

**JOURNAL
OF
THE CHEMICAL SOCIETY**

PERKIN TRANSACTIONS II
Physical Organic Chemistry

CONTENTS

	PAGE
The kinetics and mechanism of the acid-catalysed hydrolysis of <i>N</i> -vinylpyrrolidin-2-one By ERNEST SENOGLES and RODERICK A. THOMAS	825
The kinetics of the reactions of picryl chloride with some substituted anilines. Part 5 By THOMAS A. EMOKPAE, OSA EGUAVOEN, and JACK HIRST	829
The kinetics of the reactions of picryl chloride with some substituted anilines. Part 6. 4-Substituted and 3,4-disubstituted anilines By THOMAS A. EMOKPAE, OSA EGUAVOEN, KHALIL-UR-RAHMAN, and JACK HIRST	832
Kinetics of sulphodeacetylation of dimesityl ketone: a dual-path sequence of first-order reactions By JAMEEL A. FAROOQI, PETER H. GORE, ESMAT F. SAAD, DAVID N. WATERS, and GERALD F. MOXON	835
Photochemistry of α -aryl carboxylic anhydrides. Part 4. Photoreactions of some asymmetrical anhydrides derived from <i>o</i> - and <i>p</i> -methoxyphenylacetic acid, and of some of the phenylacetate ester photoproducts By ANTONIUS A. M. ROOF, HENDRIK F. VAN WOERDEN, and HANS CERFONTAIN	838
Retentive solvolysis. Part 12. Mechanism of the reaction of optically active 1-(<i>p</i> -methoxyphenyl)ethyl trifluoroacetate with phenol and methanol in benzene and cyclohexane By KUNIO OKAMOTO, KEN'ICHI TAKEUCHI, and TAKESHI INOUE	842
Molecular conformation and electronic structure of azomethines. Part 6. Electronic spectra of <i>N</i> -benzyl- idenemethylamines By DEMETRIO PITEA and GIORGIO FAVINI	849
The effect of hydroxylic solvents on the solvolysis of t-butyl chloride; calculation of the cavity terms By MICHAEL H. ABRAHAM, ASADOLLAH NASEHZADEH, JOAQUIM J. MOURA RAMOS, and JACQUES REISSE	854
Benzoquinones and related compounds. Part 2. Preferred conformations of some acyl-1,4-benzoquinones in solution By J. MALCOLM BRUCE, FRANK HEATLEY, RODERICK G. RYLES, and JAMES H. SCRIVENS	860
Competing acyl transfer and intramolecular O → N acyl group migration from an isolable <i>O</i> -acylisourea By ANTHONY F. HEGARTY, MARGARET T. McCORMACK, KIERAN BRADY, GEORGE FERGUSON, and PAUL J. ROBERTS	867
An electron spin resonance study of the addition of alkoxy and siloxyl radicals to pyrrolylphosphines By JEHAN A. BABAN and BRIAN P. ROBERTS	876
Formation and structure of 1,1-dialkoxyalkene radical cations in aqueous solution. An <i>in situ</i> electron spin resonance and pulse conductivity study By GÜNTER BEHRENS, EBERHARD BOTHE, GÜNTHER KOLTZENBURG, and DIETRICH SCHULTE-FROHLINDE	883
The rearrangement of 2-amino-1,3,4-thiadiazines to 3-amino-2-thiazolimines. Part 1. The rates of re- arrangement of a series of 5-alkyl- and 5-aryl-2-amino-1,3,4-thiadiazines at 30 and 50 °C By REGINALD E. BUSBY and TERENCE W. DOMINEY	890

	PAGE
On the mechanism of protonation of triamines By MAURIZIO DELFINI, ANNA LAURA SEGRE, FILIPPO CONTI, ROLANDO BARBUCCI, VINCENZO BARONE, and PAOLO FERRUTI	900
Aromatic sulphonation. Part 78. Behaviour of some α -chloro-substituted 9-methyl-, 9-ethyl-, 9-isopropyl-anthracenes, and of 1,4,9-trimethylanthracene in dioxan-sulphur trioxide complex in dioxan as sulphonating medium By FREEK VAN DE GRIENDT and HANS CERFONTAIN	904
Aromatic sulphonation. Part 79. Sulphonation of some (poly)methylanthracenes with dioxan-sulphur trioxide complex in dioxan By FREEK VAN DE GRIENDT, CORNELIS P. VISSER, and HANS CERFONTAIN	911
An infrared study of intramolecular hydrogen-bonding in the histamine H ₂ -receptor antagonists, burimamide, metiamide, cimetidine, and related compounds By ROBERT C. MITCHELL	915
Conformational analysis of apparicine using ¹ H nuclear magnetic relaxation: application of transient nuclear Overhauser enhancements By FRANK HEATLEY, LALARUKH AKHTER, and RICHARD T. BROWN	919
Reactions of oxygenated radicals in the gas phase. Part 7. Reactions of methylperoxyl radicals and alkenes By DAVID A. OSBORNE and DAVID J. WADDINGTON	925
The generation and electrophilic reactions of dimethyl sulphide cation radicals By YUAN L. CHOW and KIYOSHI IWAI	931
Thermodynamic analysis of proton dissociation equilibria of some 4-diethylaminoazobenzenes in 20 wt% aqueous methanol solution By ERNESTINA DUBINI-PAGLIA, BRUNO MARCANDALLI, LIVIA PELLICCIARI-DI LIDDO, CRISTINA LEONARDI, and IGNAZIO R. BELLOBONO	937
The photolysis of cyclopentadienyl compounds of tin and mercury. Electron spin resonance spectra and electronic configuration of the cyclopentadienyl, deuteriocyclopentadienyl, and alkylcyclopentadienyl radicals By PHILIP J. BARKER, ALWYN G. DAVIES, and MAN-WING TSE	941

INDEX OF AUTHORS' NAMES

- ABRAHAM, M. H., Nasehzadeh, A., Ramos, J. J. M., and Reisse, J., 854
Akhter, L. See Heatley, F., 919
Baban, J. A., and Roberts, B. P., 876
Barbucci, R. See Delfini, M., 900
Barker, P. J., Davies, A. G., and Tse, M-W., 941
Barone, V. See Delfini, M., 900
Behrens, G., Bothe, E., Koltzenburg, G., and Schulte-Frohlinde, D., 883
Bellobono, I. R. See Dubini-Paglia, E., 937
Bothe, E. See Behrens, G., 883
Brady, K. See Hegarty, A. F., 867
Brown, R. T. See Heatley, F., 919
Bruce, J. M., Heatley, F., Ryles, R. G., and Scrivens, J. H., 860
Busby, R. E., and Dominey, T. W., 890
Cerfontain, H. See van de Griendt, F., 904, 911; and Roof, A. A. M., 838
Chow, Y. L., and Iwai, K., 931
Conti, F. See Delfini, M., 900
Davies, A. G. See Barker, P. J., 941
Delfini, M., Segre, A. L., Conti, F., Barbucci, R., Barone, V., and Ferruti, P., 900
Dominey, T. W. See Busby, R. E., 890
Dubini-Paglia, E., Marcandalli, B., Pellicciari-Di Liddo, L., Leonardi, C., and Bellobono, I. R., 937
Eguavoen, O. See Emokpae, T. A., 829, 832
Emokpae, T. A., Eguavoen, O., and Hirst, J., 829
Emokpae, T. A., Eguavoen, O., Khalil-Ur-Rahman, and Hurst, J., 832
Farooqi, J. A., Gore, P. H., Saad, E. F., Waters, D. N., and Moxon, G. F., 835
Favini, G. See Pitea, D., 849
Ferguson, G. See Hegarty, A. F., 867
Ferruti, P. See Delfini, M., 900
Gore, P. H. See Farooqi, J. A., 835
Heatley, F., Akhter, L., and Brown, R. T., 919
Heatley, F. See also Bruce, J. M., 860
Hegarty, A. F., McCormack, M. T., Brady, K., Ferguson, G., and Roberts, P. J., 867
Hirst, J. See Emokpae, T. A., 829, 832
Inoue, T. See Okamoto, K., 842
Iwai, K. See Chow, Y. L., 931
Khalil-Ur Rahman. See Emokpae, T. A., 832
Koltzenburg, G. See Behrens, G., 883
Leonardi, C. See Dubini-Paglia, E., 937
McCormack, M. T. See Hegarty, A. F., 867
Marcandalli, B. See Dubini-Paglia, E., 937
Mitchell, R. C., 915
Moxon, G. F. See Farooqi, J. A., 835
Nasehzadeh, A. See Abraham, M. H., 854
Okamoto, K., Takeuchi, K., and Inoue, T., 842
Osborne, D. A., and Waddington, D. J., 925
Pellicciari-Di Liddo, L. See Dubini-Paglia, E., 937
Pitea, D., and Favini, G., 849
Ramos, J. J. M. See Abraham, M. H., 854
Reisse, J. See Abraham, M. H., 854
Roberts, B. P. See Baban, J. A., 876
Roberts, P. J. See Hegarty, A. F., 867
Roof, A. A. M., van Woerden, H. F., and Cerfontain, H., 838
Ryles, R. G. See Bruce, J. M., 860
Saad, E. F. See Farooqi, J. A., 835
Schulte-Frohlinde, D. See Behrens, G., 883
Scrivens, J. H. See Bruce, J. M., 860
Segre, A. L. See Delfini, M., 900
Senogles, E., and Thomas, R. A., 825
Takeuchi, K. See Okamoto, K., 842
Thomas, R. A. See Senogles, E., 825
Tse, M-W. See Barker, P. J., 941
van de Griendt, F., and Cerfontain, H., 904
van de Griendt, F., Visser, C. P., and Cerfontain, H., 911
van Woerden, H. F. See Roof, A. A. M., 838
Visser, C. P. See van de Griendt, F., 911
Waddington, D. J. See Osborne, D. A., 925
Waters, D. N. See Farooqi, J. A., 835

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

