

N. Stubičar and
J. J. Petres

Micelle Formation by Tritons in
Aqueous Solutions

The critical micellar concentrations and the mass-average micellar molecular masses of non-ionic surfactants, i. e. the members of the homologous series of *t*-octyl-phenoxy-polyethoxy-ethanols: Triton X-114, Triton X-100, Triton X-305, Triton X-405, and Triton X-705 have been determined by means of light scattering and other methods at 298 K.

255—266

V. B. Rana,
I. Singh, and
M. P. Teotia

Five and Six Coordinated Complexes
of Di and Trivalent Iron with Ligands
Derived from Acidhydrazides and
Acetylacetone

The complexes were isolated and analysed by classical analytical, conductance, magnetic, Mössbauer, electronic and infrared spectral studies.

267—275

T. Kazmierczak,
E. Schuttringer,
B. Tomažić, and
G. H. Nancollas

Controlled Composition Studies of
Calcium Carbonate and Sulfate Crystal
Growth

A highly reproducible seeded crystal growth method is described for the study of calcium carbonate and sulfate crystallization reactions in which the solution composition is maintained constant by the potentiometrically controlled addition of reagents.

277—287

D. Srzić

Mass Spectral Fragmentation Study of
Substituted 1,3-Diphenyl-2-pyrazolines.
II.

The fragmentation was found to be in accord with that of 1,3-diphenyl-2-pyrazoline having some characteristic features owing to hydrogen migration and skeletal rearrangements.

289—293

**M. Randić,
B. Ruščić, and
N. Trinajstić**

**Herndon's Structure-Resonance Theory.
On the Valence Structure Count for
Conjugated Radical Cations**

A novel enumeration method is proposed and applied to a number of conjugated systems of up to 14 carbon atoms.

295—308

**T. Živković,
N. Trinajstić, and
M. Randić**

**On Additivity of Heats of Atomization
of Benzenoid Hydrocarbons**

An additivity scheme, based on Clar's formulae, is proposed for calculating heats of atomisation of benzenoid hydrocarbons. Comparison between the results obtained by this scheme, by the semiempirical SCF MO model, and experimental findings is good.

309—320

**D. Kasum,
N. Trinajstić, and
I. Gutman**

**Chemical Graph Theory. III. On the
Permanental Polynomial.**

The permanental polynomial of a graph is presented. The properties of the coefficients of the permanental polynomial as well as the connection between the characteristic and permanental polynomials are discussed.

321—328

**R. K. Agarwal, A.
K. Srivastava, and
T. N. Srivastava**

Thorium(IV) and Zirconium(IV) Complexes of Oxygen Donor Ligands, Part XI. Oxoziirconium(IV) Complexes of Hexamethyl Phosphoramide

A series of new complexes of the type $\text{ZrOX}_2(\text{HMPA})_n$ ($n = 2$ for $\text{X} = \text{NO}_3, \text{Cl}, \text{Br}, \text{I}, \text{BPh}_3, \text{NCS}$; $n = 6$ for $\text{X} = \text{ClO}_4$) are described. The coordination number of the zirconium was found to be 5 or 7 depending on the nature of anion X .

329—333

**A. Julg and
O. Julg**

An Unrestricted Hartree-Fock Self-consistent Hückel-like Procedure. Application to the Magnetic Properties of Radicals and Metallic Clusters

The Hückel method is extended to the UHF model. A calculation carried out on a tetrahedral cluster explains the origin of the strong magnetisation in elements located in the middle of the transition elements period. Examples of antiferro- and ferrimagnetic clusters are given.

335—349

D. Krilov and
J. N. Herak

Use of the Spin-Trapping Method for the Study of Stable Radicals Produced in Solid Dihydrothymine

ESR spin-trapping method has been used for the study of radiation-induced radicals in powdered dihydrothymine. Four approximately equal small proton couplings ($A_H' = 0.35$ mT), a larger proton coupling ($A_H = 0.195$ mT) and a nitrogen coupling ($A_N = 0.295$ mT) are attributed to the nitroxide radical formed by reaction of the spin trap with 6-dihydrothymyl radical upon dissolving of dihydrothymine.

351—354

V. Škarić and
J. Makarević

4-Amino- and 4-Hydroxycyclohexane-1,1-dicarboxylic Acid Peptides

4-Amino-, 4-oxo, and 4-hydroxy-cyclohexane-1,1-dicarboxylic acids have been inserted into di-and tri-peptides containing glycine, L-phenylalanine, L-cyclohexylalanine, and L-tyrosine.

355—366

M. Kovačević,
J. J. Herak, and
B. Gašpert

Formation of Isopenillie Acid Derivatives in the Reaction of Benzylpenicillin with Phosphorus Pentachloride

Treatment of benzylpenicillin ester with phosphorus pentachloride at 60 °C gives a mixture of benzylisopenillie acid ester and its disulphide.

367—374

G. Comisso,
A. Sega,
V. Šunjić, and
A. Lisini

Synthesis, Conformational Studies and Enantioselective Homogeneous Catalytic Hydrogenation with CRC-PHOS and Some Congeners

The complex salts [Rh(norbornadiene lactone of (1S,3R)-1-hydroxy-1-diphenylphosphinomethyl-2,2,3-trimethylcyclopentan-3-carboxylic acid] perchlorate and [Rh(norbornadiene (1R,3R)-1,2,2-trimethyl-1,3-bis-(diphenylphosphinoxymethyl)cyclopentane] perchlorate were isolated and their enantioselective ability tested on some model prochiral carboxylic acids. . .

375—395

M. Batušić,
I. Tabaković, and
S. Crljenak

Electrochemical Synthesis of Heterocyclic Compounds. X. Anodic Synthesis of *s*-Triazolo [3,4-a]pyridinium Salt Derivatives

A novel way of preparing *s*-triazolo [3,4-a]pyridinium salts by anodic oxidation of aryl hydrazones of 2-acetylpyridine, 2-benzoyl-pyridine and 2-formylpyridine is described. The products were obtained in high yield (79—91%) and purity. . .

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