DCC-30 (Univ. Zagreb)

Croat. Chem. Acta **43** (1971)

The Precipitation and Hydrolysis of Zinc, Lead and Bismuth in Aqueous Solutions

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The pptn. of metal hydroxides, hydrolysis of metal ions, and influence of complexing agents on the formation of ppts. have been investigated in the systems: $ZnCl_2$—NaOH(HCl)—NaCl—H_2O; $Pb(NO_3)_2$—HAcac—NaOH($HClO_4$)—$NaClO_4$—H_2O; $PbCl_2$—NaOH(HCl)—NaCl—H_2O; $Bi(ClO_4)_3$—NaOH($HClO_4$)—$NaClO_4$—H_2O.

The investigations were done in the *p*H range from 0.5 to 13.5 and concns. range of metal ions from 1.0×10^{-6} *M* to 3.0×10^{-2} *M*. The combination of tyndallometry, high voltage electrophoresis and adsorption chromatography on filter paper permits the detn. of regions of *p*H values and concns. of metal ions in which exist Zn^{2+} and Pb^{2+} ionic species, cationic and anionic hydrolytic species of zinc and lead, uncharged lead acetylacetonate $Pb(Acac)_2^0$, cationic, uncharged and anionic hydroxo-acetylacetonato-complexes of lead, cationic chloro-hydroxo-complexes of lead, and cationic perchlorato- and hydroxo-perchlorato-complexes of bismuth.

Uncharged ionic pairs of the form $[Na_2^{2+}\,Zn(OH)_4^{2-}]^0$ were found to exist in the region of high *p*H values instead of the anionic hydroxo-complex $Zn(OH)_4^{2-}$. The same was found for lead, indicating that the free anionic hydroxo-complex of the form $Pb(OH)_4^{2-}$ does not exist in aq. solns.

At 20° C the following soly. consts. were found: for zinc hydroxide: $\log K_{s0} = -20.2$ and $\log K_{s4} = -0.2$; for lead hydroxide: $\log K_{s0} - 19.3$.

The new phenomenon of electrophoretic *quasi mobilities* characteristic for hydrolytic species in aq. solns. is described as a result of the formation of hydrogen bonds between the hydroxyl groups of metal hydrolytic species and the =CHOH groups of the amorphous part of the filter paper cellulose.

The thesis was partly published in *J. Inorg. Nucl. Chem.* **33** (1971) 445.

Examiners: Dr. Z. Pučar, Prof. H. Iveković, Prof. M. Mirnik

Oral examination: December 15, 1970.

Dissertation deposited at the University Library, Zagreb, and Institute »Ruđer Bošković«, Zagreb.

(85 pages, 34 figures, 100 references, original in Croatian)

B. POKRIĆ

DCC-30

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DCC-31 (Univ. Zagreb)

Croat. Chem. Acta **43** (1971)

Electrochemical Study of Uranium(VI) Peroxo Complexes

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Redox processes of uranium(VI) peroxo complexes in aq. alkali carbonate and hydroxide solns. were studied using polarographic techniques, cyclic voltammetry, and coulometry at mercury electrodes.

In the system U(VI)—H_2O_2—Me_2CO_3 uranyl peroxodicarbonate has been identified as the electroactive species, with the following parameters of the redn. process: ($E_{1/2}$ $\phi_2 = 0$ = — 0.92 V/S. C. E., n = 3, αn_α =0.56, $n_\alpha = 1$, $k_\Omega = 2.5 \times 10^{-8}$ cm. sec.$^{-1}$ and the charge of the electroactive species z = — 2. The redn. product, uranium (V) tricarbonato complex, reduces the peroxo group of uranyl peroxodicarbonato complex; the homogenous rate const. has been detd. as k = 60 and 4×10^3 l. mol^{-1} at 10 and 40° C, respectively.

Depending on the H_2O_2/U ratio in the system U(VI)—H_2O_2—MeOH uranium(VI) hydroxo, monoperoxo and triperoxo complexes have been characterized as electroactive species. Electrochemical redn. of uranium (VI) hydroxo complex is a simple process with $E^0 = 0{,}88$ V, $\alpha n_\alpha = 0.49$, $k_0 = 3.5 \times 10^{-2}$ cm. sec.$^{-1}$ and z = — 1. Redn. of the uranium(VI) monoperoxo complex gives two waves — quasi-reversible wave at — 1.05 V and an irreversible one around —1.5 V. On the other hand, uranium(VI) triperoxo complex is reduced through a single seven-electron irreversible process with $E_{1/2}$ = —1.45 V. In all cases the same uranium(V) hydroxo complex has been identified as the stable redn. product. The behavior is still complicated by the bulk recombination reaction between uranium(VI) triperoxo and hydroxo complex, and redox reactions between uranium(V) hydroxo complex and any species containing the peroxo group.

It has been concluded that the first step of the overall redn. process of the peroxo complexes studied is the one electron redn. of the uranyl group, the potential of which is detd. by the stability of uranyl-ligand bond. The following step shows the usual characteristics presented by the noncomplexed peroxo group.

The thesis was partly published in: *J. Polarog. Soc.* **13** (1967) 9; *J. Electroanal. Chem.* **19** (1968) 259; *ibid.* **28** (1970) 187, and *Inorg. Nucl. Chem. Letters* **5** (1969) 271.

Examiners: Prof. I. Filipović, Prof. B. Težak, and dr. M. Branica.

Oral examination: November 19, 1970.

Dissertation deposited at the University Library, Zagreb.

(150 pages, 15 tables, 58 figures, 193 references, original in Croatian).

V. ŽUTIĆ

DCC-31

1. Electrochemical Study of Uranium(VI) Peroxo Complexes

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Electrochemistry
—, of hydrogen peroxide-uranium
—, of uranium hydroxo complexes
—, of uranium peroxo complexes
Hydrogen peroxide-uranium
—, electrochemistry of
Uranium hydroxo complexes
—, electrochemistry of
Uranium peroxo complexes
—, electrochemistry of

DCC-32 (Univ. Zagreb)

Croat. Chem. Acta **43** (1971)

Analysis and Separation of Polarographic Waves

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Equations of current-potential curves for Kalousek commutator polarography, square-wave polarography, Fournier's technique, and radio-frequency polarography have been derived for reversible electrode reactions. The analysis of exptl. current-potential curves for the mentioned techniques has been proposed, and the results were compared with those obtained by usual logarithmic analysis of. d. c. polarograms. The general equation for such analysis has the form: $A\,(i - i^*)\,x^2 + (A + 1)\,(i - I)\,x + i - I^* = 0$, where $A = \exp(-nF\,\Delta E/RT)$, $x = \exp[-nF\,(E - E^r_{1/2})/RT]$, I^* is the residual current, I is a function of the peak current, i^* is the limiting current, and ΔE is the amplitude of the polarizing voltage. E, i, n, F, R, T and $E^r_{1/2}$ have their usual meaning. The procedure for the analysis of Kalousek's curves and square-wave polarograms has been applied for the analysis of normal pulse and derivative pulse (as well as a. c. and d. c. differential) polarograms respectively.

A new method for the analysis of quasireversible d. c. polarographic waves has been proposed, giving more accurate results than that of Koryta and Matsuda-Ayabe.

The methods for the analysis and separation of two (or more) overlapping d. c. waves as well as derivative curves have been proposed. In the first case the method can be applied for the analysis and separation of anodic-cathodic quasireversible d. c. waves, d. c. polarograms of a multistage polyelectronic electrode reaction, Kalousek's curves type I and II and their combinations.

Part of the work was published in: *J. Electroanal. Chem.* **22** (1969) 243, 422; *ibid* **25** (1970) 144; *ibid.* **29** (1971) 411, 440.

Examiners: Dr. M. Branica, prof. I. Filipović and prof. R. Wolf.

Oral examination: January 6, 1971.

Degree conferred: February 26, 1971.

(250 pages, 15 tables, 108 figures, 300 references, original in Croatian)

I. RUŽIĆ

DCC-32

1. Analysis and Separation of Polarographic Waves

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Polarographic curves, analysis of
— for different d. c. and a. c. techniques
— for overlapping curves
— for quasireversible d. c. polarograms

MCC-38 (Univ. Zagreb)
Master of Science Thesis

Croat. Chem. Acta **43** (1971)

Preparation and Chelating Properties of Optically Active 1,2-diaminocyclopentane-*N,N,N'N'*-tetraacetic Acids

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Starting from diethyladipate, 1,2-diaminocyclopentane-*N,N,N'N'*-tetraacetic acid was prepd. through five reaction steps. The racemic acid was resolved with brucine and the obtained optically active acids showed specific rotations: $[\alpha]_D = +58°$ and $[\alpha]_D = -53°$, resp. In this way it was proved that the *trans* isomer of the acid is the main product of the synthesis.

Both optically active acids were used for the prepn. of resp. cobalt(II) complexes. The ORD-spectra of Co(II)-(+)-CPDTA and Co(II)-(—)-CPDTA systems are related as mirror images (within the limits of exptl. error). These spectra are anomalous and irregular so that the abs. configuration of these complexes could not be ascertained on the ground of analogy with similar EDTA or CDTA chelates. From UV and visible absorption spectra of these complexes it could be considered that a Jahn-Teller effect is involved, giving rise to a broad max. at 450—520 nm.

Stability consts. of all the complexes investigated, detd. by a potentiometric method using a mercury pool electrode, are not significantly different.

Examiners: Dr. D. Fleš, Dr. Vl. Simeon and Prof. K. Balenović.

Oral examination: January 20, 1970.

Degree conferred: February 28, 1970.

Thesis deposited at the Institute for Medical Research, Zagreb and at the Institute of Organic Chemistry and Biochemistry, University of Zagreb.

(73 pages, 7 tables, 4 figures, 61 references, original in Croatian)

N. PAULIĆ

MCC-38

1. Preparation and Chelating Properties of Optically Active 1,2-diaminocyclopentane-*N,N,N'N'*-tetraacetic Acids

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Co(II)-complexes
1,2-diaminocyclopentane-*N,N,N'N'*-tetraacetic acid, resolution of
Optically active ligands, complexes with

MCC-39 (Univ. Zagreb)
Master of Science Thesis

Croat. Chem. Acta **43** (1971)

Potentiometric Determination of Stability Constants of Formato, Glycolato and Chloroacetato Complexes of Nickel, Cadmium and Lead

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Stability consts. of formato, glycolato and chloroacetato complexes of nickel, cadmium and lead have been detd. by the potentiometric method. The change of concn. of the hydrogen ions in the monocarboxylate buffer has been measured. Stability const. have been obtained graphically using Fronaeus' method and by means of a digital computer applying the Gauss Z programme devised by R. S. Tobias.

All measurements were performed at the temp. of 25 ± 0.1° C except those in chloroacetate buffers where it was 18 ± 0.1° C in order to avoid the hydrolysis of the chloroacetate. The ionic strength of investigated solutions was kept const. at 2 *M*.

From the values of the first stability const. it can be seen that the stability of the monoligand complexes increases for all investigated systems in the series:

Formato complexes:	$Ni^{2+} < Cd^{2+} < Pb^{2+}$
Glycolato complexes:	$Cd^{2+} < Ni^{2+} < Pb^{2+}$
Chloroacetato complexes:	$Ni^{2+} < Cd^{2+} < Pb^{2+}$

The stability of monocarboxylato complexes of nickel, cadmium and lead, increasing in the order: Ni < Cd < Pb (with exception of glycolato complexes), is in agreement with their tendency to polarization (i. e. with the mobility of electrons), because it increases in the same order ($\alpha \times \times 10^{24}$: 0.7, 0.96 and 4.34 cm^3).

With regard to the ligand component, for all investigated metal ions, except lead ion, the observed orders of complex stability are in agreement with the order of ligand basicity, with the exception of glycolato complexes. The highest stability of glycolato complexes, except those of lead, is due to the presence of the OH group in the glycolate ion which is bonded to the metal ion as well. In the lead glycolato complexes such a bond does not probably exist because the position of glycolato complexes in the above stability order corresponds to the basicity of the glycolate ion with regard to the other monocarboxylate ions. A markedly higher stability of the lead chloroacetato complexes is in contradiction with the basic properties of this ligand and the explanation of this phenomenon cannot be given as yet.

Examiners: Prof. I. Filipović, Prof. B. Lovreček and Prof. M. Herak.

Oral examination: November 25, 1969.

Thesis deposited at the University Library, Zagreb and Faculty of Pharmacy and Biochemistry, University of Zagreb.

(138 pages, 36 tables, 37 figures, 61 references, original in Croatian).

T. MATUSINOVIČ

MCC-39

1. Potentiometric Determination of Stability Constants of Formato, Glycolato and Chloroacetato Complexes of Nickel, Cadmium and Lead

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Cadmium(II)complexes
Chloroacetate, metal complexes with
Formate, metal complexes with
Glycolate, metal complexes with
Lead(II) complexes
Nickel(II) complexes

MCC-40 (Univ. Zagreb)
Master of Science Thesis

Croat. Chem. Acta **43** (1971)

Spectrophotometric Determination of Stability Constants of Formato, Acetato, Propionato, Butyrato, Glycolato and Chloroacetato Complexes of Cobalt, Nickel and Copper

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Stability consts. of Co(II), Ni(II) and Cu(II) complexes with ligands: formate, acetate, propionate, butyrate, glycolate and chloroacetate were detd. spectrophotometrically, using Bjerrum's method of coresponding solns. Investigations were performed in the visible spectral region and the absorbance was measured at following wavelengths 520, 670 and 760 nm for cobalt, nickel and copper resp. All investigated systems had a constant ionic strength of 2 ($NaClO_4$) and a following constant ratio carboxylic acid/salt = 1 : 2 for formate and glycolate, 1 : 8 for chloroacetate, 5 : 1 for acetate and 6 : 1 for propionate and butyrate solns. The absorbance was recorded at room temp. (20—25° C), except for chloroacetate which was recorded at 10° C (because of the hydrolysis of chloroacetate at higher temps.).

Stability consts. of the complexes were evaluated using Fronaeus' graphical method and these values were then refined according to R. S. Tobias' computer programme (*Inorg. Chem* **2** (1963) 1307) for weighted non-linear least squares procedure.

From the values of the first stability consts. it can be seen that the stability of the monoligand complexes increases for all investigated systems in the series:

$$Co < Ni < Cu$$

$$ClAc < Form < Ac \cong But < Prop < Glyc$$

The first series is in agreement with the order established by H. Irving and R. J. P. Williams (*J. Chem. Soc.* **1953**, 3192). The second series, with the exception of glycolate, is in agreement with the order of ligand basicities (measured by pK_A value). The greater stability of glycolato complexes probably is due to the interaction metal ion-OH group. Chloroacetato complexes of nickel are so weak that their presence, under our exptl. conditions, could not be detected.

Examiners: Prof. I. Filipović, Prof. K. Weber and Prof. M. Herak

Oral examination: November 25, 1969.

Thesis deposited at the University Library, Zagreb and Faculty of Pharmacy and Biochemistry, University of Zagreb.

(133 pages 56 tables, 54 figures, 49 references, original in Croatian)

B. GRABARIĆ

MCC-40

1. Spectrophotometric Determination of Stability Constants of Formato, Acetato, Propionato, Butyrato, Glycolato and Chloroacetato Complexes of Cobalt, Nickel and Copper

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Acetate, metal complexes with
Butyrate, metal complexes with
Chloroacetate, metal complexes with
Cobalt(II) complexes
Copper(II) complexes
Formate, metal complexes with
Glycolate, metal complexes with
Nickel(II) complexes
Propionate, metal complexes with

MCC-41 (Univ. Zagreb)
Master of Science Thesis

Croat. Chem. Acta **43** (1971)

Thermochemistry of Rare-Earth Complexonates

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An isoperibolic reaction calorimeter was tested with regard to its accuracy and precision. This instrument has been found to have a satisfactory precision (about 0.7%) and a small systematic error (about 1.4%) so that it was found suitable for studying the complex formation in soln.

Co-ordination enthalpies of tripositive lanthanide ions (except Pm^{3+}) with ligand *trans*-1,2-diaminocyclopentane-*N,N,N',N'*-tetraacetic acid (CPDTA) were detd. using above-mentioned calorimeter. From the experimental ΔH° data and the literature ΔG° values the co-ordination entropies were calcd. Besides the irregular dependence of either ΔH° or ΔS° on r_+^{-1}, very significant correlations of ΔS° with S° (Ln^{3+}) and ΔH° were observed and discussed.

Part of this thesis is published in: *Thermochim. Acta* **2** (1971) 345.

Examiners: Dr. Vl. Simeon, Prof. B. Težak, and Prof. M. Herak

Oral examination: October 5, 1970.

Degree conferred: October 31, 1970.

Thesis deposited at the Central Chemical Library, Zagreb and Institute of Medical Research, Zagreb.

(75 pages, 9 tables, 10 figures, 58 references, original in Croatian)

N. IVIČIĆ

MCC-41

1. Thermochemistry of Rare-Earth Complexonates

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Calorimetry
Lanthanides, complexes of
Polyaminopolycarboxylic acids
trans-1,2-diaminocyclopentane-*N,N,N,'N'*-tetraacetic acid

MCC-42 (Univ. Zagreb)
Master of Science Thesis

Croat. Chem. Acta **43** (1971)

π-Participation and Secondary Deuterium Isotope Effects. Cholesteryl System

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Solvolysis of cholesteryl derivs. is assisted by homoallylic participation which results in a 100 fold increase in reactivity with respect to the cholestanyl system.

α-Deuterium isotope effect of the cholesteryl-3α-d_1 tosylate (k_H/k_D = = 1.130) was of normal magnitude and equal to the effect measured on the satd. compd. This shows that α-effects are not a sensitive probe for the participation of neighboring double bond.

In the opposite sense the β-deuterium effect in the solvolysis of cholesteryl-4β-d_1 tosylate was inverse (k_H/k_D = 0.989). This can be explained by a drastically reduced possibility for hyperconjugation in the transition state due to the formation of the mesomeric cation (and possibly by induction). The satd. analogue gave a normal β-isotope effect (1.20).

The δ-effect in the solvolysis of cholesteryl-6d tosylate was inverse, (k_H/k_D = 0.937), indicating a change of the covalency at the carbon atom 6 in the transition state.

The α-effects of cholesteryl-3α-d_1 tosylate (1.13) and epicholesteryl-3β-d_1 tosylate (k_H/k_D = 1.104) were compared. The solvolysis of the latter is presumably assisted by C—H bond participation. From the above comparison it can be concluded that the distance between the internal nucleophile and the reaction center, which dets. the degree of bridging in the transition state, influences the magnitude of α-effect regardless of the rate acceleration produced by the electrons of the participating group. The significance of these results has to be tested on the similar systems.

On the basis of these results it can be concluded that in heterolytic reactions secondary β-isotope effects are very sensitive towards participation, while δ-effects in such systems are significant for rehybridization which occurs on the top of the potential energy barrier.

Examiners: Prof. D. E. Sunko, Prof. S. Ašperger, and Prof. D. Fleš.

Oral examination: July 15, 1971.

Thesis deposited at the University Library.

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M. TARLE

MCC-42

1. π-Participation and Secondary Deuterium Isotope Effects. Cholesteryl System

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Cholesterol
—, 3α-d
tosylate ester
—, 4β-d
tosylate ester
—, 6-d
tosylate ester
Epicholesterol
—, 3β-d
tosylate ester
Isotopic effects
by deuterium
in solvolysis of cholesteryl tosylate
in solvolysis of epicholesteryl tosylate

MCC-43 (Massachusetts Institute of Technology)
Master of Science Thesis

Croat. Chem. Acta **43** (1971)

Sorption of Some Volatile Organic Compounds on Cellulose

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A system for temp. control of saturators and column thermostat baths was designed, assembled and incorporated into an existing exptl. app. for measurement of vapor-solid sorption at low sorbate concns.

Surface areas of microcrystalline Whatman CC 31 cellulose were measured by phys. adsorption of nitrogen at liquid nitrogen temps. (»B-point method«). Nitrogen-specific B.E.T. surface areas for 0.4, 1.35, and 5.75 g. columns were 2.15, 4.83 and 2.30 m^2/g. Incongruency of sorption isotherms measured with these columns was ascribed to differences in available surface areas, caused by packing procedures. Isotherms were measured for hexane, acetone and ethanol on microcrystalline cellulose at 23° C. At a const. activity of 10^{-4} the ratio of amts. of three vapors adsorbed were 1 : 6 : 7.8, indicating more interaction of acetone and ethanol with the sorbent surface.

Room temp. (23° C) sorption isotherms of ethanol vapors on the same sorbent were measured, in the partial pressure range 10 to 1500 mtorr and 1 to 1200 mtorr for 5.8 and 0.4 g columns, respectivelly. The corresponding activity range was 2×10^{-5} to 3×10^{-2}. Isotherm curves were concave to the pressure axis, their curvature decreasing with activity increase. Isotherm shape is consistent with both type II and type IV isotherms (after classification introduced by Brunauer et al., 1940.), and suggests sorbate-sorbent interaction, possibly with surface hydroxyl groups of the sorbent. Amounts adsorbed were in the range of γ sorbate per g. sorbent. The frontal curves measured for ethanol at 0° and for hexanol at 23° and 0° C exhibited steps. A discussion of alcohol sorption on cellulose is included stressing the possibility of stepwise adsorption (type IV isotherm) as an operative mechanism.

Thesis Supervisor: Phillip Issenberg, Assoc. Prof. of Food Science, Dept. of Nutrition and Food Science, Massachusetts Institute of Technology

Degree conferred: Sept. 25, 1968.

Thesis deposited at: M.I.T. Library, Dept. of Nutrition and Food Science at M.I.T., and at Faculty of Technology, Univ. of Zagreb

(ix + 187 pages, 9 tables, 13 figures, 102 references, original in English)

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MCC-43

1. Sorption of Some Volatile Organic Compounds on Cellulose

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Adsorption
Cellulose
Foods, Food Flavors
Sorption
Volatiles, Volatile Food Constituents

BIBLIOGRAPHIA CHEMICA CROATICA

1968

BCC-852

K. Adamić
Zagreb (Yugoslavia)

ESR Study of Free Radical Transformation in Gamma-Irradiated Starch

Stärke **20** (1968) 3.

1969

BCC-853

K. Adamić, J. A. Howard, and K. U. Ingold
Division of Applied Chemistry, National Research Council of Canada, Ottawa, Canada

Absolute Rate Constants for Hydrocarbon Autoxidation. XVI. Reactions of Peroxy Radicals at Low Temperatures

Can. J. Chem. **47** (1969) 3803.

BCC-854

A. Barić and M. Branica
Center for Marine Research, Institute »Ruđer Bošković«, Zagreb, Yugoslavia

Behaviour of Indium in Sea Water

Limnol. Oceanogr. **14** (1969) 796.

BCC-855

M. J. S. Dewar and N. Trinajstić
Department of Chemistry, University of Texas, Austin, Texas 78712, USA

Ground States of Conjugated Molecules. XIV. Redox Potentials of Quinones

Tetrahedron **25** (1969) 4529.

BCC-856

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Department of Chemistry, University of Texas, Austin, Texas 78712, USA

Ground States of Conjugated Molecules. XV. Bond Localization and Resonance Energies in Compounds Containing Nitrogen or Oxygen

J. Am. Chem. Soc. **91** (1969) 6321.

BCC-857

J. N. Herak and V. Galogaža
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia

Radical Transformation in Irradiated DNA and its Constituents

Proc. Natl Acad. Sci. **64** (1969) 8.

BCC-858

J. N. Herak, V. Galogaža, and A. Dulčić
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia

Electron Spin Resonance of Hydrogen Addition Radicals in an Irradiated Single Crystal of Cytosine

Mol. Phys. **17** (1969) 555.

BCC-859

J. A. Howard, K. Adamić, and K. U. Ingold
Division of Applied Chemistry, National Research Council of Canada, Ottawa, Canada

Absolute Rate Constants for Hydrocarbon Autoxidation. XIV. Termination Rate Constants for Tertiary Peroxy Radicals

Can. J. Chem. **47** (1969) 3793.

BCC-860

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The Crystal Structure of Mercury(II) Acetamide

Inorg. Chim. Acta **3** (1969) 25.

BCC-861

V. Katović, L. T. Taylor, and D. H. Busch
Department of Chemistry, The Ohio State University, Columbus, Ohio 34210

Application of the Coordination Template Effect to Prepare Five-Coordinate Nickel(II) and Copper(II) Complexes Containing a »Basket-Like« Polycyclic Ligand

J. Am. Chem. Soc. **91** (1969) 2122.

BCC-862

A. Kornhauser and D. Keglević
Tracer Laboratory, Institute »Ruđer Bošković«, Zagreb, Yugoslavia

Glycosyl Esters of Amino Acids. Part I. Synthesis of 1-*O*-(2-Acetamidoacyl)-2,3,4,6-Tetra-*O*-Acetyl-β-D-glucopyranoses

Carbohyd. Res. **11** (1969) 407.

BCC-863

J. Mašek, M. G. Bapat, B. Ćosović, and J. Dempire
J. Heyrovsky Institute of Polarography, Czechoslovak Academy of Sciences, Prague 1

Polarographic Studies of Nitrosyl Compounds. IV. Reversibility and Kinetic Parameters of the Nitroprusside Ion Reduction

Collect. Czech. Chem. Commun. **34** (1969) 485.

BCC-864

V. Mikuličić, K. Conki, and K. Weber
Zavod za sudsku medicinu i kriminalistiku Medicinskog fakulteta, Zagreb

Djelovanje soli teških kovina na kemiluminiscenciju luminola

Arhiv Hig. Rada Toksikol. **20** (1969) 275.

BCC-865

Ž. Proso and Z. Pučar
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Preparation of Carrier-Free Radionuclides from Cyclotron Targets by Continuous Electrophoresis. I. Separation of ^{55}Fe from Manganese, ^{54}Mn and ^{56,57,58}Co from Iron, ^{65}Zn from Copper, and ^{109}Cd from Silver Target

J. Radioanal. Chem. **2** (1969) 243.

BCC-866

Ž. Proso and Z. Pučar
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Laboratory of General and Inorganic Chemistry, Faculty of Science, The University, P. O. Box 90, Zagreb, Yugoslavia and Chemical Crystallography Laboratory, South Parks Road, Oxford, England

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BCC-952

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Faculty of Pharmacy and Biochemistry, University of Zagreb and Institute »Ruđer Bošković«, Zagreb (Yugoslavia)

Concentration of Cr, Mn, Fe, Zn and Ru Traces by Aluminium and Strontium Phosphates

Anal. Chim. Acta **54** (1971) 149.

BCC-953

T. Bićan-Fišer
Institute for the Control of Drugs, Zagreb (Yugoslavia)

Quantitative Analysis of Tropane Alkaloids in Pharmaceutical Preparations

J. Chromatogr. **55 (1971)** 417.

BCC-954

H. Bilinski, B. Pokrić, and Z. Pučar
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia

Studies of the System Zirconyl Chloride—Ammonium Oxalate in Aqueous Solution

J. Inorg. Nucl. Chem. **33** (1971) 3409.

BCC-955

Z. Binenfeld, A. Šakić, D. Rakin, and A. Damanski
Institut de Chimie de Technologie et de Métallurgie, Beograd, Yougoslavie

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Bull. Soc. Chim. France (1971) 2722.

BCC-956

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Institute of Technical and Medical Protection, Belgrade

Phenacyloximes as Antidotes in Organo-phosphorus Poisoning

Acta Pharm. Jugoslav. **21** (1971) 113.

BCC-957

V. Bonačić and M. Randić
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia

Ligand Field Splitting in Square Planar, Trigonal Bipyramidal and Octahedral Structures by the Diffuse Charge Model

J. Mol. Struct. **7** (1971) 9.

BCC-958

Lj. Brečević and H. Füredi-Milhofer
Department of Physical Chemistry, Ruđer Bošković Institute, Zagreb, Croatia, Yugoslavia

Some Physicochemical Aspects of the Role of Citrate in Tissue Mineralization

Israel J. Med. Sci **7** (1971) 423.

BCC-959

N. Brničević and C. Djordjević
Institute »Ruđer Bošković«, Zagreb (Yugoslavia) and College William and Mary, Williamsburg

Co-ordination Complexes of Niobium and Tantalum. XI. Crystalline Malato Complexes of Niobium(V)

J. Less-Common Metals **23** (1971) 61.

BCC-960

N. Brničević and C. Djordjević
Institute »Ruđer Bošković«, Zagreb (Yugoslavia) and College of William and Mary, Williamsburg, Va. 23185 (U.S.A.)

Co-ordination Complexes of Niobium and Tantalum. XII. Preparation and Properties of Oxy-Hydroxy-bis-Oxalato Niobic Acid and its Salts

J. Less-Common Metals **23** (1971) 107.

BCC-961

T. Cvitaš and L. M. Hollas
Chemistry Department, University of Reading, Reading, England

A Partial Analysis of Rotational Structure in the 2710 Å System of *p*-Fluorotoluene

Mol. Phys. **20** (1971) 645.

BCC-962

J. Čaja and H. B. Mark, Jr.
Department of Chemistry, University of Cincinnati, Cincinnati, Ohio 45221

Method of Determination of *p*K Values of Certain Low Solubility Organic Amines

Anal. Chem. **43** (1971) 964.

BCC-963

M. J. S. Dewar, D. H. Lo, D. B. Patterson, N. Trinajstić and G. E. Peterson
Department of Chemistry, University of Texas at Austin, Austin, Texas 78712 and Bell Telephone Laboratories, Incorporated, Murray Hill, New Jersey 07871

MINDO/2 Calculations of Nuclear Quadrupole Coupling Constants of the Chlorobenzenes

Chem. Commun. (1971) 238.

BCC-964

M. J. S. Dewar and N. Trinajstić
Department of Chemistry, The University of Texas at Austin, Austin, Texas 78712

Cyclobutadiene and Diphenylcyclobutadiene

J. Am. Chem. Soc. **93** (1971) 3437.

BCC-965

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Department of Chemistry, The University of Texas at Austin, Austin, Texas 78712, U.S.A.

Semiempirical SCF-MO Treatment of Excited States of Aromatic Compounds

J. Chem. Soc. A (1971) 1220.

BCC-966

Gj. Deželić, N. Deželić, N. Muić, and B. Pende
Zavod za kemiju biokoloida, Škola narodnog zdravlja »Andrija Štampar« Medicinskog fakulteta Sveučilišta u Zagrebu i Imunološki zavod, Zagreb

Latex Particle Agglutination in the Immunochemical System Human Serum Albumin-Anti-Human Serum Albumin Rabbit Serum

Eur. J. Biochem. **20** (1971) 553.

BCC-967

N. Deželić, H. Bilinski, and R. H. H. Wolf
Department of Biocolloidal Chemistry, »Andrija Štampar« School of Public Health, Faculty of Medicine, Zagreb, Yugoslavia, Department of Physical Chemistry, Institute »Ruđer Bošković«, Zagreb, Yugoslavia, Laboratory of Physical Chemistry, Faculty of Science, University of Zagreb, Zagreb, Yugoslavia

Precipitation and Hydrolysis of Metallic Ions. IV. Studies on the Solubility of Aluminium Hydroxide in Aqueous Solution

J. Inorg. Nucl. Chem. **33** (1971) 791.

BCC-968

A. Dulčić and J. N. Herak
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia

Crystal Structure Dependence of Radiation—Induced Radicals in Thymine: an ESR Study

Radiat. Res. **47** (1971) 573.

BCC-969

M. Eckert-Maksić, Z. Majerski, S. Borčić and D. E. Sunko
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia

Competitive Reactions of Nucleophiles-II

Tetrahedron **27** (1971) 2119.

BCC-970

N. Galešić, B. Matković, M. Herceg, and M. Šljukić
Institute »Ruđer Bošković«, Zagreb (Yugoslavia) and Faculty of Science, The University of Sarajevo (Yugoslavia)

On the Crystal Structure of Oxohydroxobisoxalato Niobic Acid Pentahydrate, $H_2[NbO(OH)(C_2O_4)_2H_2O]\,4\,H_2O$

J. Less-Common Metals **25** (1971) 234.

BCC-971

A. Gertner, D. Kodrnja, D. Pavišić, and V. Grdinić
Zavod za kemiju Farmaceutskog fakulteta, Zagreb

Mogućnosti dokazivanja nekih metalnih iona reakcijom fluorescencije s morinom na kružnoj peći

Acta Pharm. Jugoslav. **21** (1971) 125.

BCC-972

Lj. Grlić
Jugoslavenski leksikografski zavod, Zagreb

Halucinogena sredstva

Farm. Glasnik **27** (1971) 257.

BCC-973

Lj. Grlić
Jugoslavenski leksikografski zavod, Zagreb

Suvremene laboratorijske metode za otkrivanje toksikomanija

Farm. Glasnik **27** (1971) 139.

BCC-974

J. Halpern and M. Pribanić
Department of Chemistry, The University of Chicago, Chicago, Ill. 60637

Carbonylation of Pentacyanocobaltate (III)

J. Am. Chem. Soc. **93** (1971) 96.

BCC-975

M. J. Herak, M. Dikšić, and P. Strohal
Institute »Ruđer Bošković«, Zagreb, Yugoslavia

Studies on Precipitation and Co-Precipitation of Tantalum and Niobium from Potassium Fluoride Solutions

Mikrochim. Acta (1971) 116.

BCC-976

N. Ivičić and V. Simeon
Laboratory of Analytical and Physical Chemistry, Institute for Medical Research, Yugoslav Academy of Sciences and Arts, Zagreb, Croatia, Yugoslavia

Thermodynamics of Formation of Lanthanide Complexes with 1,2-Diaminocyclopentane-*N,N,N',N'*-Tetra Acetic Acid

Thermochim. Acta **2** (1971) 345.

BCC-977

V. Jagodić and M. J. Herak
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia

Solvent Extraction Study of Manganese (II) and Iron (III) by Aminophosphonic Acids

J. Inorg. Nucl. Chem. **33** (1971) 2641.

BCC-978

V. Jagodić, M. J. Herak, B. Šipalo, and J. Radošević
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia

Solvent Extraction Study of Lanthanum and Europium by Acidic Esters of Aminophosponic Acids

J. Inorg. Nucl. Chem. **33** (1971) 2651.

BCC-979

Lj. Jeftić and S. W. Feldberg
Brookhaven National Laboratory, Upton, New York 11973

Chromium (II)-Catalysed Aquation of Hexacyanochromate (III) to Pentacyanomonohydroxychromate (III)

J. Phys. Chem. **75** (1971) 2381.

BCC-980

D. Jušić and B. Pende
Imunološki zavod, Zagreb

Kvantitativno mjerenje imunoglobulina tehnikom radijalne monodifuzije. I. Standardizacija imunoglobulina G i hiperimunog anti-IgG seruma kunića

Farm. Glasnik **27** (1971) 173.

BCC-981

V. Katović, L. T. Taylor, and D. H. Busch
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia, Department of Chemistry, Virginia Polytechnic Institute and Department of Chemistry, The Ohio State University

Nickel (II) and Copper (II) Complexes Containing New Monocyclic and Polycyclic Ligands Derived from the Cyclotetrameric Schiff Base of *o*-Aminobenzaldehyde

Inorg. Chem. **10** (1971) 458.

BCC-982

M. Keler-Bačoka, A. Stojanovski-Bubanj, and K. Blažević
Klinika za unutarnje bolesti Medicinskog fakulteta, Zagreb

Kritički osvrt na vrijednosti glukoze u krvi određene s pomoću redukcijskog i enzimatskog GOD ABTS (GOD-Perid) principa

Farm. Glasnik **27** (1971) 367.

BCC-983

L. Klasinc and N. Trinajstić
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia

Theoretical Study of Iso-Condensed Thienopyrroles

Tetrahedron **27** (1971) 4045.

BCC-984

M. Kljaić, M. Weinert, and M. Proštenik
Zavod za kemiju i biokemiju Medicinskog fakulteta i Institut za organsku kemiju i biokemiju Sveučilišta u Zagrebu

Studies in the Sphingolipids Series. XXXI. Preparation and Column Separation of Ceramide Mixtures from Bovine and Horse Brain Cerebrosides

Bul. Sci. Cons. Acad. Sci. Arts RSF Yougoslavie, Sect. A **16** (1971) 1.

BCC-985

B. Kojić-Prodić, B. Matković, and S. Šćavničar
Institute »Ruđer Bošković«, Zagreb, Yugoslavia

The Crystal Structure of Hydrazinium (+2) Hexafluorotitanate (IV), $N_2H_6TiF_6$

Acta Cryst. B **27** (1971) 635.

BCC-986

B. Kojić-Prodić, S. Šćavničar, and B. Matković
Institute »Ruđer Bošković«, Zagreb, Yugoslavia

The Crystal Structure of Hydrazinium (+2) Hexafluorozirconate (IV), $N_2H_6ZrF_6$

Acta Cryst. B **27** (1971) 638.

BCC-987

Z. Kućan, J. N. Herak, and I. Pečevsky-Kućan
Institute »Ruđer Bošković«, Zagreb, Yugoslavia

Functional Inactivation and Appearance of Breaks in RNA Chains Caused by Gamma-Irradiation of *Escherichia Coli* Ribosomes

Biophys. J. **11** (1971) 237.

BCC-988

O. Lahodny-Šarc and J. L. White
Institute of Physical Chemistry, Technological Department, University of Zagreb, Zagreb Yugoslavia and Department of Agronomy, Purdue University, Lafayette, Indiana 47907

Infrared Study of Aluminium -Deficient Zeolites in the Region 1300 to 200 cm^{-1}

J. Phys. Chem. **75** (1971) 2408.

BCC-989

I. H. Liggero, Z. Majerski, P. R. Schleyer, A. P. Wolf, C. S. Redvanly, H. Wynberg, J. A. Boerma, and J. Strating
Department of Chemistry, Princeton University, Princeton, New Jersey 08540

Preparation of Ring Labelled Adamantane Derivatives. 2-Adamantanone-2-carbon-14, Adamantane-2-carbon-14 and 1-Methyl adamantane-2- or 4-carbon-14

J. Label. Comp. **7** (1971) 3.

BCC-990

B. Lovreček, Z. Vajtner, and J. Hranilović
Institute of Electrochemistry and Electrochemical Technology, Faculty of Technology, University of Zagreb, and Pliva, Pharmaceutical and Chemical Works, Zagreb

The Electrochemical Reduction of 2-Nitrobutanol (1)

Tetrahedron Lett. (1971) 3319.

BCC-991

B. Lovreček and O. Korelić
Institute of Electrochemistry and Electrochemical Technology, Faculty of Technology, University of Zagreb, Zagreb, Savska c. 16/I, Yugoslavia

Investigation of Barrier Layers on Aluminium

Electrochim. Acta **16** (1971) 569.

BCC-992

V. Magnus, S. Iskrić, and S. Kveder
Institute »Ruđer Bošković«, Zagreb, Yugoslavia

Indole-3-methanol. Metabolite of Indole-3-acetic Acid in Pea Seedlings

Planta **97** (1971) 116.

BCC-993

V. Mahalec and M. Orhanović
Institute »Ruđer Bošković, PO Box 1016, Zagreb, Croatia, Yugoslavia

The Kinetics of the Mercury (II)-Catalysed Aquation of the Azidopentaaquochromium (III) Ion

Inorg. Chim. Acta **5** (1971) 457.

BCC-994

Z. Majerski and P. von R. Schleyer
Department of Chemistry, Princeton University, Princeton, New Jersey 08540

The Stereochemistry of Cyclopropylcarbinyl Rearrangements. Synthesis and Solvolysis of Cyclopropylcarbinyl-1,1′,1′-*trans*-2,3,3-d_6 Methanesulfonate

J. Am. Chem. Soc. **93** (1971) 665.

BCC-995

Z. B. Maksić, M. Eckert-Maksić, and M. Randić
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia

Correlation Between C—H and C—C Spin-Spin Coupling Constants and *s* Character of Hybrids Calculated by the Maximum Overlap Method

Theor. Chim. Acta **22** (1971) 70.

BCC-996

R. Mason, L. Randaccio, and M. Randić
Department of Chemistry, University of Sheffield, Sheffield S3 7HF

Hybridisation, Centroids of Overlap Density and the Lengths of Certain Carbon-Hydrogen Bonds

J. Chem. Soc. (1971) 1155.

BCC-997

E. Matijević, F. J. Mangravite, Jr., and E. A. Cassell
Institute of Colloid and Surface Science and Department of Chemisty and Civil Engineering, Clarkson College of Technology, Potsdam, N. Y. 13676

Stability of Colloidal Silica. IV. The Silica-Alumina System

J. Colloid Interface Sci. **35** (1971) 560.

BCC-998

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Institute of Colloid and Surface Science, Clarkson College of Technology, Potsdam, N. Y. 13676

Characterization and Stability of Chromium Hydroxide Sols of Narrow Size Distributions

J. Colloid Interface Sci. **36** (1971) 273.

BCC-999

Z. Meić and M. Randić
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia

Infrared Spectra of Gaseous Methyl Mercuric Halides

J. Mol. Spectrosc. **39** (1971) 39.

BCC-1000

H. Meider-Goričan
Department of Physical Chemistry, Institute »Ruđer Bošković«, Zagreb, Yugoslavia

Solvent Extraction of Zirconium and Hafnium — I. Extraction with Di-*n*-butylmethylenebisphosphonic Acid

J. Inorg. Nucl. Chem. **33** (1971) 1919.

BCC-1001

I. Mekjavić and B. Lovreček
Institute of Physical Chemistry, Faculty of Chemical Technology, Split, University of Zagreb, and Institute of Electrochemistry and Electrochemical Technology, Faculty of Technology, Zagreb, University of Zagreb, Yugoslavia

Adsorption of Phenol and Kinetics of Electrode Processes on the Bi Amalgam Electrode

Electrochim. Acta **16** (1971) 1201.

BCC-1002

R. Nemeth and E. Matijević
Institute of Colloid and Surface Science and Department of Chemistry, Clarkson College of Technology, Potsdam, New York 13676 (U.S.A.)

Precipitation and Electron Microscopy of Calcium- and Barium-Oleate Sols

Kolloid-Z. Z. Polym. **245** (1971) 497.

BCC-1003

E. Osawa, Z. Majerski, and P. von R. Schleyer
Department of Chemistry, Princeton, University, Princeton, New Jersey 08540

Preparation of Bridgehead Alkyl Derivatives by Grignard Coupling

J. Org. Chem. **36** (1971) 205.

BCC-1004

V. Paić and M. Paić
Institute of Physics of the University of Zagreb, Yugoslavia

Directional Dependence of Exposure Measurements and the Evaluation of Effective Energies of Medium Energy X-Rays by Film Badges

Health Phys. **20** (1971) 259.

BCC-1005

N. Paulić, Vl. Simeon, B. Bernik, and B. Švigir
Institute for Medical Research, Yugoslav Academy of Sciences and Arts, Zagreb, Yugoslavia

Stability and Stereochemistry of Cobalt (II) Complexes with Stereoisomeric, 1,2-Diaminocyclopentane Tetraacetic Acids

J. Inorg. Nucl. Chem. **33** (1971) 3463.

BCC-1006

M. Petek, T. E. Neal, and R. W. Murray
Department of Chemistry, University of North Carolina, Chapel Hill, N. C. 27514

Spectroelectrochemistry. Application of Optically Transparent Minigrid Electrodes under Semi-Infinite Diffusion Conditions

Anal. Chem **43** (1971) 1069.

BCC-1007

D. Petranović, I. Pečevsky-Kućan, and Ž. Kućan
Institute »Ruđer Bošković«, Zagreb, Yugoslavia

Comparison of the Direct Effect of Gamma Rays on *Escherichia Coli* Ribosomes and Bacteriophage

Radiat. Res. **46** (1971) 621.

BCC-1008

B. Pokrić and Z. Pučar
Laboratory of Electrophoresis, Institute »Ruđer Bošković«, Zagreb, Yugoslavia

Electrophoresis and Tyndallometric Studies on the Hydrolysis of Zinc in Aqueous Solutions

J. Inorg. Nucl. Chem. **33** (1971) 445.

BCC-1009

M. Popović
Institut za kemiju i biokemiju Medicinskog fakulteta, Sveučilišta, Zagreb

Biochemie der Kohlenwasserstoffe. II. Ein Beitrag zur Kenntnis der Xantholipide

Bull. Sci. Cons. Acad. Sci. Arts RSF Yougoslavie, Sect. A **16** (1971) 392.

BCC-1010

N. Pravdić and H. G. Fletcher, Jr.
Department of Organic Chemistry and Biochemistry, »Ruđer Bošković« Institute, Zagreb (Yugoslavia) and National Institute of Arthritis and Metabolic Diseases, National Institutes of Health, Public Health Service, U.S. Department of Health, Education and Welfare, Bethesda, Maryland 20014 (U.S.A.)

The Oxidation of 2-Acetamido-2-deoxyaldoses with Aqueous Bromine. Two Diastereoisomeric 2-Acetamido-2,3-dideoxyhex-2-enono-1,4-lactones from 2-Acetamido-2-deoxy-D-glucose, -D-mannose, and -D-galactose

Carbohyd. Res. **19** (1971) 339.

BCC-1011

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Department of Organic Chemistry and Biochemistry, »Ruđer Bošković« Institute, Zagreb (Yugoslavia) and National Institute of Arthritis and Metabolic Diseases, National Institutes of Health, Public Health Service, U.S. Department of Health, Education and Welfare, Bethesda, Maryland 20014 (U.S.A.)

The Oxidation of Partially Substituted 2-Acetamido-2-deoxyaldoses with Methyl sulfoxide-Acetic anhydride. Some 2-Acetamido-2-deoxyaldonic Acid Derivatives

Carbohyd. Res. **19** (1971) 353.

BCC-1012

M. Randić and Z. Maksić
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia

Hybridization in Fused Strained Rings by the Maximum-Overlap Method. I. Biphenylene and Benzol [1,2 : 4,5] dicyclobutane

J. Am. Chem. Soc. **93** (1971) 64.

BCC-1013

I. Ružić
Center for Marine Research, Institute »Ruđer Bošković«, Zagreb, Croatia, (Yugoslavia)

Logarithmic Analysis of two Overlapping D. C. Polarographic Waves. III. Very Close Waves with Equal Slopes

J. Electroanal. Chem. **29** (1971) 440.

BCC-1014

I. Ružić, A. Barić, and M. Branica
Center for Marine Research, Institute »Ruđer Bošković, Croatia (Yugoslavia)

Determination of Electrode Reaction Parameters ($E^r_{1/2}$ and αn) of the Quasi-Reversible D. C. Polarographic Waves

J. Electroanal. Chem. **29** (1971) 411.

BCC-1015

W. Simon, H. R. Wuhrmann, M. Vašak, L. A. R. Pioda, R. Dohner, und Z. Štefanac
Laboratorium für Organische Chemie, Eidgenossische Technische Hochschule, Zürich, Schweiz, und Institut für medizinische Forschung, Zagreb

Ionenselektive Sensoren

Angew. Chem. **82** (1971) 433.

BCC-1016

L. Sipos and Z. Galus
Center for Marine Research, Institute »Ruđer Bošković« Zagreb, Croatia, Yugoslavia and Institute of Fundamental Problems of Chemistry, University of Warsaw, Warsaw, Poland

Redox Processes of Uranium (VI), (V), (IV) and (III) in Acetate Buffers

Inorg. Nucl. Chem. Lett. **7** (1971) 299.

BCC-1017

L. Sipos, Lj. Jeftić, M. Branica, and Z. Galus
Center for Marine Research, Institute »Ruđer Bošković« Zagreb, Croatia, Yugoslavia and Institute of Fundamental Problems of Chemistry, University of Warsaw, Warsaw, Poland

Electrochemical Redox Mechanism of Uranium in Acidic Perchlorate Solutions

J. Electroanal. Chem. **32** (1971) 35.

BCC-1018

Z. Sliepčević and Z. Štefanac
Institut za istraživanje i razvoj INA, Zagreb and Institute for Medical Research, Yugoslav Academy of Sciences and Arts, Zagreb Yugoslavia

Improved Technique of Direct Oxygen Microdetermination by Static Flash Combustion Pyrolysis

Mikrochim. Acta (1971) 362.

BCC-1019

A. Šakić, D. Rakin, M. Orlov et Z. Binefeld
Institute de Chimie, Technologie et Métallurgie, Belgrade, Yougoslavie et Kemijski Kombinat, Chromos-Katran-Kutrilin, Zagreb, Yugoslavie

Utilisation des chlorures métalliques in *statu nascendi* comme catalyseurs de sulfuration. Hexaméthyltriphényltétrasulfures

C. R. Acad. Sci., Ser. C (1971) 364.

BCC-1020

M. Široki and C. Djordjević
Laboratory of Analytical Chemistry, Faculty of Science, Institute for Inorganic and Analytical Chemistry, The University of Zagreb, Yugoslavia

Spectrophotometric Determination of Niobium with 4-(2-Pyridylazo) Resorcinol and Colored Complexes Separated from Oxalic and Tartaric Acid Systems

Anal. Chem. **43** (1971) 1375.

BCC-1021

M. Široki and C. Djordjević
Laboratory of Analytical Chemistry, Faculty of Science, University of Zagreb, Zagreb (Yugoslavia)

Vanadium and Niobium Complexes with 4-(2-Pyridylazo) Resorcinol (PAR)

J. Less-Common Metals **23** (1971) 228.

BCC-1022

Z. Štefanac, M. Tomašković, and I. Bregovac
Chemical Laboratory, Faculty of Science, University of Zagreb, Zagreb, Yugoslavia

Microdetermination of Organic Selenoxides

Microchem. J. **16** (1971) 226.

BCC-1023

L. Tomić, Z. Majerski, M. Tomić, and D. E. Sunko
Institute »Ruđer Bošković«, Zagreb, Yugoslavia

Temperature and Concentration Dependence of the Paramagnetic Induced Shifts in Proton Magnetic Spectroscopy

J. Chem. Soc. D (1971) 719.

BCC-1024

N. Trinajstić
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia

The Spin Density Distribution in the Hydrocarbon Radical Anions

Spectrosc. Lett. **4** (1971) 85.

BCC-1025

N. Trinajstić
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia

Eight *pi*-Electron Ring Systems

J. Mol. Struct. **8** (1971) 236.

BCC-1026

Z. Veksli, J. N. Herak, P. Hedvig, and J. Dobo
Institute »Ruđer Bošković«, Zagreb, Yugoslavia, Research Institute for Plastics, Budapest, Hungary

Nuclear Magnetic Resonance Study of Graft Copolymers: System Polytetrafluoroethylene-Styrene

Eur. Polym. J. **7** (1971) 231

BCC-1027

K. Voloder, N. Ivičić, and B. Švigir
Institute for Medical Research, Yugoslav Academy of Sciences and Arts, Zagreb, Croatia, Yugoslavia

Determination of Lead in a Minute Blood Sample by the Spectrophotometric Method

Mikrochim. Acta (1971) 341.

BCC-1028

Lj. Vujisić and Z. B. Maksić
Institute »Ruđer Bošković«, Zagreb, Croatia, Yugoslavia

Hybridization in 2,5-Dimethyl-7,7-dicyanonorcaradiene by the Maximum Overlap Approximation

J. Mol. Struct. **7** (1971) 431.

BCC-1029

K. Weber
Zavod za sudsku medicinu Medicinskog fakulteta, Zagreb

Suvremene optičke metode u detekciji i identifikaciji otrova

Farm. Glasnik **27** (1971) 283.

BCC-1030

O. A. Weber and Vl. Simeon
Division of Protein Chemistry, CSIRO, Parkville (Melbourne), Victoria 3052 (Australia) and Institute for Medical Research, Yugoslav Academy of Sciences and Arts, Zagreb, Croatia, Yugoslavia

Chelation of Some Bivalent Metal Ions by Racemic and Enantiomeric Forms of Tyrosine and Tryptophan

Biochim. Biophys. Acta **244** (1971) 94.

BCC-1031

O. A. Weber and Vl. Simeon
Institute for Medical Research, Yugoslav Academy of Sciences and Arts, Zagreb, Croatia, Yugoslavia

Tryptamine, 5-Hydroxytryptamine and 5-Hydroxytryptophan Complexes of Proton and Some Divalent Metal Ions

J. Inorg. Nucl. Chem. **33** (1971) 2097.

BCC-1032

N. Zambeli and D. Kolbah
Department of Chemistry, Faculty of Pharmacy and Biochemistry, University of Zagreb

Acetylation of Some 2-(Alkyl)thio-4-amino-6-hydroxy-pyrimidines

Acta Pharm. Jugoslav. **21** (1971) 91.

BCC-1033

M. Zebec, N. Deželić, Gj. Deželić, and J. Kratohvil
Department of Applied Biochemistry, Andrija Štampar School of Public Health, Faculty of Medicine, Zagreb

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