

JOURNAL  
OF  
THE CHEMICAL SOCIETY

PERKIN TRANSACTIONS I  
Organic and Bio-organic Chemistry

CONTENTS

	PAGE
Relative abundance of racemic and <i>meso</i> -diastereoisomers of 3,3'-diphenylbiphtalid-3-yl arising from the corresponding chemically and photochemically generated free radicals By MICHEL PFAU, FRANCIS GOBERT, JEAN-CLAUDE GRAMAIN, and MARIE-FRANCE LHOMME . . . . .	509
<i>v</i> -Triazolo[5,4- <i>d</i> ]pyrimidines (8-azapurines). Part 20. 1-Alkyl derivatives By ADRIEN ALBERT . . . . .	513
8-Quinolyl esters of nucleoside 5'-phosphates. Part 2. Application to the synthesis of oligodeoxyribonucleotides bearing a 5'-phosphate end group By HIROSHI TAKAKU, RYUICHI YAMAGUCHI, and TSUJIKI HATA . . . . .	519
Oxymetallation. Part 11. Synthesis of cyclic secondary alkyl peroxides <i>via</i> the peroxymercuration of $\alpha,\omega$ -dienes By A. J. BLOODWORTH and M. E. LOVEITT . . . . .	522
Stereochemistry of the oxymercuration of substituted methylenecyclohexanes and methylenecyclopentanes By YASUHISA SENDA, SHIN-ICHI KAMIYAMA, and SHIN IMAIZUMI . . . . .	530
Extractives from Guttiferae. Part 34. Kolaflavanone, a new biflavanone from the nuts of <i>Garcinia kola</i> Heckel. Applications of $^{13}\text{C}$ nuclear magnetic resonance in elucidation of the structures of flavonoids By PHILIP J. COTTERILL, FEODOR SCHEINMANN, and IAN A. STENHOUSE . . . . .	532
Some 1 <i>H</i> -4,1,2-benzothiadiazines and 1 <i>H</i> -4,1,2-benzothiadiazine 4,4-dioxides By DONALD E. AMES, SOSALE CHANDRASEKHAR, and KRISTIAN J. HANSEN . . . . .	539
Reaction of phenylhydrazones with bis( $\pi$ -allyl)-nickel and -palladium complexes By RAYMOND BAKER, MALCOLM S. NOBBS, and DAVID T. ROBINSON . . . . .	543
Keten SS-acetals. Part 9. Reaction of $\alpha$ -oxo- and $\alpha$ -cyano-keten SS-acetals with cyanoacetamide: a new general method for substituted and fused 4-alkylthio-3-cyano-2(1 <i>H</i> )-pyridones and formation of novel pyridones through base-induced rearrangements By R. R. RASTOGI, A. KUMAR, H. ILA, and H. JUNJAPPA . . . . .	549
Keten SS-acetals. Part 10. Reaction of $\alpha$ -oxoketen SS-acetals with <i>N</i> -alkylcyanoacetamides: a new general method for substituted and fused 2,7-dialkyl-8-amino-5-cyano-2,7-naphthyridine-1,6(2 <i>H</i> ,7 <i>H</i> )-diones By R. R. RASTOGI, A. KUMAR, H. ILA, and H. JUNJAPPA . . . . .	554
Addition reaction of 2-iminocyclopentanedithiocarboxylic acid with Schiff's bases: a novel route to the synthesis of 1,3-thiazine derivatives By NAOAKI FUKADA, MASAHIDE KATO, HITOSHI SEKI, MASAYUKI KAWANA, and TATSUO TAKESHIMA . . . . .	558
The chemistry of pseudomonic acid. Part 1. The absolute configuration of pseudomonic acid A By ROGER G. ALEXANDER, J. PETER CLAYTON, KONG LUK, NORMAN H. ROGERS, and TREVOR J. KING . . . . .	561
Cleavage of the epoxide ring in <i>trans</i> -epoxy-alcohols by sodium borohydride in methanol By MARTIN WEISSENBERG, PNINA KRINSKY, and ERWIN GLOTTER . . . . .	565

	PAGE
Steric course of reduction with sodium borohydride of steroidal $\alpha\beta$ -epoxy-ketones By MARTIN WEISSENBERG and ERWIN GLOTTER . . . . .	568
Overcrowded molecules. Part 14. Photochromic systems involving ( <i>Z</i> )-1-methylpropylidene(diphenylmethylene)succinic and ( <i>E</i> )-3,5-dimethoxybenzylidene(alkyl-substituted methylene)succinic anhydrides By PAUL J. DARCY, ROBERT J. HART, and HARRY G. HELLER . . . . .	571
Totally synthetic steroid heterocycles. Part I. Synthesis of intermediate precursors of 16-oxa- and 16-thia-D-homoestrogens By TADAO TERASAWA and TOSHIHIKO OKADA . . . . .	576
Oxidation of aromatic substrates. Part 3. Synthesis of amino-acids by the selective action of ruthenium tetraoxide upon arylalkylamines By DAVID C. AYRES . . . . .	585
Oxidation of aromatic substrates. Part 4. Action of ruthenium tetraoxide on some substituted biphenyls By DAVID C. AYRES and R. GOPALAN . . . . .	588
Calciferol and its relatives. Part 22. A direct total synthesis of vitamin D <sub>2</sub> and vitamin D <sub>3</sub> By BASIL LYTHGOE, THOMAS A. MORAN, MAYARA E. N. NAMBU DIRY, JOHN TIDESWELL, and PAUL W. WRIGHT	590
An alternative route to furanoid and pyranoid glycals By STEPHEN J. EITELMAN, RICHARD H. HALL, and AMOR JORDAAN . . . . .	595
Cyclic mesoionic compounds. Part 14. The electric dipole moments of mesoionic heterocycles By ROBERT N. HANLEY, W. DAVID OLLIS, CHRISTOPHER A. RAMSDEN, GEOFFREY ROWLANDS, and LESLIE E. SUTTON . . . . .	600
Asymmetric syntheses. Part 10. The synthesis and reduction of <i>N</i> -phenylazomethines with a lithium aluminium hydride-3- <i>O</i> -benzyl-1,2- <i>O</i> -cyclohexylidene- $\alpha$ -D-glucofuranose complex to give optically active secondary amines By STEPHEN R. LANDOR, OLATUNJI O. SONOLA, and AUSTIN R. TATCHELL . . . . .	605
A route to 6-functionalised 1,3-diaza-azulenes and aminotropones <i>via</i> hydride replacement from cycloheptatrienones By MARINO CAVAZZA, RENZO CABRINO, FRANCESCO DEL CIMA, and FRANCESCO PIETRA . . . . .	609
Photoinduced transformations. Part 38. Photoreactions of 17-ethoxycarbonylmethylene-etiojerva-5,13(17)- and -5,16-diene-3 $\beta$ ,11 $\beta$ ,20 $\xi$ -triol 3,20-diacetate 11-nitrites By HIROSHI SUGINOME, SANJI SUGIURA, NORIHISA YONEKURA, TADASHI MASAMUNE, and EIJI OSAWA . . . . .	612
Biosynthesis of the abnormal <i>Erythrina</i> alkaloids, cocculidine and cocculine By DEWAN S. BHAKUNI and AWADHESH N. SINGH . . . . .	618
Biosynthesis of isocorydine (1,2,10-trimethoxy-6 $\alpha$ -aporphin-11-ol) By OM PRAKASH, DEWAN S. BHAKUNI, and RANDHIR S. KAPIL . . . . .	622
Olefin metathesis. Development of a new catalyst employing tungsten hexachloride and lithium aluminium hydride By STEPHEN A. MATLIN and PETER G. SAMMES . . . . .	624
Dimerisation of 3-aryl-2-cyanothioacrylamides. A [2 <sub>s</sub> + 4 <sub>s</sub> ] cycloaddition to give substituted 3,4-dihydro-2 <i>H</i> -thiopyrans By JOHN S. A. BRUNSKILL, ASISH DE, and DAVID F. EWING . . . . .	629
Sulphides, sulfoxides, and sulphones derived from salicylic acids By GEORGE R. BROWN, JUSTUS K. LANDQUIST, and DAVID R. SUMMERS . . . . .	633
Organometallic complexes in synthesis. Part 9. Tricarbonyliron derivatives of dihydroanisic esters By ARTHUR J. BIRCH and ANTHONY J. PEARSON . . . . .	638
Salviarin, a new diterpenoid from <i>Salvia splendens</i> By GIUSEPPE SAVONA, MARIA PIA PATERNOSTRO, FRANCO PIOZZI, JAMES R. HANSON, PETER B. HITCHCOCK, and SUNDAY A. THOMAS . . . . .	643
Intramolecular cyclisation of substituted phenoxyethanols and related compounds with mercury(II) oxide and iodine By ANDRÉ GOOSEN and CEDRIC W. MCCLELAND . . . . .	646