

- K. Kovačević, Z. B. Maksić, and A. Moguš-Milanković** **Geometry of Molecules. Part 7. Interatomic Distances, Bond Angles and Strain Energies in some Rotenes and Related Spirocompounds by the IMO Method**

The electronic and molecular structure of some three-, four-, five- and six-membered ring rotenes are studied by the iterative maximum overlap method. Studied properties include spin-spin coupling constants, C—H stretching frequencies, thermodynamic proton acidities, diamagnetic susceptibilities and the diamagnetic contribution to the nuclear magnetic shielding

187—200

- M. Cvetkovska, T. Grčev and G. Petrov** **Investigations Electrochimiques des Systèmes Rédox: Fe³⁺, Fe(III)-Complexe, Cu²⁺, Cu(II)-Complexe — *meta*-Bisulfite de Sodium, Initiateurs de Polymérisation de l'Acrylamide en Milieu Aqueux**

Several redox systems of the type: Fe³⁺, Fe(III)-complex, Cu²⁺, Cu(II)-complex — Na₂S₂O₅, were studied using potentiometric and potentiodynamic techniques, in order to evaluate their potential to initiate acrylamide polymerisation in aqueous media. In all cases a clear effect of the complex strength factor was found; electrolysis at controlled potential and electrochemical methods allow the most probable reaction mechanism of the initiator systems to be proposed.

201—218

- M. F. Hussain, R. K. Bansal, and B. K. Puri** **Solid-liquid Separation after Liquid-liquid Extraction: Spectrophotometric Determination of Cobalt by Extraction of its 2-Methoxyethyl Xanthate in Molten Naphthalene**

A selective spectrophotometric method has been developed for the determination of cobalt in the presence of various ions and in complex materials such as alloys. The molar absorptivity at 355 nm and sensitivity in terms of Sandell's definition are calculated to be $1.287 \times 10^4 \text{ l mol}^{-1} \text{ cm}^{-1}$ and $0.0046 \mu\text{g/cm}^2$ respectively. . . . 219—227

T. M. Krygowski, T. Wieckowski, and A. Sokolwska **Infrared and Raman Studies of Carbonyl Group Frequencies of *p*-Substituted Benzoic Acids in the Crystalline State**

Infrared and Raman carbonyl stretching frequencies for *p*-substituted benzoic acids in the crystalline state were measured and discussed in terms of the Hammett equation and hydrogen bond strength. . . . 229—233

R. Jain **Elucidation of the Structure of Some Potential Antidiabetic Pyrazolin-5-ones Using Polarographic Technique**

The polarographic reduction behaviour of 4-arylhydrazono-*N*-arylthiocarbamoyl-3-phenyl-2-pyrazolin-5-one has been investigated to find out the existing tautomeric form. The effect of various substituents on reduction was studied and a quantitative relationship was established between $E_{1/2}$ and Hammett substituent constants. . . . 235—241

B. S. Chandravanshi and V. K. Gupta **Extraction and Spectrophotometric Determination of Cerium(IV) with *N-p*-Chlorophenylcinnamohydroxamic Acid**

N-p-Chlorophenylcinnamohydroxamic acid reacts with cerium(IV) to form an orange coloured complex, quantitatively extractable into chloroform from alkaline medium. On the basis of this sensitive colour reaction, a new method for the extraction and spectrophotometric determination of cerium(IV) has been developed. . . . 243—249

V. Šunjić, Š. Šimaga, and Lj. Vitale **The Synthesis and Angiotensin Converting Enzyme Inhibitory Activities of *N*-[(3-Substituted)aminocarbonyl]-propanoyl-L-prolines**

A novel approach of *N*-[3-(hetero)aryl-aminocarbonyl]propanoyl-*L*-proline preparations consists of fusing (80–100 °C) *N*-(hetero)-aryl-succinimides with unprotected *L*-proline and imidazole in the presence of DMF. In vitro tests for ACE inhibition showed that all *N*-(arylamino-carbonyl)-propanoyl-*L*-prolines exhibit lower activity than captopril, their IC_{50} 's ranging from 2.5×10^{-4} to 3.3×10^{-3} M. . . .

251—264

V. Rapić and
I. Habuš

Ferrocene Compounds. XII. Reactions of Ferrocenecarbaldehyde with Benzanilides and *n*-Butyllithium

The reactions of ferrocenecarbaldehyde with benzanilides and *n*-butyllithium, depending on the benzanilide used, gave mixtures of 1-hydroxypentylferrocene, 1-phenoxy-pentylferrocene, pentylferrocene, hydroxymethylferrocene, bis(ferrocenyl-methyl) ether and ferrocene. The mixtures obtained have been separated into pure components by chromatographic methods and their structures have been assigned by spectroscopic means. . . .

265—269

S. Djokić, B. Gašpert,
I. Lukić, Z. Mandić,
B. Šimunić, M.
Tomić, and A. G.
Maasböl

***N*-4-Chlorobutyryl Aminoacids as a Common Intermediate in the Synthesis of *N*-Alkylamides of 2-Oxo-Pyrrolidine and *L*-Aspartyl-*L*-Phenylalanine Esters**

In methanol solution and in the presence of cation exchange resin, *N*-4-chlorobutyryl aminoacids or dipeptides (I) gave methyl esters. In the presence of a strong base or anion exchange resin cyclisation of II occurred to yield *N*-alkylamides of 2-oxo-pyrrolidine (III). Heating of the dipeptide ester (VII), protected with 4-chlorobutyryl group, in aqueous acetone caused hydrolysis of the 4-chlorobutyryl group and dipeptide ester hydrochloride was obtained (VIII). . . .

271—280

M. V. Proštenik, M.
Dumić, and I. Butula

Chemistry of 1,3-Dioxepins. II. Dehydrohalogenation of 5,6-Dihalogen-1,3-Dioxepanes with Strong Bases

Dehydrohalogenation of 5,6-dihalogen-1,3-dioxepanes with KOH/MeOH or NaOCH₃/MeOH gave mainly 5-halogen-4,7-dihydro-1,3-dioxepines which on substitution of vinylic-bromine with KO-*t*-Bu/tert-BuOH or KOH/MeOH led to corresponding 5-substituted-4,7-dihydro-1,3-dioxepines. Substitution of vinylic-bromine appeared to follow an elimination-addition mechanism.

281—288

B. Mulac-Jeričević, B. Vranešić, S. Kveder, B. Jamnický, and D. Keglević **Crystalline Suspension of Bovine Zinc Des-AlaB30-Insulin with Prolonged Hypoglycaemic Activity**

The reversible reaction of cyclohexane-1,2-dione with the guanidino function of Arg-B22 in bovine insulin gave the dihydroxycyclohexylene [DHCH]-Arg-B22-insulin complex which, after selective tryptic cleavage at the Lys-B29 residue and regeneration of the guanidino group, afforded bovine des-AlaB30-insulin in a overall 85.8% yield.

289—294

J. Kobe, B. Rusjakovski, and B. Brdar **The Synthesis and Antiviral Activities of 2-Substituted azino-3-β-D-ribofuranosyl and α and β-D-arabinofuranosyl-5-carbamoylmethylenethiazolidine-4-ones**

2-(1-Isopropylidene and Methylbenzylidene)azino-β-D-ribofuranosyl-5-carbamoylmethylenethiazolidine-4-one were prepared by acid catalyzed fusion of 2-(1-isopropylidene and 1-Methylbenzylidene)azino-5-carbamoylmethylenethiazolidine-(3H)-4-one, with 1-O-acetyl-2,3,5-tri-O-benzoyl-β-D-ribofuranose and from derivative 7 through intermediates 9 and 10, subsequent ringclosure to 11 and final deprotection.

295—304

D. Vasić-Rački **Immobilization of Yeast Alcohol Dehydrogenase on Weakly Basic Anion Exchange Resin Beads**

YADH was immobilized on anion exchange resin beads Lewatit MP-64. After the adsorption the enzyme was crosslinked by

glutaraldehyde. The activity of the immobilized enzyme was investigated in the pH 8.9 recirculation reactor system at 303 K. It was found that the immobilized enzyme was destabilised upon addition of semicarbazide hydrochloride to the buffer solution.

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SADRŽAJ

Opća i teorijska kemija

- Geometrija molekula. 7. Međatomske udaljenosti, kutevi između veza i energije napetosti kod nekih rotana i sličnih spiro spojeva studiranih IMO A metodom
 . . . **K. Kovačević, Z. B. Maksić i A. Moguš-Milanković** 187—200
- Elektrohemijska ispitivanja redoks sistema: Fe^{3+} , Fe(III) -kompleksi, Cu^{2+} , Cu(II) -kompleksi — $\text{Na}_2\text{S}_2\text{O}_5$, za iniciranje polimerizacije akrilamida u vodenoj sredini **M. Cvetkovska, T. Grčev i G. Petrov** 201—218
- Spektrofotometrijsko određivanje kobalt-2-metoksietil-ksantata nakon njegove ekstrakcije u rastaljenom naftalenu i separacije čvrste i tekuće faze **M. F. Hussain, R. K. Bansal i B. K. Puri** 219—227
- Frekvencije karbonilne grupe u infracrvenim i Raman spektrima za *p*-supstituirane benzojeve kiseline u kristalnom stanju
 . . . **T. M. Krygowski, T. Wieckowski i A. Sokolowska** 229—233
- Određivanje strukture nekih potencijalnih antidiabetičkih pirazolin-5-ona pomoću polarografske metode . . . **R. Jain** 235—241
- Ekstrakcija i spektrofotometrijsko određivanje cera(IV) s *N-p*-klorofenilcinamohidroksamatnom kiselinom
 . . . **B. S. Chandravanshi i V. K. Gupta** 243—249

Kemijska sinteza

- Sinteza derivata *N*-[(3-supstituiranih)aminokarbonil]propanoil-*L*-prolina i njihovo djelovanje na enzim za pretvorbu angiotenzina
 . . . **V. Šunjić, Š. Šimaga i Lj. Vitale** 251—264
- Reakcije ferocenkbaldehida, benzanilida i *n*-butil-litija
 . . . **V. Rapić i I. Habuš** 265—269
- N*-4-klorbutiril aminokiseline kao intermedijeri u sintezi *N*-alkilamida 2-*oxo*-pirolidina i estera-*L*-aspartil-*L*-fenilalanina . . . **S. Đokić, B. Gašpert, I. Lukić, Z. Mandić, B. Šimunić, M. Tomić i A. G. Maasböl** 271—280
- Kemija 1,3-dioksepana. II. Dehidrohalogeniranje 5,6-dihalogen-1,3-dioksepana s jakim bazama . . . **M. V. Proštenik, M. Dumić i I. Butula** 281—288

Biokemija

- Kristalna suspenzija govedeg cink des-Ala-B30-insulina sa produženom hipoglikemičkom aktivnošću . . . **B. Mulac-Jeričević, B. Vranešić, S. Kveder, B. Jamnický i D. Keglević** 289—294
- Sinteza in antivirusna aktivnost 2-substituiranih azino-3- β -*D*-ribofuranozil in α in β -*D*-arabinofuranozil-5-karbamoilmetilenzolidin-4-onov
 . . . **J. Kobe, B. Rusjakovski in B. Brdar** 295—304
- Imobilizacija alkoholne dehidrogenaze kvasca na slabobazičan anionski izmjenjivač . . . **D. Vasić-Rački** 305—311

*Prilog*Nekrolog
ErrataC1—C2
C3

CROATICA
CHEMICA ACTA

Croat. Chem. Acta Vol. 57 No. 2

187—312 C1—C4 (1984)

Zagreb, April 6, 1984

CONTENTS

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General and Theoretical Chemistry

- Geometry of Molecules. Part 7. Interatomic Distances, Bond Angles and Strain Energies in some Rotenes and Related Spirocompounds by the IMO Method
 . . . **K. Kovačević, Z. B. Maksić, and A. Moguš-Milanković** 187—200
- Investigations Electrochimiques des Systèmes Rédox: Fe³⁺, Fe(III)-Complexes, Cu²⁺, Cu(II)-Complexes — *meta*-Bisulfite de Sodium, Initiateurs de Polymérisation de l'Acrylamide en Milieu Aqueux
 . . . **M. Cvetkovska, T. Grčev, and G. Petrov** 201—218
- Solid-liquid Separation after Liquid-liquid Extraction: Spectrophotometric Determination of Cobalt by Extraction of its 2-Methoxyethyl Xanthate in Molten Naphthalene
 . . . **M. F. Hussain, R. K. Bansal, and B. K. Puri** 219—227
- Infrared and Raman Studies of Carbonyl Group Frequencies of *p*-Substituted Benzoic Acids in the Crystalline State
 . . . **T. M. Krygowski, T. Wieckowski, and A. Sokolowska** 229—233
- Elucidation of the Structure of Some Potential Antidiabetic Pyrazolin-5-ones Using Polarographic Technique **R. Jain** 235—241
- Extraction and Spectrophotometric Determination of Cerium(IV) with *N-p*-Chlorophenylcinnamohydroxamic Acid
 . . . **B. S. Chandravanshi and V. K. Gupta** 243—249

Chemical Synthesis

- The Synthesis and Angiotensin Converting Enzyme Inhibitory Activities of *N*-[(3-Substituted)aminocarbonyl]propanoyl-*L*-prolines
 . . . **V. Šunjić, Š. Šimaga, and Lj. Vitale** 251—264
- Ferrocene Compounds. XII. Reactions of Ferrocenecarbaldehyde with Benzanilides and *n*-Butyllithium **V. Rapić and I. Habuš** 265—269
- N*-4-Chlorobutyryl Aminoacids as a Common Intermediate in the Synthesis of *N*-Alkylamides of 2-Oxo-Pyrrolidine and *L*-Aspartyl-*L*-Phenylalanine Esters . . . **S. Djokić, B. Gašpert, I. Lukić, Z. Mandić, B. Šimunić, M. Tomić, and A. G. Maasböl** 271—280
- Chemistry of 1,3-Dioxepins. II. Dehydrohalogenation of 5,6-Dihalogen-1,3-Dioxepanes with Strong Bases
 . . . **M. V. Proštenik, M. Dumić, and I. Butula** 281—288

Biochemistry

- Crystalline Suspension of Bovine Zinc Des-AlaB30-Insulin with Prolonged Hypoglycaemic Activity . . . **B. Mulac-Jeričević, B. Vranešić, S. Kveder, B. Jamnický, and D. Keglević** 289—294
- The Synthesis and Antiviral Activities of 2-Substituted Azino-3-β-D-ribofuranosyl and α and β-D-arabinofuranosyl-5-carbamoylmethylene-thiazolidine-4-ones **J. Kobe, B. Rusjakovski, and B. Brđar** 295—304
- Immobilization of Yeast Alcohol Dehydrogenase on Weakly Basic Anion Exchange Resin Beads **D. Vasić-Rački** 305—311

*Appendix*Obituary
ErrataC1—C2
C3