

JOURNAL  
OF  
THE CHEMICAL SOCIETY

---

PERKIN TRANSACTIONS II  
Physical Organic Chemistry

CONTENTS

	PAGE
Coenzyme models. Part 29. On the unusual spectroscopic behaviour of 10-dodecyl-3-methylisoalloxazine (amphiphilic flavin analogue) in aqueous solution By SEIJI SHINKAI, AKIKO HARADA, YU-ICHI ISHIKAWA, OSAMU MANABE, and FUMIO YONEDA . . . . .	125
The mechanism of alkylation reactions. Part 1. The effect of substituents on the reaction of phenacyl bromide with pyridine in methanol By WILLIAM FORSTER and ROBERT M. LAIRD . . . . .	135
Free radical substitution. Part 34. The chlorination of 1- and 2-nitrobutanes in the gas and liquid phases By SAEED-Y-ATTO, ALAN POTTER, HARI SINGH, and JOHN M. TEDDER . . . . .	139
Free radical substitution. Part 35. A study of the effect of solvent on atomic chlorination of 1,1-dichloroethane By ALAN POTTER, JOHN M. TEDDER, and JOHN C. WALTON . . . . .	143
The micelle-catalysed hydrolysis of benzylpenicillin By NIGEL P. GENSMANTEL and MICHAEL I. PAGE . . . . .	147
The effect of increasing the hydrophobicity of penicillin on its micelle-catalysed hydrolysis By NIGEL P. GENSMANTEL and MICHAEL I. PAGE . . . . .	155
Cyanomethylation <i>versus</i> reductive saturation and hydrodimerisation during the electroreduction of $\alpha\beta$ -unsaturated nitriles in acetonitrile By ANTHONY J. BELLAMY, JOHN B. KERR, CHRISTOPHER J. MCGREGOR, and IAIN S. MACKIRDY . . . . .	161
Radical reactions of carbohydrates. Part 3. An electron spin resonance investigation of base-catalysed rearrangements of radicals derived from D-glucose and related compounds By BRUCE C. GILBERT, DAVID M. KING, and C. BARRY THOMAS . . . . .	169
Electrophilic aromatic substitution. Part 30. The effects of the <i>p</i> -bicyclo[2.2.2]octan-1-yl, adamantan-1-yl, <i>exo</i> - and <i>endo</i> -norbornan-2-yl, and neopentyl substituents in detritiation. Steric acceleration of hyperconjugation By WILLIAM J. ARCHER, MORTEZA A. HOSSAINI, and ROGER TAYLOR . . . . .	181
Electrophilic aromatic reactivities <i>via</i> pyrolysis of esters. Part 20. The electronic effect of large alkyl groups in the gas phase By MORTEZA A. HOSSAINI and ROGER TAYLOR . . . . .	187
Probable absence of lattice control of <i>cis-trans</i> -isomerization in 2-ethoxy- <i>cis</i> -cinnamic acid By ROBERT F. BRYAN and PAUL HARTLEY . . . . .	191
Infrared investigation of hydrogen bonding and proton transfer of some pyridine trifluoroacetates in benzene By ZOFIA DEGA-SZAFRAN and MIROSLAW SZAFRAN . . . . .	195
Acid and base catalysis of the mutarotation of D-arabinose oxime By PAUL FINCH and ZOHAR M. MERCHANT . . . . .	199

	PAGE
The reaction of 1-substituted 3,4-dimethyl- $\Delta^3$ -phospholens with diethyl peroxide: a correlation between rate and $^{31}\text{P}$ nuclear magnetic resonance shift By PHILIP J. HAMMOND, GRAHAM SCOTT, and C. DENNIS HALL . . . . .	205
The Brønsted relationship, hydroxide solvent isotope effects, and isotope exchange in <i>E1cB</i> elimination of 9-(dimethylaminomethyl)fluorene By RICHARD P. KELLY, RORY A. MORE O'FERRALL, and MYLES O'BRIEN . . . . .	211
Structure and isotope effects upon the thermal decomposition of carbamates of highly congested tertiary alcohols By JOHN S. LOMAS and MELANIE P. THORNE . . . . .	221
A kinetic investigation of the thionitrite from ( $\pm$ )-2-acetylamino-2-carboxy-1,1-dimethylethanethiol as a possible nitrosating agent By SHARIFA S. AL-KAABI, D. LYN H. WILLIAMS, RAYMOND BONNETT, and SUAN L. OOI . . . . .	227
The stabilities of Meisenheimer complexes. Part 29. The reactions of 2,4,6-trinitrotoluene and 2,4,6-trinitrobenzyl chloride with aliphatic amines in dimethyl sulphoxide By DAVID N. BROOKE and MICHAEL R. CRAMPTON . . . . .	231
The molecular conformation of cyclotri- $\beta$ -alanyl By DAVID N. J. WHITE, CHRISTOPHER MORROW, PHILLIP J. COX, CHARLES N. C. DREY, and JOHN LOWBRIDGE	239
Conformation of the sesquiterpenoid zerumbone: X-ray crystallographic analysis of zerumbone 2,4-dinitrophenylhydrazone By MARIE A. RUSSELL, GEORGE A. SIM, and DAVID N. J. WHITE . . . . .	245

## INDEX OF AUTHORS' NAMES

- AL-KAABI, S. S., Williams, D. L. H., Bonnett, R., and Ooi, S. L., 227
- Archer, W. J., Hossaini, M. A., and Taylor, R., 181
- Atto, S., Potter, A., Singh, H., and Tedder, J. M., 139
- Bellamy, A. J., Kerr, J. B., McGregor, C. J., and MacKirdy, I. S., 161
- Bonnett, R. See Al-Kaabi, S. S., 227
- Brooke, D. N., and Crampton, M. R., 231
- Bryan, R. F., and Hartley, P., 191
- Cox, P. J. See White, D. N. J., 239
- Crampton, M. R. See Brooke, D. N., 231
- Dega-Szafran, Z., and Szafran, M., 195
- Drey, C. N. C. See White, D. N. J., 239
- Finch, P., and Merchant, Z. M., 199
- Forster, W., and Laird, R. M., 135
- Gensmantel, N. P., and Page, M. I., 147, 155
- Gilbert, B. C., King, D. M., and Thomas, C. B., 169
- Hall, C. D. See Hammond, P. J., 205
- Hammond, P. J., Scott, G., and Hall, C. D., 205
- Harada, A. See Shinkai, S., 125
- Hartley, P. See Bryan, R. F., 191
- Hossaini, M. A., and Taylor, R., 187. See also Archer, W. J., 181
- Ishikawa, Y. See Shinkai, S., 125
- Kelly, R. P., O'Ferrall, R. A. M., and O'Brien, M., 211
- Kerr, J. B. See Bellamy, A. J., 161
- King, D. M. See Gilbert, B. C., 169
- Laird, R. M. See Forster, W., 135
- Lomas, J. S., and Thorne, M. P., 221
- Lowbridge, J. See White, D. N. J., 239
- MacKirdy, I. S. See Bellamy, A. J., 161
- Manabe, O. See Shinkai, S., 125
- McGregor, C. J. See Bellamy, A. J., 161
- Merchant, Z. M. See Finch, P., 199
- Morrow, C. See White, D. N. J., 239
- O'Brien, M. See Kelly, R. P., 211
- O'Ferrall, R. A. M. See Kelly, R. P., 211
- Ooi, S. L. See Al-Kaabi, S. S., 227
- Page, M. I. See Gensmantel, N. P., 147, 155
- Potter, A., Tedder, J. M., and Walton, J. C., 143
- Potter, A. See Atto, S., 139
- Russell, M. A., Sim, G. A., and White, D. N. J., 245
- Scott, G. See Hammond, P. J., 205
- Shinkai, S., Harada, A., Ishikawa, Y., Manabe, O., and Yoneda, F., 125
- Sim, G. A. See Russell, M. A., 245
- Singh, H. See Atto, S., 139
- Szafran, M. See Dega-Szafran, Z., 195
- Taylor, R. See Archer, W. J., 181; and Hossaini, M. A., 187
- Tedder, J. M. See Atto, S., 139; and Potter, A., 143
- Thomas, C. B. See Gilbert, B. C., 169
- Thorne, M. P. See Lomas, J. S., 221
- Walton, J. C. See Potter, A., 143
- White, D. N. J., Morrow, C., Cox, P. J., Drey, C. N. C., and Lowbridge, J., 239. See also Russell, M. A., 245
- Williams, D. L. H. See Al-Kaabi, S. S., 227
- Yoneda, F. See Shinkai, S., 125

---

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

