

JOURNAL
OF
THE CHEMICAL SOCIETY

PERKIN TRANSACTIONS II
Physical Organic Chemistry

CONTENTS

	PAGE
Stereochemistry of addition to the carbonyl group. Part 17. Study of the factors affecting asymmetric induction in condensation reactions of methyl- and phenyl-magnesium bromide with chiral carbonyl compounds	
By ODON ARJONA, RAFAEL PÉREZ-OSSORIO, ALFREDO PÉREZ-RUBALCABA, and MARIA L. QUIROGA	597
Conformational studies by dynamic nuclear magnetic resonance. Part 20. Internal motion in hydrazones and related derivatives	
By LODOVICO LUNAZZI and DANTE MACCIANTELLI	604
The thermal elimination of iodine from some substituted α -iodonaphthalenes: a structural study	
By DONALD W. CAMERON, GEOFFREY I. FEUTRILL, LINDA J. H. PANNAN, COLIN L. RASTON, BRIAN W. SKELTON, and ALLAN H. WHITE	610
Electrophilic <i>ipso</i> -substitutions. Part 1. Reaction of 3-substituted indoles with nitronium and nitrosonium ions	
By MARTINO COLONNA, LUCEDIO GRECI, and MARINO POLONI	628
An electron spin resonance study of pentadienyl and related radicals: homolytic fission of cyclobut-2-enyl-methyl radicals	
By ALWYN G. DAVIES, DAVID GRILLER, KEITH U. INGOLD, DAVID A. LINDSAY, and JOHN C. WALTON	633
Catalysis in aromatic nucleophilic substitution. Part 5. Reactions of piperidine with methyl 2-methoxy-3-nitrothiophen-5-carboxylate and 5-acetyl-2-methoxy-3-nitrothiophen	
By GIOVANNI CONSIGLIO, CATERINA ARNONE, DOMENICO SPINELLI, and RENATO NOTO	642
The polarisation and charge-transfer (PCT) theoretical model for the prediction and the interpretation of the relationship between reactivity and selectivity	
By MARTIN GODFREY	645
An electron spin resonance study on the interactions between bis(pentane-2,4-dionato)copper(II) and some heterocycles. Part 2. The 1 : 1 adducts with aza-aromatic compounds and azacyclohexanes	
By TAMIZO KOGANE, REIKO HIROTA, KAZUHISA ABE, and MINORU HIROTA	652
Free energy relationships of ionization energies measured by ultraviolet photoelectron spectroscopy in substituted pyrroles	
By CARLA CAULETTI, CARLO GIANCASPRO, ANNA MONACI, and M. NOVELLA PIANCASTELLI	656
Stereochemistry of a novel sesquiterpene lactone. X-Ray determination of the structure of ursiniolide A monohydrate	
By URSZULA RYCHLEWSKA	660
The pyridine-catalysed reaction of methanol with phenyl isocyanate in tetrachloromethane	
By ROY B. MOODIE and PETER J. SANSOM	664

	PAGE
The one-electron reduction of carbonium ions. Part 14. Effect of successive introduction of methyl substituents on the reducibility of tropylium ion in chromium(II) ion and cathodic reductions By KEN'ICHI TAKEUCHI, TAKESHI KUROSAKI, YASUNORI YOKOMICHI, YOSHIHIRO KIMURA, YASUHIRO KUBOTA, HIROSHI FUJIMOTO, and KUNIO OKAMOTO	670
Electrophilic aromatic substitution. Part 28. Rate factors for protiodetrition of all positions of hexahelicene (benzo[<i>c</i>]naphtho[1,2- <i>g</i>]phenanthrene): the reactivity of bent benzene rings By WILLIAM J. ARCHER, YOUSIF EL-DIN SHAFIG, and ROGER TAYLOR	675
Kinetic hydrogen isotope effects in intermolecular hydride transfer from arylalkanes to 9-arylfuoren-9-yl cations By DONALD BETHELL, GERARD J. HARE, and (in part) PAUL A. KEARNEY.	684
Photolysis of the carbon-hydrogen bond in pentamethylcyclopentadiene. Properties of the pentamethylcyclopentadienyl radical By ALWYN G. DAVIES and JANUSZ LUSZTYK	692
Optical rotatory dispersion and absolute configuration. Part 32. Circular dichroism and conformation of 3-hydroxypiperidines By BJORN RINGDAHL, ULRICH F. W. OHNSORGE, and J. CYMERMAN CRAIG	697
The relative efficiencies of a number of nitrite traps at different acidities and bromide ion concentrations By GWENDA ELLISON and D. LYN H. WILLIAMS	699
Reactions of the methylthiyl radical with unsaturated cycloalkanes: abstraction, addition, and rearrangement By LODOVICO LUNAZZI, GIUSEPPE PLACUCCI, and LORIS GROSSI	703
The role of solvent in the mechanism of protonation of benzene and ethylene By TOMÁS SORDO, MONTSERRAT ARUMI, and JUAN BERTRÁN	708
Mechanisms for aromatic photocyanation: naphthalene and biphenyl By NIGEL J. BUNCE, JOHN P. BERGSMAN, and JOHN L. SCHMIDT	713
The separation of polar and steric effects. Part 15. Kinetics of the reactions of benzoic acid and of <i>ortho</i> -substituted benzoic acids with diazodiphenylmethane in various aprotic solvents By M. HANIF ASLAM, NORMAN B. CHAPMAN, JOHN SHORTER, and MARVIN CHARTON	720
The determination, by ¹ H nuclear magnetic resonance studies, of some stereochemical features in the alkaloids isocorymine, erinine, erinicine, and eripine By FRANK HEATLEY, DAVID I. BISHOP, and JOHN A. JOULE	725
Conformational analysis of tryptophan in solution using nuclear magnetic resonance methods By BRUCE DEZUBE, CHRISTOPHER M. DOBSON, and CATHERINE E. TEAGUE	730
The type A zwitterion in cyclohexadienone photochemistry: chemical trapping and stereochemistry By CHRISTOPHER J. SAMUEL.	736
Determination of ring inversion barriers for 1 <i>H</i> ,3 <i>H</i> -naphtho[1,8- <i>cd</i>]pyran and its methyl substituted derivatives by molecular mechanics calculations and dynamic nuclear magnetic resonance spectroscopy By J. EDGAR ANDERSON and FLEMMING S. JØRGENSEN	741
The electron spin resonance spectrum of the fulvalene radical anion By ALWYN G. DAVIES, JEREMY R. M. GILES, and JANUSZ LUSZTYK	747

INDEX OF AUTHORS' NAMES

- ABE, K. See Kogane, T., 652
Anderson, J. E., and Jørgensen, F. S., 741
Archer, W. J., Shafiq, Y. E-D., and Taylor, R., 675
Arjona, O., Pérez-Ossorio, R., Pérez-Rubalcaba, A., and Quiroga, M. L., 597
Arnone, C. See Consiglio, G., 642
Arumi, M. See Sordo, T., 708
Aslam, M. H., Chapman, N. B., Shorter, J., and Charton, M., 720
Bergsma, J. P. See Bunce, N. J., 713
Bertrán, J. See Sordo, T., 708
Bethell, D., Hare, G. J., and Kearney, P. A., 684
Bishop, D. I. See Heatley, F., 725
Bunce, N. J., Bergsma, J. P., and Schmidt, J. L., 713
Cameron, D. W., Feutrill, G. I., Pannan, L. J. H., Raston, C. L., Skelton, B. W., and White, A. H., 610
Cauletti, C., Giancaspro, C., Monaci, A., and Piancastelli, M. N., 656
Chapman, N. B. See Aslam, M. H., 720
Charton, M. See Aslam, M. H., 720
Colonna, M., Greci, L., and Poloni, M., 628
Consiglio, G., Arnone, C., Spinelli, D., and Noto, R., 642
Craig, J. C. See Ringdahl, B., 697
Davies, A. G., and Luszytk, J., 692
Davies, A. G., Giles, J. R. M., and Luszytk, J., 747
Davies, A. G., Griller, D., Ingold, K. U., Lindsay, D. A., and Walton, J. C., 633
Dezube, B., Dobson, C. M., and Teague, C. E., 730
Dobson, C. M. See Dezube, B., 730
Ellison, G., and Williams, D. L. H., 699
Feutrill, G. I. See Cameron, D. W., 610
Fujimoto, H. See Takeuchi, K., 670
Giancoaspro, C. See Cauletti, C., 656
Giles, J. R. M. See Davies, A. G., 747
Godfrey, M., 645
Greci, L. See Colonna, M., 628
Griller, D. See Davies, A. G., 633
Grossi, L. See Lunazzi, L., 703
Hare, G. J. See Bethell, D., 684
Heatley, F., Bishop, D. I., and Joule, J. A., 725
Hirota, M. See Kogane, T., 652
Hirota, R. See Kogane, T., 652
Ingold, K. U. See Davies, A. G., 633
Jørgensen, F. S. See Anderson, J. E., 741
Joule, J. A. See Heatley, F., 725
Kearney, P. A. See Bethell, D., 684
Kimura, Y. See Takeuchi, K., 670
Kogane, T., Hirota, R., Abe, K., and Hirota, M., 652
Kubota, Y. See Takeuchi, K., 670
Kurosaki, T. See Takeuchi, K., 670
Lindsay, D. A. See Davies, A. G., 633
Lunazzi, L., and Macciantelli, D., 604
Lunazzi, L., Placucci, G., and Grossi, L., 703
Luszytk, J. See Davies, A. G., 692, 747
Macciantelli, D. See Lunazzi, L., 604
Monaci, A. See Cauletti, C., 656
Moodie, R. B., and Sansom, P. J., 664
Noto, R. See Consiglio, G., 642
Ohnsorge, U. F. W. See Ringdahl, B., 697
Okamoto, K. See Takeuchi, K., 670
Pannan, L. J. H. See Cameron, D. W., 610
Pérez-Ossorio, R. See Arjona, O., 597
Pérez-Rubalcaba, A. See Arjona, O., 597
Piancastelli, M. N. See Cauletti, C., 656
Placucci, G. See Lunazzi, L., 703
Poloni, M. See Colonna, M., 628
Quiroga, M. L. See Arjona, O., 597
Raston, C. L. See Cameron, D. W., 610
Ringdahl, B., Ohnsorge, U. F. W., and Craig, J. C., 697
Rychlewska, U., 660
Samuel, C. J., 736
Sansom, P. J. See Moodie, R. B., 664
Schmidt, J. L. See Bunce, N. J., 713
Shafiq, Y. E-D. See Archer, W. J., 675
Shorter, J. See Aslam, M. H., 720
Skelton, B. W. See Cameron, D. W., 610
Sordo, T., Arumi, M., and Bertrán, J., 708
Spinelli, D. See Consiglio, G., 642
Takeuchi, K., Kurosaki, T., Yokomichi, Y., Kimura, Y., Kubota, Y., Fujimoto, H., and Okamoto, K., 670
Taylor, R. See Archer, W. J., 675
Teague, C. E. See Dezube, B., 730
Walton, J. C. See Davies, A. G., 633
White, A. H. See Cameron, D. W., 610
Williams, D. L. H. See Ellison, G., 699
Yokomichi, Y. See Takeuchi, K., 670

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

