to adjust pH exactly, because  $Th(NO_3)_4$  produces a complex with II starting from pH above 4.5, and that complex is stabler than the chelate with I; the optimum pH is at 2.5 to 3.5 in this case. All

Card : 3/4

CZECHOSLOVAKIA/Analytic Chemistry. Analysis of Inorganic Substances.

E

Abs Jour: Ref Zhur-Khimiya, No 22, 1958, 73701.

these titrations are very accurate and are not upset even at high concentrations of alkaline and NH salts, as well as by the presence of  $Mg^{2+}$ ,  $Ca^{2+}$ ,  $Ba^{2+}$  and  $Sr^{2+}$ ;  $Mn^{2+}$  does not interfere also with the titration with  $Th(NO_3)_4$  solution. Owing to the high sensitivity of II to  $Pb^{2+}$ ,  $Zn^{2+}$  and  $Th^{4+}$ , the interfering exchange reaction between the above mentioned ions and the chelate of Al with I does not develop at the equivalence point. See report XXXIV in RZhKhim, 1958, 57137.

Card : 4/4

FRIBIL R.

7  
The use of fluorescein complexon. J. Körbl, F. Vydra,  
and R. Píbil (Czechoslovakian Acad. Sci., Prague). *Ta-*  
*lanta* 1953 (1953).--In complexometric titrations, it is  
recommended that NaOH and other Na salts be avoided in  
procedures with fluorescein complexon. B. L. Rosenfeld

5  
2 May

J.F.

Prabil, R.

Complexometric titrations (chelometry). XXXVI.  
 Screening of iron by trishydroxamine; the estimation of calcium with thymolphthalein complexon. Rudolf Pířil, Jiři Křib, Bohdan Kysil, and Jiři Vokra (Czech. Acad. Sci., Prague). Chem. Listy 52, 243-6 (1958); cl. C.A. 52, 4399c.—Fe is masked in higher concns. by adding to the soln. an amt. of di-Na salt of ethylenediaminetetraacetic acid (I) corresponding to about a third of the Fe present, then  $N(CH_2CH_2OH)_3$  (1:2), and  $N NaOH$  until the yellow-brown soln. has decolorized. Ca is detd. in silico-Ca as follows: heat gently in a Ag crucible 1 g. with 2 g. mixt. of  $Na_2CO_3 + K_2CO_3$  (1:1) until melted, add portionwise under stirring 5 g.  $Na_2O_2$ , melt, cool, ext. with 100 ml.  $H_2O$ , boil the ext. 3 min., make acid with  $HNO_3$ , boil 1 min., ppt. Ag with solid  $NaCl$ , remove  $SiO_2$  at  $60^\circ$  with 1% gelatin soln., cool, dil. to 250 ml., and filter. Add to a 100-ml. aliquot 40 ml. 0.1M I, 10 ml.  $N(CH_2CH_2OH)_3$  (1:2), make alk. with 2N  $NaOH$  until decolorized, add indicator and titrate with 0.05M  $CaCl_2$  soln. to a blue color. The method is accurate to within  $\pm 0.15\%$ . The interfering influence of Hg (up to 0.25%) is negligible since it raises the error by 0.1%. XXXVII. Glycinenaphthol Violet, a new chelometric indicator. Bedřich Buděšinský (Pharm. Biochem. Inst., Prague). Ibid. 247-9.—1-(p-Nitrophenylazo)-2-glycylmethyl-1-naphthol (II) gives with a no. of metal cations in alk. solns. a conspicuous color change. The ions Co, Ni, Cu, Cd, and Mn give with II in dil.  $NH_4OH$  at pH above 10.5 a red-violet color and are back-titrated visually with 0.05M di-Na salt of I to a blue color. Addn. of  $NH_4OH.HCl$  is necessary in the case of Mn to prevent oxidation. II is used in mixts. with  $KNO_3$  (1:100), since aq. or alc. solns. are not stable. The high pH of the acid-base change makes the detn. of some cations, notably Hg and Pb, impossible.  
 L. J. Urbánek

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VI

gfg

Country : CZECHOSLOVAKIA  
Category : Analytical Chemistry. General Problems E  
Abs. Jour : Ref Znan - Khim., No 5, 1959, No. 15038  
Author : Korbl, J.; Pribil, R.  
Institut. : -  
Title : Complexometric Titration (Chelatometry).  
XXXVIII. On the Sensitivity of Indicators and  
Titration Errors in Complexometry  
Orig Pub. : Chem. listy, 1958, 52, No 4, 601-610  
Abstract : Several mathematical formulae were derived for  
the purpose of evaluating the sensitivity and  
accuracy of complexometric titration. The pro-  
cesses which take place during complexometric  
titrations are similar to processes which oc-  
cur during acid-base titrations: in complexo-  
metry the complex of metals (M) corresponds to  
the water which forms as a result of the neu-  
tralization reaction. The anions of weak acids  
and cations of weak bases play the same role

Card: 1/10

Country : CZECHOSLOVAKIA E  
Category : Analytical Chemistry. General Problems  
Obs. Jour : Ref Zbir - Krim., No 5, 1959, No. 15038  
Author :  
Institut. :  
Title :  
Orig. Pub. :  
Abstract : in titrations by the neutralization method that  
Cont'd different complex-forming substances play in  
complexometry, which by the formation of com-  
plexes with a determined cation of M compete  
with the major complex-forming reagent (the  
complexon). The sensitivity of the acid-base  
indicator in relation to  $H^+$  or  $OH^-$ , being de-  
termined by the pH area of its transition of  
color, corresponds to the sensitivity of the  
complexometric indicator (CI) in relation to  
Card: 2/10

E - 1

Country : CZECHOSLOVAKIA  
Category : Analytical Chemistry. General Problems E  
Abs. Jour : Ref Zbor - Krim., No 5, 1959, No. 15038  
Author :  
Institut. :  
Title :  
Orig. Pub. :  
Abstract : other values. For two-color CI which react  
Cont'd with M in a ratio of  $M:CI = m:n$ , the correct  
general formula is  $U = (A/K_{CI})^{1/m} + mA C_{CI}$ ,  
where A is the ratio of concentration of col-  
ored forms of CI,  $C_{CI}$  is the total concentra-  
tion of CI at the apparent point of equiva-  
lence, and  $K_{CI}$  is the apparent constant of  
formation of CI. This formula is valid for  
 $A = 0.1$ , with the assumption that subsequent  
constants of separate M complexes differ from  
Cards: 4/10

E - 2



Country : CZECHOSLOVAKIA  
Category : Analytical Chemistry. General Problems E  
Journ. : Ref Zhur - Khim., No 5, 1959, No. 15038  
Author :  
Institut. :  
Title :  
Orig. Pub. :  
Abstract : titration error is expressed by the formula:  
Cont'd  $p = 1 - (U/C_M) + (\alpha_H/UK)$ , where K is the true  
constant of formation. In the case of a zero  
titration error,  $p = 1$ , and consequently,  $U$   
(opt.) =  $\sqrt{C_M \alpha_H / K}$ . According to its dependence  
on  $C_M$ ,  $U$  (opt.) differs from the analogous  
value of acid-base indicators. During titration  
of the cation  $M_1$ , in the presence of cations  
 $M_2, M_3 \dots M_i$ , which also partially reacts with  
Card: 6/10

E - 3

Country : CZECHOSLOVAKIA  
 Category : Analytical Chemistry. General Problems E

Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15038

Author :  
 Institut. :  
 Titlo :

Orig. Pub. :

Abstract Cont'd : not considered. In the case of titration of cation M in the presence of the interference of complex-forming anion Z, which reacts with M in a ratio of 1:1, the following expression is obtained:  $p_2 = 1 - (U/C_M) + (\alpha_{1H}/UK_1) - (K_1UC_Z/\alpha_{2H}C_M) = p - (K_2UC_Z/\alpha_{2H}C_M)$ , from which it follows that:  $U (\text{opt.}) = \sqrt{\alpha_{1H}C_M/K_1(1+K_2C_Z/\alpha_{2H})}$   
 The influence of Z can be neglected if  $1 \gg$

Card: 8/10

E - 4

Country : CZECHOSLOVAKIA  
 Category : Analytical Chemistry. General Problems. E

Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15038

Author :  
 Institut. :  
 Title :

Orig Pub. :

Abstract Cont'd :  $10K_2C_7/\alpha_{2H}$ . Analogous results are also valid for other reaction ratios between M and Z. The influence of CI itself as the complex-forming reagent in two-color CI cannot be taken into consideration if work is conducted in the area of CI concentrations where U does not depend on  $C_{CI}$ ; however, this does not occur in the case of unicolored CI. Titration errors in separate cases can also be found on the basis of a nomogram constructed by means of the ratios

Card: 9/10

Country : CZECHOSLOVAKIA  
 Category : Analytical Chemistry. General Problems. E

Abs. Jour : Ref Zhur - Khim., No 5, 1959, No. 15038

Author :  
 Institut. :  
 Title :

Orig Pub. :

Abstract Cont'd : quoted above. The value of U has a decisive influence on the value of the titration error. Errors caused by the influence of other cations can, within certain limits, be compensated for by the use of a less sensitive CI, and errors caused by a competing complex-forming reagent, on the contrary, can be eliminated by the use of a more sensitive CI. Report XXXVII, see Ref Zhur-Khim, 1958, 77189.-- K. Kamen

Card: 10/10

PRIBIL, R.

Distr: 4E2c

32. Microdetermination of thorium (by E. D. T. A. (thralon)). R. Pribil, B. KOTOS. *Magyar Kémiai Folyóirat*. Vol. 04, 1958, No. 2, pp. 55-57, 3 tabs.

A critical survey of known methods for the complexometric determination of thorium is given and a new micro-method elaborated by the author is described. Titrations are carried out by means of a 0.01 or 0.001-M solution of E. D. T. A. (complexon III) in the presence of Xylenol Orange indicator. Alkali and alkali-earth metals, ammonium ions, sulphate, acetate and halogens (except fluoride) do not interfere. There is no interference at pH 2 in the presence of small amounts (5-10 mg) of zinc, aluminium and lanthanum or by manganese (100 mg) and uranium (50 mg). Copper may be masked by KSCN + ascorbic acid and lead by KI. Iron, cobalt and nickel must be removed before carrying out the determination.

LB  
1/1

3  
1

PRIBIL, R.

COUNTRY	Czechoslovakia	E-1
Auth. JOUR.	1959, No. 22	70260
AUTHOR	Vrestal, J., Navir, J., Brandstetr, I., and	
INSTR.	Not given	
TITLE	Complexometric Titrations (Chelatometry). XXXIII Principal Substances Used in Complexometry.	
ORIG. PUB.	Collection Czechoslov Chem Commun, 22, 360-369, 632-634; no 3, 700-707 (1959)	
ABSTRACT	See Rzhkhis, 1958, No 17, 57113, 57157; No 2, 71701. For Communication XXXIII see Rzhkhis, 1958, No 24, 21349.	
	* Kotly, S., Melst, M. and Tenorova, M.; and Horda, H., Koerbl, J., Besant, V., and Pribil, R.	
	** Determination of Thorium, Nickel, Cerium, and Lanthanum. XXXV. The Indirect Determination of Aluminum with Xylenol Orange	
CLASS	85	

PRIBIL, R

1  
 2  
 3

Chelometric titration of manganese in ferromanganese. R. Pribil and M. Kovanica (Czechoslovak Acad. Sci., Prague). *Chemist. Analyst* 48, 35-6 (1959).—Mn in ferromanganese (I) is detd. by an EDTA titration by dissolving about 0.25 g. of the alloy in concd. HNO<sub>3</sub> and then concd. HCl, evapn. to a small vol., further addn. of the acids and a repetition of the evapn., diln. to 250 ml. with H<sub>2</sub>O. A 25- or 50-ml. aliquot of the soln., without bothering to remove pptd. silica, is placed in a 300-ml. conical flask and 5 ml. of 10% aq. hydroxylamine-HCl soln. is added. Ten ml. of 20% triethanolamine soln. and 30-35 ml. of concd. NH<sub>3</sub> are added.

The mixt. is dild. to 160 ml. Indicator powder, consisting of a mixt. of 1 part of thymolphthalexon with 100 parts of KNO<sub>3</sub>, is added to obtain a clear blue color. The soln. is titrated with standard 0.05M EDTA to a colorless or slight pink color. The procedure is only applicable to I contg. 40% Mn. Cu and Zn do not interfere in trace amts.; higher amts. can be masked by the addn. of 50 mg. of KCN. Cu can be detd. photometrically in an aliquot of the final soln. by the use of Na diethyldithiocarbamate by the procedure of Sedivec and Vasak (C.A. 44, 10574e). Bernard M. Blank—

PALECEK, Milan; PRIBIL, Rudolf

Direct determination of zinc dioxide in glass. Silikaty 6  
no.3:296-298 '62.

1. Statni vyzkumny ustav sklarsky, Hradec Kralova; Laborator  
analyticke chemie, Ceskoslovenska akademie ved, Praha.

L 31388-66 EWP(j) RM/WW

ACC NR: AP6021096

SOURCE CODE: CZ/0008/66/000/001/0089/0092

AUTHOR: Pribil, Rudolf; Markova, Vera

25  
E

ORG: J. Heyrovský Polarographic Institute, Analytical Laboratory, CSAV, Prague  
(Polarografický ústav J. Heyrovského, Analytická laborator CSAV)

TITLE: Xylenol orange as an argentometric indicator

SOURCE: Chemické listy, no. 1, 1966, 89-92

TOPIC TAGS: chemical indicator, bismuth, chloride, silver iodide, chemical precipitation

ABSTRACT: Xylenol orange is a very sensitive metallochrome indicator. It forms red or reddish-violet complexes with Bi. Bi is precipitated quantitatively by sodium diethyldithiocarbamate (cupral) as a yellow precipitate soluble in organic solvents. It is replaced from the complex salt by Ag. This is used for an argentometric determination of AgI and AgBr. An excess of Ag will displace Bi in the cupral complex, and the free Bi will form a distinctive color with the present xylenol orange. The accuracy of this method is 0.3% for iodides, 0.1% for chlorides. Orig. art. has: 3 tables. JPRS

SUB CODE: 07 / SUBM DATE: 29Mar65 / ORIG REF: 002 / OTH REF: 001

Card 1/1 cc



PRIBIL, Rudolf; BURGER, Kalman

New quick method for the determination of thorium in presence of zirconium, iron, lanthanum, uranium and other heavy metals. *Magy kem folyoir* 65 no. 5:204-206 My '59.

1. Csehszlovak Tudományos Akadémia Kutató Intézete, Prága (for Pribil).
2. Eötvös Loránd Tudományegyetem Szervetlen és Analitikai Kémiai Intézete, Budapest (for Burger).

FRIBIL, Rudolf, doc., RNDr., DrSc.; VESELY, Vladimir

Determining titanium and aluminum in ores and alloys. Hut  
listy 18 no.7:512-513 J1 '63.

1. Polarograficky ustav, Ceskoslovenska akademie ved, Praha.

PHASE I BOOK EXPLOITATION

Z/6305

Přibil, Rudolf, Docent, Doctor of Natural Sciences, State Prize Winner.

Komplexometrie. [v.] 1: Základní stanovení (Chelatometry. v. 1: General Principles) Prague, SNTL, 1957. 103 p. 3250 copies printed.

Reviewer: Zdeněk Šír, Engineer; Resp. Ed.: Dagmar Frýdlová, Engineer; Managing Ed. for Literature on Chemistry and Chief Ed.: Adolf Balada, Doctor.

**PURPOSE.** This book is intended for technicians with secondary education and for students of trade schools.

**COVERAGE:** This is the first volume of a series on chelatometry which includes theory, description of new indicators, and methods of determining individual cation and anion exchangers. There are 142 references: Czech, German, Hungarian, and English.

Card 1/3

PHASE I BOOK EXPLOITATION

Z/6305

Přibil, Rudolf, Docent, Doctor of Natural Sciences, State Prize Winner.

Komplexometrie. [v.] 1: Základní stanovení (Chelatometry. v. 1: General Principles) Prague, SNTL, 1957, 103 p. 3250 copies printed.

Reviewer: Zdeněk Šír, Engineer; Resp. Ed.: Dagmar Frýdlová, Engineer; Managing Ed. for Literature on Chemistry and Chief Ed.: Adolf Balada, Doctor.

PURPOSE. This book is intended for technicians with secondary education and for students of trade schools.

COVERAGE: This is the first volume of a series on chelatometry which includes theory, description of new indicators, and methods of determining individual cation and anion exchangers. There are 142 references: Czech, German, Hungarian, and English.

Card 1/1 /

BEZRUKOV, A.M.; PRIBUD'KO, N.S.

The new technology opens great possibilities. Put i put.khoz. 6 no.6:  
15 '62. (MIRA 15:7)

1. Nachal'nik Kazatinskoy distantсии puti Yugo-Zapadnoy dorogi (for Bezrukov).
2. Zamestitel' nachal'nika Kazatinksoy distantсии puti Yugo-Zapadnoy dorogi (for Pribud'ko).  
(Kazatin--Railroads--Maintenance and repair)

VYDRA, F.; PRIBYL, R.

Determination of cobalt by means of potentiometric titration with iron (III) salt in presence of 1,10-phenanthroline. Coll Cz Chem 26 no.9:2169-2173 '61.

1. Institut für Geochemie und anorganische Rohstoffe, Tschechoslowakische Akademie der Wissenschaften, Prag.

(Cobalt) (Iron) (Titration)

VYDRA, F.; MARKOVA, V.; PRIBYL, R.

Use of fluorescein complexon for tracing the argentometric titration.  
Coll Cz Chem 26 no.9:2449-2452 '61.

1. Analytisches Laboratorium, Institut für Geochemie und mineralogische  
Rohstoffe, Tschechoslowakische Akademie der Wissenschaften, Prag.

(Argentometry) (Fluorescein complexon)

KOPANICA, M.; PRIBIL, R.

Application of complexones in chemical analysis. LIV. Polarographic determination of cadmium in metallic indium. Coll Cz chem 26 no.2: 398-402 F '61. (EEAI 10:9)

1. Laboratory of Analytical Chemistry, Institute of Geochemistry and Raw Material Research, Czechoslovak Academy of Science, Prague.

(Complexons) (Cadmium) (Indium)  
(Polarograph and polarography)



VYDRA, Frantisek (Praha 1, Jilska 16); PRIBIL, R. (Praha 1, Jilska 16)

Oxidation of cobalt (II)-salt with iron(III)-salt in presence of 1.10-phenanthroline and its application in analytic chemistry. Acta chimica Hung 28 no.1/3:297-302 '61. (EEAI 10:9)

1. Institut fur Geochemie und anorganische Rohstoffe, Tschechoslowakische Akademie der Wissenschaften, Analytisches Laboratorium, Prag.

(Cobalt) (Salts) (Iron) (Phenanthroline)

5 (0)

C/005/59/000/012/001/018  
FO31/FO01

AUTHOR: R. Pribil

TITLE Progress in Complex Titration

PERIODICAL: Hua Hsteh T'ung Pao, 1959, Nr. 12, pp. 1-3

ABSTRACT: This article was written by R. Pribil, a Czech expert, and translated by Liang, Shu-chuan (梁樹權).

Card 1/1

~~ARMANDU, I., -Reviewer-~~  
~~FRIETA, Eudora, -Author-~~  
SURNAME, Given Names

Country: Rumania

Academic Degrees: -not given-

Affiliation: -not given-

Source: Bucharest, Farmacia, Vol IX, No 7, Jul 1961, pp 443-444.

Data: " 'Complexons' in Analytical Chemistry."

GPO 981643

PHASE I BOOK EXPLOITATION

SOV/4784

Přibil, Rudolf, Doctor of Chemical Sciences, State Prize Winner, and Jiří  
Koryta, Doctor

Kompleksy v khimicheskoy analize (Complexons In Chemical Analysis) 2d ed.,  
rev. and enl. . . . Moscow, Izd-vo inostr. lit-ry, 1960. 580 p. No. of  
copies printed not given. [Translated from the Czech]

Translator: Yu. I. Vaynshteyn, Candidate of Technical Sciences

Ed. (Title page): Yu. Yu. Lur'ye, Doctor of Chemical Sciences; Ed. (Inside  
book): V. A. Zakhar'yevskiy; Tech. Ed.: S. V. Pridantseva.

**PURPOSE:** This book is intended for chemists and analysts in research institutes  
and plant laboratories.

**COVERAGE:** The book discusses the theory and practice of the application of  
complexons in analytical chemistry, and deals in detail with the theory of  
complexons, the structure of forming complexes, as well as methods for deter-  
mining the stability constants of these complexes. The author describes in

~~Card 1/41~~

Complexons In Chemical Analysis

SOV/4784

detail applications of complexons in gravimetric and volumetric analysis, colorimetry, polarography, chromatography and ionophoresis, and in qualitative analysis. He also discusses complexometric titration (chelation) methods, giving a detailed treatment of the theory of complexons and numerous examples of the practical applications of complexometry in the various branches of chemical analysis compiled from the available literature up to 1955. The majority of the methods described in this book are the results of studies made by the author and his coworkers at the Institute of Analytical Chemistry of Charles University, Prague, published from 1946 to 1952 in *Chemické listy*. The editor of the Russian edition, Yu. Ya. Lur'ye, states that the second Russian edition of the Czech work has been so enlarged in comparison with the original edition as to constitute a new monograph. Chapters I and II were written by Doctor I. Koryta, Doctor K. Macek wrote the chapter on chromatography, Doctor V. Suk and Doctor M. Malat wrote the section on complexometry in pharmaceutical analysis, and Doctor I. Kössler aided in composing the chapters on theoretical problems. The author thanks Professor Tomiček, Doctor Z. Roubal, L. Rom, M. Mič, I. Kalina, Vlasta Přibilová, Růžena Svandova, and O. Dunka, technical editor of the Publishing House of the Czechoslovak Academy of Sciences. References accompany each chapter.

Card 2/41

PRIBIL, Stefan, inz.

Note on the J.Horsky's article "The problem of using waste heat"  
Energetika Cz 11 no.7:362 J1 '61.

NIKITIN, T. R. and PRIBILOV, K. N.

Meditssinskii Kontrol Za Fizicheskim Vospitaniem i Lechebnaia Fizicheskaia Kultura  
(Medical Control in Physical Training and Medical Physical Culture), 307 p.,  
Medgiz, Moscow, 1951.

PRIBILOVSKI, Arnold

Makers of technical progress. Mashinostroena 13 no.11:45-46 N '64.



PRIBISOVA, V

"Mountain climbing in winter on the Haliny rocks" p. 180 (Krasny Slovenska, Vol. 34,  
no. 5, May 1957, Bratislava, Czechoslovakia)

GEOGRAPHY & GEOLOGY Periodicals

Monthly Index of East European Accessions (EEAI) L C, Vol. 7, no. 11, Nov. 1958.

Pribitkova, L.

USSR / Cultivated Plants

L-2

Abs Jour : Ref Zhur - Biol., No 6, March 1957, No 22697

Author : Zikov, Yu., Pribitkova, L.

Inst : Not given

Title : An Experiment in Corn Planting After Crop Harvesting in the Foothill Zone of the Alma-Atinsk Oblast under Irrigation.

Orig Pub : Peredov. opit kolkhoz. proiz-va v Kazakhstane, 1955, No 12, 29-33

Abstract : In 1954-1955, tests were conducted in sowing corn (extra Minnesota 13, improved Local and Alma-Atinskaya 236) in the foothill zone of the Alma-Atinsk Oblast on the educational farm of the Aksai Zooveterinary Institute and Dzambul Supporting Station of the Fodder and Pastures Institute, after crop harvesting under irrigation. After harvest-

Card : 1/3

USSR /Cultivated Plants

L-2

Abs Jour : RefZhur - Biol., No 6, March 1957, No 22697

Abstract : ting the main crops an irrigation before planting was conducted with a norm of irrigating water of 600-800 m<sup>3</sup>/hectare; after 2-3 days, the soil was cultivated before sowing by two variations: a) it was disked by disk harrows of type BD-3, 4, BDT-2, 2 or BDM to a depth of 10 cm; b) plowed by a plow with a foreplow to a depth of 22 cm with a simultaneous harrowing in two trails, and rolling before and after planting. On the background of these two variants of soil cultivation before sowing, corn was planted after the harvest of the main crop. Tests showed that the best predecessor for such corn planting should be annual grain-legume mixtures (vetch-oat mixture), and the best method of presowing soil cultivation for after-crop corn planting should be disking the stubble by a disk harrow type BD-3, 4 or BDT-2; 2 to a depth of 8 - 10 cm with

Card : 2/3

USSR / Cultivated Plants

L-2

Abs Jour : Ref Zhur - Biol., No 6, March 1957, No 22697

Abstract : subsequent harrowing and post-planting rolling with a light wooden roller. Optimum area of nutrition of after-crop corn for green fodder in a square nidus method of planting should be 60 x 60 cm with four plants to a nidus. Highly effective in after-crop corn planting is the use of organo-mineral granular fertilizers in amounts of 200 kg/ hectare, added simultaneously with planting in the nidus.

Card : 3/3

1ST AND 2ND COPIES      3RD AND 4TH COPIES

SUBJECTS AND PROPERTIES INDEX

2

*CA*

Primary submicroscopic crystals in heterogeneous catalysis. A. M. Rubinshtein and N. A. Pribitkova (Inst. Org. Chem., Moscow). *Acta Physicochim. U.R.S.S.* 21, 70-100(1946) (in English); cf. *C.A.* 35, 374<sup>1</sup>.—The activity, selectivity, and activation energy of MgO catalysts were studied in relation to their phys. structure. Samples were selected by x-ray analysis on the basis of primary crystal size and crystal lattice const. Their activity was detd. for the conversion of butanal at 400–480° to (I) butyraldehyde by dehydrogenation and (II) butylene by dehydration. Catalysts with normal MgO lattice spacing and crystal size of 22–43 Å. showed max. activity for both I and II in the size range 25–30 Å. Within a fixed size range of 25–30 Å., catalytic variation in activity: I was favored by a compressed lattice spacing, whereas II increased directly with enlarged spacing. At the higher temp., II was favored. At 460°, there were produced per cc. alc. per g. of catalyst a max. of 0.5 and 3.0 cc. of gaseous products for reactions I and II, resp. Max. values for the activation energy were obtained for catalysts of normal lattice spacing. The catalytic action of MgO was discussed from the standpoint of Balandin's multiplet theory (cf. *C.A.* 29, 2905<sup>9</sup>). M. L. Nielsen

COMMON ELEMENTS      COMMON VARIABLES INDEX

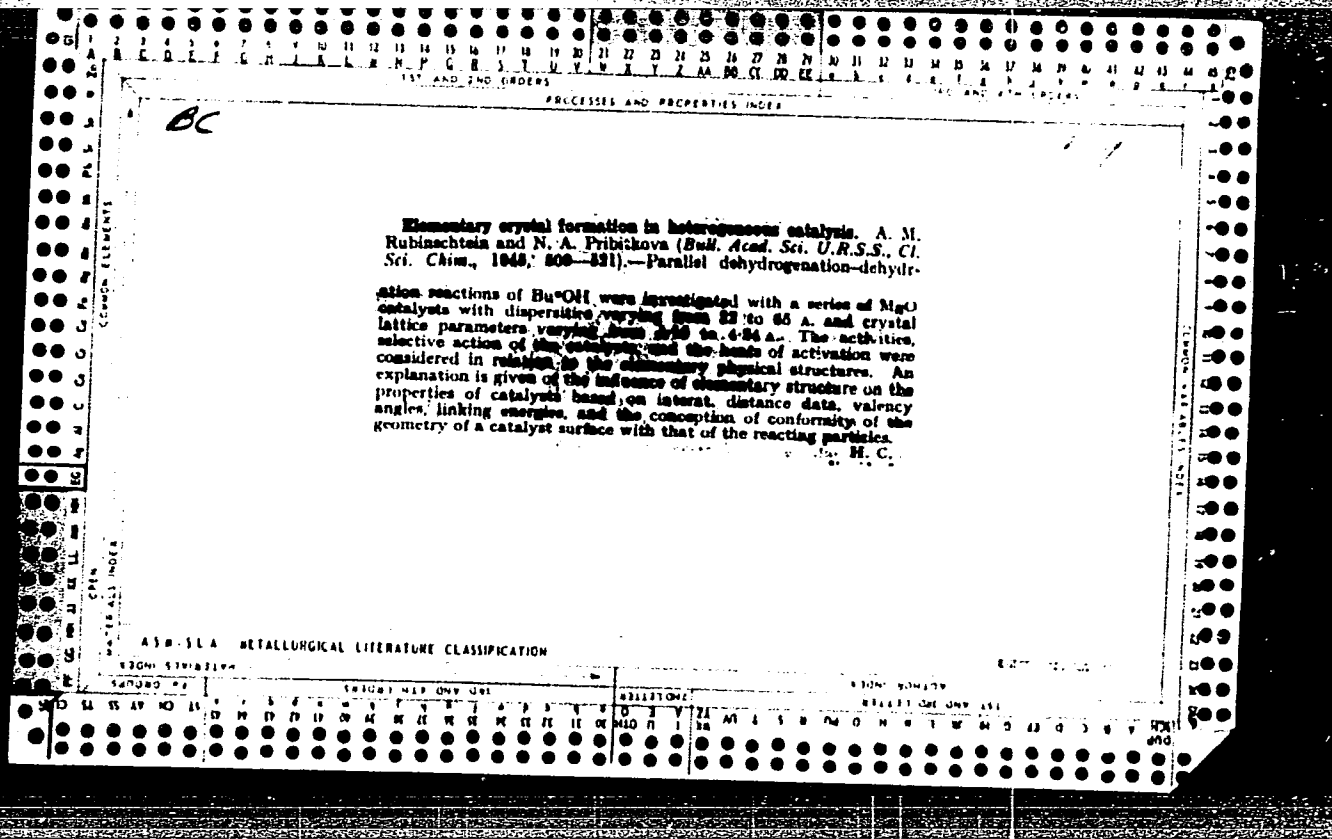
MATERIALS INDEX      METALLURGICAL LITERATURE CLASSIFICATION

ASB-55A

FROM STAINSLAW      FROM DENNYV

100000 #1      100000 #1      100000 #1      100000 #1

0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z



PETRUSENKO, V.G.; SHOSTYA, I.V.; OKUNEVA, Z.S.; PRIBITKOVA, Yu. V.;  
FILIMONOV, V.P.; POLIYEKTOVA, A.M.; CHERNISHOVA, N.P.; ISAYCHENKO,  
M.M., red.; LINKOV, G., tekhn.red.

[Economy of Cherkassy Province; statistical collection] Narodne  
hospodars'vo Cherkas'koi oblasti; statystychnyi zbirnyk. Cherkasy,  
1957. 126 p. (MIRA 12:11)

1. Cherkassy (Province) Statisticheskoye upravleniye. 2. Nachal'nik  
Statisticheskogo Upravleniya Cherkasskoy oblasti (for Isaychenko).  
(Cherkassy Province--Statistics)

PRIEL, A.

Contribution to the information on geology and small fissure tectonics in the Chomutov-Most-Teplice lignite basin. Vysl ban vyzk 3:97-118 '64.

1. Institute of Mining, Czechoslovak Academy of Sciences, Prague.



PRIBLUDA, B.A. (Petrozavodsk)

Acute myelocytic leukemia in a 7-month-old infant. Arkh.pat. 21  
no.2:74-76 '59.

(MIRA 12:12)

1. Iz patologicheskogo otdeleniya (zav. T.S. Polykovskiy) Petrozavod-  
skoy gorodskoy bol'nitsy (glavnyy vrach M.D. Zhuravlev).

(LEUKEMIA, MYELOCYTIC, in inf. & child,  
case in young inf. (Rus))

POLYKOVSKIY, T.S.; PRIBLUDA, B.A.

Work of the pathoanatomical section of the Karelian Society of Physicians in 1959. Arkh.pat. 22 no.7:90-91 '60. (MIRA 4:1)

1. Predsedatel' seksii patologoanatomov Respublikanskogo nauchnogo obshchestva vrachey Karel'skoy ASSR (for Polykovskiy). Sekretar' seksii patologoanatomov Respublikanskogo nauchnogo obshchestva vrachey Karel'skoy ASSR (for Pribluda).  
(KARELIA--PATHOANATOMICAL SOCIETIES)

SAMSONOV, V.A., kand.med.nauk; PRIBLUDA, B.A.

Work of the pathoanatomical section of the Karelian Society of  
Physicians during 1957 and 1958. Arkh.pat. 21 no.6:89-90 '59.

(MIRA 12:12)

1. Predsedatel' sektiis patologoanatomov nauchnogo obshchestva vra-  
chey Karel'sko ASSR (for Samsonov). 2. Sektsii patologoanatomov  
nauchnogo obshchestva vrachey Karel'skoy ASSR (for Pribluda).

(KARELIA--PATHOANATOMICAL SOCIETIES)

PRIBLUDA, L.A.

Chromium content in tubular bones of rats at various stages of pregnancy. Dokl. AN BSSR 7 no.3:206-207 <sup>№</sup>r '63. (MIRA 16:6)

1. Sektor gerontologii AN BSSR. Predstavleno akademikom AN BSSR V.A.Leonovym.

(Chromium in the body)

PRIBLUDA, L.A. [Prybluda, L.A.]

Methods of spectrographic determination of manganese in bones.  
Vestsi AN BSSR Ser. biial. nav. no.1:64-66'63. (MIRA 16:9)  
(MANGANESE IN THE BODY) (BONES)  
(SPECTROGRAPHY)

PRIBLUDA, L.A.

Chromium content in the tubular bones of the human fetus. Dokl.  
AN BSSR 7 no.2:135-136 F '63. (MIRA 16:7)

1. Sektor gerontologii AN BSSR. Predstavleno akademikom AN  
BSSR V.A. Leonovym.  
\* (Chromium in the body)

BULYGIN, I.A.; ITINA, L.V.; PRIBLUJA, L.A.

Gastric reflexes originating in the intestine following extir-  
pation of the premotor zone of the cerebral cortex in dogs.  
Trudy Inst.fiziol. AN BSSR 3:120-132 '59. (MIRA 13:7)

1. Laboratoriya kortiko-vistseral'noy fiziologii Instituta  
fiziologii AN BSSR.  
(REFLEXES) (STOMACH) (CEREBRAL CORTEX)

GHEORGHIU, Gh., ing.; PRIBNOW, Victoria

The workshop for asphalt mixture prefabrications in Ploesti.  
Rev transport 9 no.7:306-309 J1 '62.



PRIBNOW, Victoria

The way to work with the most frequent control devices by ultrasonics.  
Metalurgia constr mas 14 no.11:1041-1046 N '62.

PRIBOIANU, I.; POPESKO, E.; DINULESKO, I.; POPOVICH, N.; TUDOZE, M.

Our experience with the treatment of spinal cord compression  
following spondylitis. Khirurgia 15 no.2/3:252-253 '62.

(SPINAL CORD dis)  
(TUBERCULOSIS' SPINAL compl)

EXCERPTA MEDICA Sec 9 Vol 13/2 Surgery Feb 59

755. (203) THE FOCAL TUBERCULIN TEST IN THE EARLY DIAGNOSIS OF SKELETAL TUBERCULOSIS - Reacția de focar la tuberculină, metodă de diagnostic precoce în tuberculoza osteo-articulară - Priboianu M., Popescu E., Neguș N., Sprinceană M. and Fintea B. Spital. de Chir. Ososă în Cadrul Inst. de Ftiziol., București - FTIZIOLOGIA 1957 6/5 (448-453) Tables 1

The focal tuberculin test was carried out in 59 subjects, who were divided into 4 groups: 13 non-tuberculous patients (rheumatism, congenital or pyogenic affections etc.), 22 subjects suspected of tb, 13 patients suffering from stabilized tb and 11 patients with progressive tb. The technique used was the following: 3 injections were made: the first intradermal reaction with tuberculin in a concentration of 1:1,000, the second with a non-specific protein (0.5-1 ml. of milk) and the third with tuberculin in a concentration of 1:1,000 (1 ml.). Results: in the first group the focal test was constantly negative; the second group presented a positive reaction in 19 cases; the third group in 7 cases and the patients of the fourth group

755

all presented a positive focal reaction. *The harmfulness formerly attributed to this reaction is denied. Patients suffering from active tb, who alone are susceptible to accidents (only 1 case in the authors' statistics), should be handled with caution. There were 14% of non-conclusive reactions. With this margin of error of 14%, the reaction may be considered specific and of particular significance for an early diagnosis.*  
Bazacopol - Bucharest (XV,9)