

JOURNAL
OF
THE CHEMICAL SOCIETY

PERKIN TRANSACTIONS II
Physical Organic Chemistry

CONTENTS

	PAGE
Linear free energy relationships in the thiophen series. Part I. Leaving group effect in piperidino-substitution in methanol of some 2-L-3-nitro-5-X-thiophens By DOMENICO SPINELLI and GIOVANNI CONSIGLIO	989
Crystal structure of 2 α ,3 α -epithio-5 α -androst-6-en-17 β -yl β -bromobenzoate By KAZUKO UTSUMI-ODA and HIROZO KOYAMA	993
Conformational studies of 2,3-diacetyl-5-nitrocyclopentadienes: delocalized systems with very short intramolecular O ··· H ··· O hydrogen bonds. Crystal and molecular structures of 2,3-diacetyl- and 2,3-dibenzoyl-5-nitrocyclopentadiene By GEORGE FERGUSON, WAYNE C. MARSH, RODERIC J. RESTIVO, and DOUGLAS LLOYD	998
Stereoselectivity and stereospecificity in electron deficient diene cycloadditions with norbornadiene and 7-t-butoxynorbornadiene: results and MINDO/2 theoretical study By K. BRIAN ASTIN and KENNETH MACKENZIE	1004
Aminolysis and base-catalysed hydrolysis of aryl phenylphosphonamides and amidothionates: reactions close to the E1cB-bimolecular nucleophilic mechanistic borderline By ANDREW WILLIAMS, KENNETH T. DOUGLAS, and JOHN S. LORAN	1010
On the theory of structure-reactivity relationships By MARTIN GODFREY	1016
Crystal and molecular structure of silver sulphadiazine (N^1 -pyrimidin-2-ylsulphanilamide) By DAVID S. COOK and MICHAEL F. TURNER	1021
The nature of the transition state in ester pyrolysis. Part II. The relative rates of pyrolysis of ethyl, isopropyl, and t-butyl acetates, phenylacetates, benzoates, phenyl carbonates, and N -phenylcarbamates By ROGER TAYLOR	1025
Structural investigations of ylides. Part VI. Crystal and molecular structures of two resonance-stabilized Wittig reagents 2-carboxy-1-methoxycarbonylethyltriphenylphosphorane and its t-butyl ester By A. FORBES CAMERON, FERGUS D. DUNCANSON, ANDREW A. FREER, VICTOR W. ARMSTRONG, and ROBERT RAMAGE	1030
Iodine atom-catalysed isomerisation of substituted <i>cis,trans</i> -1,4-diphenylbutadienes By ANTON J. G. VAN ROSSUM, ANTON H. M. DE BRUIN, and RUTGER J. F. NIVARD	1036
Iodine atom-catalysed isomerisations of <i>cis,trans,trans</i> - and <i>trans,cis,trans</i> -1,6-diphenylhexa-1,3,5-trienes and of <i>trans,cis,trans,trans</i> -1,8-diphenylocta-1,3,5,7-tetraene By ANTON J. G. VAN ROSSUM and RUTGER J. F. NIVARD	1042
Sequential displacement of chloride in N -aryl- and N -aryl-carbonimidoyl dichlorides By ANTHONY F. HEGARTY and KIERAN J. DIGNAM	1046

Carbene chemistry. Part VIII. The thermal decomposition of trichloromethyltrifluorosilane: a kinetic investigation By FREDERICK ANDERSON, J. MICHAEL BIRCHALL, ROBERT N. HASZELDINE, and BRIAN J. TYLER	1051
Intramolecular alkylation of phenols. Part I. Mechanism of phenoxide cyclisation By PATRICK G. DUGGAN and WILLIAM S. MURPHY	1054
The acid-base function in non-aqueous solution. Part V. Entropy changes due to intramolecular and solvation effects in aprotic solvents By DAYARAM M. PARBHOO, DEENADAYALAN K. CHETTY, and JOHN W. BAYLES	1057
Crystal and molecular structure of <i>trans</i> -4-aminocrotonic acid By GRAHAM P. JONES and PETER J. PAULING	1059
Kinetic comparison of the relative susceptibility to steric hindrance of an intra- and an inter-molecular cleavage of the ester bond in a series of 2- and 4-carbamoylphenyl esters of 2,4,6-trialkylated benzoic acids By PETER L. RUSSELL and RICHARD M. TOPPING	1062
3-Methyl-5-phenylpyrazole: a neutron diffraction study By FRANK H. MOORE, ALLAN H. WHITE, and ANTHONY C. WILLIS	1068
Crystal structure of the 1 : 1 molecular complex of chrysene and tetrafluoro- <i>p</i> -benzoquinone (fluoranil) By PETER J. MUNNOCH and JOHN D. WRIGHT	1071
Stereochemistry of anticholinergic agents. Part VII. Crystal and molecular structure of 3-(2-methyl-piperidino)-1-phenylpropyl phenyl ether methiodide By JOHN J. GUY and THOMAS A. HAMOR	1074
Heterocyclic free radicals. Part V. An electron spin resonance investigation of the cation-radicals of 10-phenylphenoxyazine and 10-phenylphenothiazine By DAVID CLARKE, BRUCE C. GILBERT, and PETER HANSON	1078
Investigations of structure and conformation. Part V. Conformational interconversion and ring shape in five- and six-membered alicyclic radicals By BRUCE C. GILBERT and MICHAEL TRENWITH	1083
Mechanistic studies in strongly basic media. Part VIII. Kinetic studies on the displacement of halide from benzyl halides by alkali-metal salts of 9-substituted fluorenes in t-butyl alcohol solution By DONALD BETHELL, COLIN S. FAIRCLOUGH, and RODNEY G. WILKINSON	1090
Vibrational M-O bands of acetylacetone-metal complexes By SHRAGA PINCHAS and JACOB SHAMIR	1098
A nuclear magnetic resonance study of the conformational equilibrium in fluorosulphonylethanes By GIUSEPPE MARCHESE, FRANCESCO NASO, DOMENICO SANTO, and ORONZO SCIACOVELLI	1100
Crystal structure of the reversed carboxy-analogue of acetylcholine [methyl 3-(dimethylamino)propionate methiodide] By PETER J. CLARKE and PETER J. PAULING	1107
Quantitative aspects of Lewis acidity. Part XIV. Comparison of the acidity of tin tetrachloride, tellurium tetrachloride, and zirconium tetrabromide towards substituted anilines in dioxan By KRISHNA BUKKA and ROSEMARY S. SATCHELL	1110
General acid catalysed hydrolysis of benzaldehyde aryl methyl acetals By BRIAN CAPON and KEITH NIMMO	1113
Mechanisms of ring opening of oxirans by acids in aqueous and non-aqueous solvents By GÉRARD LAMATY, ROBERT MALEQ, CLAUDE SELVE, ANDRÉ SIVADE, and JAMES WYLDE	1119
Crystal structures and absolute stereochemistry of tecomanine methoperchlorate and 'alkaloid C' methiodide: two monoterpane alkaloids from <i>Tecoma stans</i> By GEORGE FERGUSON and WAYNE C. MARSH	1124

INDEX OF AUTHORS' NAMES

- ANDERSON, F., Birchall, J. M., Haszeldine, R. N., and Tyler, B. J., 1051
Armstrong, V. W. See Cameron, A. F., 1030
Astin, K. B., and Mackenzie, K., 1004
Bayles, J. W. See Parbhoo, D. M., 1057
Bethell, D., Fairclough, C. S., and Wilkinson, R. G., 1090
Birchall, J. M. See Anderson, F., 1051
Bukka, K., and Satchell, R. S., 1110
Cameron, A. F., Duncanson, F. D., Freer, A. A., Armstrong, V. W., and Ramage, R., 1030
Capon, B., and Nimmo, K., 1113
Chetty, D. K. See Parbhoo, D. M., 1057
Clarke, D., Gilbert, B. C., and Hanson, P., 1078
Clarke, P. J., and Pauling, P. J., 1107
Consiglio, G. See Spinelli, D., 989
Cook, D. S., and Turner, M. F., 1021
de Bruin, A. H. M. See van Rossum, A. J. G., 1036
Dignam, K. J. See Hegarty, A. F., 1046
Douglas, K. T. See Williams, A., 1010
Duggan, P. G., and Murphy, W. S., 1054
Duncanson, F. D. See Cameron, A. F., 1030
Fairclough, C. S. See Bethell, D., 1090
Ferguson, G., and Marsh, W. C., 1124
Ferguson, G., Marsh, W. C., Restivo, R. J., and Lloyd, D., 998
Freer, A. A. See Cameron, A. F., 1030
Gilbert, B. C., and Trenwith, M., 1083
Gilbert, B. C. See also Clarke, D., 1078
Godfrey, M., 1016
Guy, J. J., and Hamor, T. A., 1074
Hamor, T. A. See Guy, J. J., 1074
Hanson, P. See Clarke, D., 1078
Haszeldine, R. N. See Anderson, F., 1051
Hegarty, A. F., and Dignam, K. J., 1046
Jones, G. P., and Pauling, P. J., 1059
Koyama, H. See Utsumi-Oda, K., 993
Lamaty, G., Maleq, R., Selve, C., Sivade, A., and Wylde, J., 1119
Lloyd, D. See Ferguson, G., 998
Loran, J. S. See Williams, A., 1010
Mackenzie, K. See Astin, K. B., 1004
Maleq, R. See Lamaty, G., 1119
Marchese, G., Naso, F., Santo, D., and Sciacovelli, O., 1100
Marsh, W. C. See Ferguson, G., 998, 1124
Moore, F. H., White, A. H., and Willis, A. C., 1068
Munnoch, P. J., and Wright, J. D., 1071
Murphy, W. S. See Duggan, P. G., 1054
Naso, F. See Marchese, G., 1100
Nimmo, K. See Capon, B., 1113
Nivard, R. J. F. See van Rossum, A. J. G., 1036, 1042
Parbhoo, D. M., Chetty, D. K., and Bayles, J. W., 1057
Pauling, P. J. See Clarke, P. J., 1107; and Jones, G. P., 1059
Pinchas, S., and Shamir, J., 1098
Ramage, R. See Cameron, A. F., 1030
Restivo, R. J. See Ferguson, G., 998
Russell, P. L., and Topping, R. M., 1062
Santo, D. See Marchese, G., 1100
Satchell, R. S. See Bukka, K., 1110
Sciacovelli, O. See Marchese, G., 1100
Selve, C. See Lamaty, G., 1119
Shamir, J. See Pinchas, S., 1098
Sivade, A. See Lamaty, G., 1119
Spinelli, D., and Consiglio, G., 989
Taylor, R., 1025
Topping, R. M. See Russell, P. L., 1062
Trenwith, M. See Gilbert, B. C., 1083
Turner, M. F. See Cook, D. S., 1021
Tyler, B. J. See Anderson, F., 1051
Utsumi-Oda, K., and Koyama, H., 993
van Rossum, A. J. G., and Nivard, R. J. F., 1042
van Rossum, A. J. G., de Bruin, A. H. M., and Nivard, R. J. F., 1036
White, A. H. See Moore, F. H., 1068
Wilkinson, R. G. See Bethell, D., 1090
Williams, A., Douglas, K. T., and Loran, J. S., 1010
Willis, A. C. See Moore, F. H., 1068
Wright, J. D. See Munnoch, P. J., 1071
Wylde, J. See Lamaty, G., 1119

* The author to whom correspondence should be addressed is indicated by an asterisk after his name in the heading of the Paper.

