

IUPAC
INTERNATIONAL UNION OF PURE AND APPLIED CHEMISTRY



COMPTES RENDUS 28th CONFERENCE

— PART B

MADRID
2—11 September 1975

PERGAMON PRESS

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COMPTES RENDUS

28th CONFERENCE

B. 28th IUPAC CONFERENCE

New IUPAC Publications from Pergamon

POLYMERIZATION OF HETEROCYCLES (Ring-Opening)

S. PENCZEK, *Polish Academy of Sciences, Centre of Molecular & Macromolecular Studies, Lodz, Poland*

Main lectures presented at the International Symposium on Polymerization of Heterocycles (Ring-Opening), Warsaw-Jablonna, Poland, 23-25 June 1975. The Symposium was jointly organized by the Centre of Molecular and Macromolecular Studies of the Polish Academy of Sciences in Lodz and by the Centre de Recherches sur les Macromolécules (C.R.M.) - C.N.R.S. - in Strasbourg.

Contents (partial): Ions and ion pairs. Their meaning and significance in organic reactions, M. SZWARC. Anionic polymerization of methylphenylspirobicyclosiloxanes, K.A. ANDRIANOV and A.B. ZACHERNYUK. Stereoselection and stereoselection in the ring-opening polymerization of epoxides and episulfides, P. SIGWALT. Mechanistic features of polymerization of N-carboxy- α -Aminoacid anhydrides - comparison with those of 1,2-Epoxides, T. TSURUTA. New developments in cationic and anionic aldehyde polymerization, P. KUBISA et al. Some aspects of the polymerization of 1,3-Dioxacycloalkanes, P.H. PLESCH. A new class of polyethers - Poly (1,4-Dichloro-2,3-Epoxybutane)s-Synthesis, mechanism and property aspects, E.J. VANDENBERG. No catalyst copolymerization by spontaneous initiation mechanism, T. SAEGUSA. New aspects of the nucleophilic opening of epoxide rings, N.S. ENIKOLOPIYAN. Polymerizability of lactams, J. SEBENDA. Cyclic oligomers in the cationic polymerization of heterocycles, E.J. GOETHALS.

Of interest to: Academic and industrial research workers in polymer chemistry.

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\$18.00 £10.00

126pp Approx

272 x 188mm

Spring 1977

Previously published in **PURE & APPLIED CHEMISTRY**, Vol 48 No 3, and supplied to subscribers as part of their subscription.

New IUPAC Publications from Pergamon

INTERNATIONAL THERMODYNAMIC TABLES OF THE FLUID STATE – CARBON DIOXIDE

S. ANGUS, B. ARMSTRONG and K.M. de REUCK, *IUPAC Thermodynamic Tables Project Centre, Imperial College of Science & Technology, London, SW7 2AY*

The Thermodynamic Tables Project was inaugurated in 1963 by the Commission on Thermodynamics and Thermochemistry of the Division of Physical Chemistry of the International Union of Pure and Applied Chemistry, with the object of compiling internationally agreed values of the equilibrium thermodynamic properties of liquids and gases of interest to both scientists and technologists. The range covered for each fluid is that for which there exist reliable experimental data, and the agreed values are issued as tables upon the basis of which users may produce equations suited to their own special requirements.

Contents: Symbols. Units and conversion factors. Experimental results. The equation of state. The IUPAC tables. Acknowledgements. Appendix: The calculation of thermodynamic properties from the complete equation of state. References. Properties on the saturation curve. Single-phase properties. Ideal gas properties. Zero-pressure properties. Critical region properties. Properties on the melting curve. Sublimation curve. Triple point properties.

Of interest to: Physical chemists and chemical engineers.

ISBN 0 08 020924 6
386pp

1976

\$50.00 £25.00

CAROTENOIDS – 4

Editor: **B.C.L. WEEDON**, CBE, FRS, *Vice-Chancellor, The University of Nottingham, University Park, Nottingham NG7 2RD*

Fourth International Symposium on Carotenoids, Berne, Switzerland, 25-29 August, 1975. The Fourth triennial meeting of what has come to be known as the "Carotenoid Club" was attended by some 150 persons drawn from 16 countries in continents.

Contents (partial): Carbon-13 NMR spectra of carotenoids, MOSS. Carotenoid-protein complexes, ZAGALSKY. Carotenoid glycosides, HANSPETER PFANDER. New structures, SYNNOVE LIAAEN-JENSEN. Some studies on the stereochemistry of carotenoids, SZABOLCS. Synthesis of carotenoids and related polyenes, WEEDON. The enol ether synthesis of polyenes, MAKIN. The technical syntheses of carotenoids, KIENZLE. The apocarotenoid system of sex hormones and prohormones in *Mucorales*, BULLOCK, JONES and WINSKILL. Xanthoxin and abscisic acids, BURDEN and TAYLOR.

Of interest to: Chemists, biochemists and biologists with a research interest in carotenoids. Those giving lecture courses on terpenes. Postgraduate research students in organic chemistry.

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148pp

272 x 188mm

\$30.00 £16.65

1977

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New IUPAC Publications from Pergamon

MACROMOLECULAR CHEMISTRY-10

XIVth Microsymposium on Macromolecules, Prague and IVth Discussion Conference on Macromolecules, Mariánské Lázně, Czechoslovakia, 1974

Editor: **B. SEDLACEK**, *Institute of Macromolecular Chemistry, Prague*

Contents (partial): Microsymposium XIV: **Crosslinking and Networks.** The structure and properties of molecular trees and networks, M. GORDON and S.B. ROSS-MURPHY. Structural interpretation of the mechanisms of polymer network formation, T.E. LIPATOVA. Elasticity and thermoelasticity of crosslinked polymer networks, M. SHEN. Crosslinked styrene-divinylbenzene network systems, R.H. WILEY. Tailor-made networks: synthesis and properties, P. REMPP *et al.* Theory of elasticity without entanglements, B.E. EICHINGER.

Of interest to: Graduate and research workers in organic chemistry.

ISBN 0 08 021006 6

\$35.00 £17.50

310pp

233 x 156mm

Previously published in **Pure & Applied Chemistry** Volume 43 Nos 1/2 and supplied to subscribers as part of their subscription.

MACROMOLECULAR CHEMISTRY 11 (Jerusalem 1975)

Editor: **H. EISENBERG**, *Head, Department of Polymer Research, The Weizmann Institute of Science, Rehovot, Israel*

This is a Symposium Volume containing the main lectures given at the International Symposium on Macromolecules, 13–18 July, 1975. Participation included 300 scientists from 21 different countries. This meeting has, once more, shown that Polymer Science is a vital and creative science and furthermore that it contributes to human welfare on a very broad front.

Contents (partial): Polymers and other composites, EIRICH. On present theories of the condensed polymer state, PECHHOLD, LISKA, GROSSMANN and HAGELE. Statistical mechanics of wormlike chains, YAMAKAWA. Spans of polymer chains, RUBIN, MAZUR and WEISS. Inference of Polymer adsorption from electrical double layer measurements, LYKLEMA. Mobility and conductivity of ions in and into polymer solids, BARKER, Jr. Structure and viscoelastic properties of ion-containing polymers in the solid state, EISENBERG. Graphite insertion compounds as chemical reagents in organic chemistry, KAGAN.

Of interest to: All people actively engaged (in academic, industrial and governmental research) in the fields of polymer research, polyelectrolytes, biologically active synthetic polymers, pollution abatement and waste control, fibers, synthetic membranes, etc.

ISBN 0 08 020975 0

\$35.00 £17.50

164pp

273 x 188mm

Previously published in **Pure & Applied Chemistry** Volume 46 Nos. 2–4 and supplied to subscribers as part of their subscription.

New IUPAC Publications from Pergamon

TABLES OF WAVENUMBERS FOR THE CALIBRATION OF INFRARED SPECTROMETERS (2nd edition)

Editor: A.R.H. COLE, *University of Western Australia*

In 1961 the IUPAC Commission on Molecular Structure and Spectroscopy produced a volume of calibration data for infrared spectrometers which covered the region 4300 cm^{-1} to 600 cm^{-1} . Now the collection has been fully revised, making the best use of new high resolution results, and extending the coverage down to the very far infrared region. As before, the material has been organised in two parts - Part I for the high resolution spectrometers used by physicists and physical chemists, and Part II for the smaller commercial instruments employed by organic and inorganic chemists. The new tables have been approved as standards by the Inter-Union Commission on Spectroscopy of ICSU, on which the International Unions of Astronomy, Chemistry and Physics are represented. Apart from the use of the tables in instrument calibration, the accompanying spectral diagrams will be invaluable to university lectures giving courses in molecular spectroscopy.

Contents: Tables for the Calibration of High to Medium Resolution Spectrometers. Tables for the Calibration of Medium to Low Resolution Spectrometers.

Appendices: i) Calibration program, ii) Refractive index of air. **References.** **Author Index.** **Compound Index.**

Of interest to: Spectroscopists, physical chemists, physicists, inorganic and organic chemists, in research and industry.

ISBN 0 08 021247 6 \$22.50 £12.50 Approx.
220pp 248 x 170mm 1976

HELIUM – INTERNATIONAL THERMODYNAMIC TABLES OF THE FLUID STATE – 4

S. ANGUS and K. M. de REUK, *IUPAC Thermodynamic Projects Centre, Imperial College of Science & Technology, London SW7 2AY*, on the basis of tables and equations published by R. D. McCARTY, National Bureau of Standard Cryogenics Research Division, Boulder, USA

The Thermodynamic Tables Project was inaugurated in 1963 by the Commission on Thermodynamics and Thermochemistry of the Division of Physical Chemistry of the International Union of Pure and Applied Chemistry with the object of compiling internationally agreed values of the equilibrium thermodynamic properties of liquids and gases of interest to both scientists and technologists. The range covered for each fluid is that for which there exists reliable experimental data, and the agreed values are issued as tables upon the basis of which users may produce equations suited to their own special requirements.

Contents: Introduction. Symbols. Units and conversion factors. Experimental results. The equation of state. The IUPAC tables. Ideal gas properties. Zero-pressure properties. Single-phase properties on the saturation curve. Properties on the melting curve from the $(\alpha - \gamma - I)$ triple point to the $(\alpha - \beta - I)$ triple point. Properties on the lambda curve.

Of interest to: Physical chemists and chemical engineers.

ISBN 0 08 020957 2 \$35.00 £17.50 approx
220pp Approx 250 x 176mm 15 figs Spring 1977

New IUPAC Publications from Pergamon

CHEMICAL THERMODYNAMICS – 4

Editors: **J. ROUQUEROL** and **R. SABBAH**, *C.N.R.S., Centre de Recherches de Microcalorimetrie et de Thermochimie, 26 rue du 141e R.I.A., 13003 Marseille, France.*

Plenary lectures presented at the 4th International Conference on Chemical Thermodynamics, Montpellier, France 26-30 August 1975. Sponsored by IUPAC with the participation of the Societe Chimique de France, the Societe Francaise de Chimie Physique and the Societe Francaise des Thermiciens. The Fourth Conference was held in France, in Montpellier, at the Universite des Sciences et Techniques du Languedoc. Ten plenary lectures and more than 200 lectures were given by eminent scientists.

Contents: The lectures and plenary lectures were grouped according to the following eight themes: Thermochemistry. Thermophysics (heat capacity). High temperature thermodynamics. High pressure thermodynamics. Thermodynamics of systems of biochemical interest. Thermodynamics of fluid mixtures. Thermodynamics of surfaces. Recent progress in experimental techniques and apparatus in chemical thermodynamics. For each of the eight selected themes a lecturer was specially requested to review the subject and suggest possible lines of research. Some of the titles presented were: Recent problems and strategies in thermochemistry, VANDERZEE. Heat capacities in critical regions, GRONVOLD. Measurement and applications of high temperature metallurgical thermodynamic data, SPENCER. High pressure thermodynamics of mixtures, SCHNEIDER. Thermodynamic investigations of biological molecules, PRIVALOV. Effects of molecular size and shape in solution thermodynamics, PATTERSON. A few aspects of the recent developments of the thermodynamics of interfaces, ROUQUEROL. Recent developments in experimental methods for heat capacity measurements, TAKAHASHI.

Of interest to: Scientists (including beginners) in chemical thermodynamics and, in particular, those interested in the eight themes selected for the 4th I.C.C.T.

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272 x 188mm

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*Unless he is also an Official Delegate from a National Adhering Organi-
zation, a Bureau Member is not entitled to vote at a meeting of Council. A
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