

JOURNAL
OF
THE CHEMICAL SOCIETY

PERKIN TRANSACTIONS II
Physical Organic Chemistry

CONTENTS

	PAGE
<i>X</i> -Ray crystal structure of 1,3,6,8-tetraoxacyclodecane By IVARO W. BASSI, RAIMONDO SCORDAMAGLIA, and LEONARDO FIORE	1129
Reactions of amines and active methylene compounds with buta-1,3-diene and isoprene: catalysis by nickel, cobalt, rhodium, and iridium complexes By RAYMOND BAKER, ALAN ONIONS, ROGER J. POPPLESTONE, and TREVOR N. SMITH	1133
The reactivity of <i>O</i> -acylglycosyl halides. Part XII. Solvent effects on exchange and hydrolysis reactions By MICHAEL J. DUFFY, GEOFFREY PASS, GLYN O. PHILLIPS, and ABDUL SAMEE	1138
Crystal and molecular structure of the 1 : 2 complex of methyltriphenylphosphonium with $\alpha\alpha'\alpha'$ -tetracyano-3,7-naphthoquinodimethane, $(\text{Ph}_3\text{PMe})^+[(\text{tnap})_2]^-$ By F. SANZ and J. J. DALY	1141
Crystal and molecular structure of the 2 : 3 complex of <i>N</i> -methylphenazinium with $\alpha\alpha'\alpha'$ -tetracyanoquinodimethane, $[(\text{nmp})_2]^2+[(\text{tcnq})_3]^{2-}$ By F. SANZ and J. J. DALY	1146
The kinetics and mechanisms of additions to olefinic substances. Part XII. Kinetics of addition initiated by chlorine acetate By PETER B. D. DE LA MARE, CHARMIAN J. O'CONNOR, and MICHAEL A. WILSON	1150
Raman spectral investigation of the interactions between Group II cations and ethylene glycol in aqueous solutions By ROBERT M. WILLIAMS and RAJAI H. ATALLA	1155
Reaction of aromatic amides with phenyl iodosylacetate: an oxidative rearrangement By K. SWAMINATHAN and N. VENKATASUBRAMANIAN	1161
The reactivity of phenyl isocyanate in aqueous solution By ANTHONY F. HEGARTY, CON N. HEGARTY, and FRANCIS L. SCOTT	1166
An <i>X</i> -ray study of the <i>p</i> - <i>n</i> -alkoxybenzoic acids. Part III. Crystal structure of <i>p</i> -ethoxybenzoic acid By ROBERT F. BRYAN and JACQUELINE J. JENKINS	1171
An <i>X</i> -ray study of the <i>p</i> - <i>n</i> -alkoxybenzoic acids. Part IV. Crystal structure of <i>p</i> - <i>n</i> -butoxybenzoic acid By ROBERT F. BRYAN and LAWRENCE FALLON, III	1175
Crystal structure and conformation of 17 α -ethynyl-17 β -hydroxy-6,6-dimethyl-6-sila-5 α -estr-1(10)-en-3-one By ANDREW T. MCPHAIL and RICHARD W. MILLER	1180
Reduction of nitro- and nitroso-compounds by trivalent phosphorus reagents. Part XI. A kinetic study of the effects of varying the reagent and the nitro-compound in the conversion of <i>o</i> -nitrobenzylideneamines to 2-substituted indazoles By MARGARET-ANN ARMOUR, J. I. G. CADOGAN, and DAVID S. B. GRACE	1185
Electron spin resonance study of the stereochemistry of radicals related to cinnamic acid By WILLIAM T. DIXON, MAJID MOGHIMI, and DAVID MURPHY	1189

	PAGE
The conformational analysis of saturated heterocycles. Part LXX. Nitrogen inversions in 1,3,4-oxadiazolidines	
By VICTOR J. BAKER, ALAN R. KATRITZKY, and JEAN-PIERRE MAJORAL	1191
Gas-phase eliminations. Part XIV. The pyrolysis of 1-(1-chloroethyl)-2-methylbenzene	
By ALLAN MACCOLL and (Mrs) MIRTHA UMAÑA	1194
Substitution effects in kinetically controlled reactions	
By PETER LUBY	1196
Tetrazole studies. Part III. Crystal structure of 5-[(3-chlorobenzyl)dimethylammonio]tetrazolide	
By GERALD B. ANSELL	1200
Acid catalysed hydrolysis of <i>N</i> -alkyl-4-chlorobenzamides. Part II	
By C. JANET GIFFNEY (<i>née</i> HYLAND) and CHARMIAN J. O'CONNOR	1203
Spectrophotometric determination of basicity constants. Part III. Phenylureas	
By C. JANET GIFFNEY (<i>née</i> HYLAND) and CHARMIAN J. O'CONNOR	1206
The mechanism of diazo-coupling to indoles and the effect of steric hindrance on the rate-limiting step	
By BRIAN C. CHALLIS and HENRY S. RZEPA	1209
Solvent dependence of the primary deuterium kinetic isotope effect in the sodium hydroxide-catalysed <i>E2</i> elimination of hydrogen bromide from <i>p</i> -acetyl- and <i>p</i> -nitro-phenethyl bromide	
By LEONARD F. BLACKWELL and JOHN L. WOODHEAD	1218
Reactivities of polystyrene and polypropylene toward <i>t</i> -butoxyl radical. Effects of molecular weight, solvent, and temperature	
By ETSUO NIKI and YOSHIO KAMIYA	1221
Non-empirical calculations of the nature of the bonding in thiophen, thiophen <i>S</i> -oxide, and thiophen <i>SS</i> -dioxide	
By MICHAEL H. PALMER and ROBERT H. FINDLAY	1223
The acidities of weak acids. Part III. Some 3-benzoyl-1,1,1-trifluoroacetones	
By JOHN R. JONES and SURYAKANT P. PATEL	1231
Magnetic double resonance studies of tin-119 chemical shifts in compounds with tin-sulphur bonds and related species	
By JOHN D. KENNEDY, WILLIAM MCFARLANE, GEOFFREY S. PYNE, PETER L. CLARKE, and JAMES L. WARDELL	1234
Chiroptical properties of lactones. Part I. Rotatory strengths of electronic transitions in substituted and unsubstituted 1,4-dioxan-2,5-diones (dilactones)	
By FREDERICK S. RICHARDSON and NEAL COX	1240
Electron spin resonance studies. Part XLVII. Sulphinyl- and sulphonyl-substituted aliphatic radicals	
By PAUL M. CARTON, BRUCE C. GILBERT, HUGH A. H. LAUE, RICHARD O. C. NORMAN, and ROGER C. SEALY	1245
Chlorine-35 nuclear quadrupole resonance spectra of chlorodiazines	
By CHRISTOPHER J. TURNER	1250

INDEX OF AUTHORS' NAMES

- ANSELL, G. B., 1200
Armour, M-A., Cadogan, J. I. G., and Grace, D. S. B., 1185
Atalla, R. H. See Williams, R. M., 1155
Baker, V. J., Katritzky, A. R., and Majoral, J-P., 1191
Baker, R., Onions, A., Popplestone, R. J., and Smith, T. N., 1133
Bassi, I. W., Scordamaglia, R., and Fiore, L., 1129
Blackwell, L. F., and Woodhead, J. L., 1218
Bryan, R. F., and Fallon, L., III, 1175
Bryan, R. F., and Jenkins, J. J., 1171
Cadogan, J. I. G. See Armour, M-A., 1185
Carton, P. M., Gilbert, B. C., Laue, H. A. H., Norman, R. O. C., and Sealy, R. C., 1245
Challis, B. C., and Rzepa, H. S., 1209
Clarke, P. L. See Kennedy, J. D., 1234
Cox, N. See Richardson, F. S., 1240
Daly, J. J. See Sanz, F., 1141, 1146
de la Mare, P. B. D., O'Connor, C. J., and Wilson, M. A., 1150
Dixon, W. T., Moghimi, M., and Murphy, D., 1189
Duffy, M. J., Pass, G., Phillips, G. O., and Samee, A., 1138
Fallon, L., III. See Bryan, R. F., 1175
Findlay, R. H. See Palmer, M. H., 1223
Fiore, L. F. See Bassi, I. W., 1129
Giffney, C. J., and O'Connor, C. J., 1203, 1206
Gilbert, B. C. See Carton, P. M., 1245
Grace, D. S. B. See Armour, M-A., 1185
Hegarty, A. F., Hegarty, C. N., and Scott, F. L., 1166
Hegarty, C. N. See Hegarty, A. F., 1166
Jenkins, J. J. See Bryan, R. F., 1171
Jones, J. R., and Patel, S. P., 1231
Kamiya, Y. See Niki, E., 1221
Katritzky, A. R. See Baker, V. J., 1191
Kennedy, J. D., McFarlane, W., Pyne, G. S., Clarke, P. L., and Wardell, J. L., 1234
Laue, H. A. H. See Carton, P. M., 1245
Luby, P., 1196
Maccoll, A., and Umaña, M., 1194
McFarlane, W. See Kennedy, J. D., 1234
McPhail, A. T., and Miller, R. W., 1180
Majoral, J-P. See Baker, V. J., 1191
Miller, R. W. See McPhail, A. T., 1180
Moghimi, M. See Dixon, W. T., 1189
Murphy, D. See Dixon, W. T., 1189
Niki, E., and Kamiya, Y., 1221
Norman, R. O. C. See Carton, P. M., 1245
O'Connor, C. J. See de la Mare, P. B. D., 1150; and Giffney, C. J., 1203, 1206
Onions, A. See Baker, R., 1133
Palmer, M. H., and Findlay, R. H., 1223
Pass, G. See Duffy, M. J., 1138
Patel, S. P. See Jones, J. R., 1231
Phillips, G. O. See Duffy, M. J., 1138
Popplestone, R. J. See Baker, R., 1133
Pyne, G. S. See Kennedy, J. D., 1234
Richardson, F. S., and Cox, N., 1240
Rzepa, H. S. See Challis, B. C., 1209
Samee, A. See Duffy, M. J., 1138
Sanz, F., and Daly, J. J., 1141, 1146
Scordamaglia, R. See Bassi, I. W., 1129
Scott, F. L. See Hegarty, A. F., 1166
Sealy, R. C. See Carton, P. M., 1245
Smith, T. N. See Baker, R., 1133
Swaminathan, K., and Venkatasubramanian, N., 1161
Turner, C. J., 1250
Umaña, M. See Maccoll, A., 1194
Venkatasubramanian, N. See Swaminathan, K., 1161
Wardell, J. L. See Kennedy, J. D., 1234
Williams, R. M., and Atalla, R. H., 1155
Wilson, M. A. See de la Mare, P. B. D., 1150
Woodhead, J. L. See Blackwell, L. F., 1218

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

