

**JOURNAL
OF
THE CHEMICAL SOCIETY**

PERKIN TRANSACTIONS II
Physical Organic Chemistry

CONTENTS

	PAGE
Heteroaromatic hydrogen exchange reactions. Part 9. Acid catalysed decarboxylation of indole-3-carboxylic acids By BRIAN C. CHALLIS and HENRY S. RZEPĀ	281
Unstable intermediates. Part 169. Electron capture processes in organic phosphates: an electron spin resonance study By DEANNA NELSON and MARTYN C. R. SYMONS	286
Eliminations promoted by weak bases. Part 7. <i>E2C</i> and <i>E2H</i> reactions of cyclohexyl toluene- <i>p</i> -sulphonate with triphenylphosphine and other neutral bases By DUNCAN J. MCLENNAN	293
Eliminations promoted by weak bases. Part 8. Kinetics and mechanisms of reactions of cyclohexyl toluene- <i>p</i> -sulphonate with thiourea in various solvents By DUNCAN J. MCLENNAN	298
Acid-catalysed solvolysis of 2-diazo-4'-methoxy- and 2-diazo-2-phenylacetophenone in aqueous-organic mixtures By LEON L. LEVESON and C. WARNER THOMAS	302
The M_G activity coefficient function for acid-base equilibria. Part 2. A critical analysis of acidity functions and the incompatibility amongst proposed empirical correlations By NUNZIATA C. MARZIANO, PIETRO G. TRAVERSO, and RICCARDO C. PASSERINI	306
The M_O activity coefficient function for acid-base equilibria. Part 3. Improvement on the M_O function by mathematical treatment By NUNZIATA C. MARZIANO, PIETRO G. TRAVERSO, ALBERTO TOMASIN, and RICCARDO C. PASSERINI	309
Conformational studies of molecules partially oriented in nematic phase: nuclear magnetic resonance and theoretical investigation of 2,2'-bifuryl By LUCIANA BELLITTO, CARLO PETRONGOLO, C. ALBERTO VERACINI, and MASSINO BAMBAGIOTTI	314
Metal-ion assisted catalysis of nucleophilic attack. Part 3. Co-operation between metal ion and hydroxide By PAUL WOOLLEY	318
Infrared study of 1,3-thiazolidin(e)-2-one, -2-thione, and -2-selone and their 1-oxa-analogues By FRANCO CRISTIANI, FRANCESCO A. DEVILLANOVA, and GAETANO VERANI	324
Intermediates in the decomposition of aliphatic diazo-compounds. Part 13. Mechanistic studies on the reaction of diaryldiazomethanes with singlet molecular oxygen By DONALD BETHELL and RONALD MCKEIVOR	327
Crystal and molecular structure of an octamer of acetonitrile oxide By SILVIO MENCHETTI and CESARE SABELLI	334

Magnetic circular dichroism studies. Part 45. A comparison between the magnetic circular dichroism and Shpol'skii spectra of palladium, zinc, and magnesium porphin	
By GÜNTER BARTH, ROBERT E. LINDER, NADA WAESPE-SARCEVIC, EDWARD BUNNENBERG, CARL DJERASSI, YVONNE JONES ARONOWITZ, and MARTIN GOUTERMAN	337
Properties and reactions of 1,3-oxathiolans. Part 6. Chemical equilibration and ¹ H nuclear magnetic resonance conformational study of 4,5-dimethyl-, 2,4,5-trimethyl-, and 2,2,4,5- and 2,4,4,5-tetramethyl-1,3-oxathiolans	
By RAIMO KESKINEN, ALPO NIKKILÄ, and KALEVI PIHLAJA	343
Electron spin resonance study of hydrogen adduct radicals generated from indole and its derivatives in γ -irradiated methanolic glasses at 77 K	
By PETER J. BAUGH, GLYN O. PHILLIPS, and KEITH E. ROBBINS	347
The effect of leaving group tendency in the chymotrypsin-catalysed hydrolysis of aryl acetates	
By ANTHONY R. BUTLER, IAN H. ROBERTSON, and LAWRENCE A. RUDKIN	351
Electrophilic aromatic substitution. Part 18. Protiodetrinitiation of anthracene, coronene (dibenzo[ghi, <i>pqr</i>]-perylene), and triphenylene in anhydrous trifluoroacetic acid	
By HERBERT V. ANSELL, MARCELO M. HIRSCHLER, and ROGER TAYLOR	353
Restricted rotation. Part 2. Further studies of barriers to rotation in some 3-arylcyclohexenone derivatives: effect of substituents on the free energy of activation	
By DHANONJOY NASIPURI, PRANAB K. BHATTACHARYA, and GEORGE T. FURST	356
Reactions of oxygenated radicals in the gas phase. Part 3. Reactions of peracetyl radicals with alkenes	
By REFUGIO RUIZ DIAZ, KEITH SELBY, and DAVID J. WADDINGTON	360
Conformations of cyclic and acyclic cyanides: ¹³ C-H couplings	
By CHARLES A. KINGSBURY and MARK E. JORDAN	364
Proton magnetic resonance studies of compounds with bridgehead nitrogen. Part 33. Effect of a fused aromatic ring on the conformational preferences of perhydropyrido[1,2- <i>c</i>][1,3]oxazines and related compounds	
By TREVOR A. CRABB, JACQUELINE S. MITCHELL, and ROGER F. NEWTON	370
Conformational preference of ring A in 3-oxo- $\Delta^{5,10}$ -steroids: X-ray crystal structure analysis of 17 α -ethynyl-17 β -hydroxyestr-5(10)-en-3-one (norethynodrel)	
By ANDREW T. MCPHAIL, PATRICIA A. LUHAN, PUI-SUEN WONG TSCHANG, and KAY D. ONAN	379
Electron-organic chemistry. Anodic oxidation of [2.2]metacyclophanes and transannular cation radical formation	
By TAKEO SATO and MINORU KAMADA	384

INDEX OF AUTHORS' NAMES

- ANSELL, H. V., Hirschler, M. M., and Taylor, R., 353
Aronowitz, Y. J. See Barth, G., 337
Bambagiotti, M. See Bellitto, L., 314
Barth, G., Linder, R. E., Waespe-Sarcevic, N., Bunnenberg, E., Djerassi, C., Aronowitz, Y. J., and Gouterman, M., 337
Baugh, P. J., Phillips, G. O., and Robbins, K. E., 347
Bellitto, L., Petrongolo, C., Veracini, C. A., and Bambagiotti, M., 314
Bethell, D., and McKeivor, R., 327
Bhattacharya, P. K. See Nasipuri, D., 356
Bunnenberg, E. See Barth, G., 337
Butler, A. R., Robertson, I. H., and Rudkin, L. A., 351
Challis, B. C., and Rzepa, H. S., 281
Crabb, T. A., Mitchell, J. S., and Newton, R. F., 370
Cristiani, F., Devillanova, F. A., and Verani, G., 324
Devillanova, F. A. See Cristiani, F., 324
Diaz, R. R., Selby, K., and Waddington, D. J., 360
Djerassi, C. See Barth, G., 337
Furst, G. T. See Nasipuri, D., 356
Gouterman, M. See Barth, G., 337
Hirschler, M. M. See Ansell, H. V., 353
Jordan, M. E. See Kingsbury, C. A., 364
Kamada, M. See Sato, T., 384
Keskinen, R., Nikkilä, A., and Pihlaja, K., 343
Kingsbury, C. A., and Jordan, M. E., 364
Leveson, L. L., and Thomas, C. W., 302
Linder, R. E. See Barth, G., 337
Luhan, P. A. See McPhail, A. T., 379
McKeivor, R. See Bethell, D., 327
McLennan, D. J., 293, 298
McPhail, A. T., Luhan, P. A., Tschang, P-S. W., and Onan, K. D., 379
Marziano, N. C., Traverso, P. G., and Passerini, R. C., 306
Marziano, N. C., Traverso, P. G., Tomasin, A., and Passerini, R. C., 309
Menchetti, S., and Sabelli, C., 334
Mitchell, J. S. See Crabb, T. A., 370
Nasipuri, D., Bhattacharya, P. K., and Furst, G. T., 356
Nelson, D., and Symons, M. C. R., 286
Newton, R. F. See Crabb, T. A., 370
Nikkilä, A. See Keskinen, R., 343
Onan, K. D. See McPhail, A. T., 379
Passerini, R. C. See Marziano, N. C., 306, 309
Petrongolo, C. See Bellitto, L., 314
Phillips, G. O. See Baugh, P. J., 347
Pihlaja, K. See Keskinen, R., 343
Robbins, K. E. See Baugh, P. J., 347
Robertson, I. H. See Butler, A. R., 351
Rudkin, L. A. See Butler, A. R., 351
Rzepa, H. S. See Challis, B. C., 281
Sabelli, C. See Menchetti, S., 334
Sato, T., and Kamada, M., 384
Selby, K. See Diaz, R. R., 360
Symons, M. C. R. See Nelson, D., 286
Taylor, R. See Ansell, H. V., 353
Thomas, C. W. See Leveson, L. L., 302
Tomasin, A. See Marziano, N. C., 309
Traverso, P. G. See Marziano, N. C., 306, 309
Tschang, P-S. W. See McPhail, A. T., 379
Veracini, C. A. See Bellitto, L., 314
Verani, G. See Cristiani, F., 324
Waddington, D. J. See Diaz, R. R., 360
Waespe-Sarcevic, N. See Barth, G., 337
Woolley, P., 318

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

