

JOURNAL  
OF  
THE CHEMICAL SOCIETY

---

PERKIN TRANSACTIONS I  
Organic and Bio-organic Chemistry

CONTENTS

	PAGE
Thiele-Winter acetoxylation of quinones. Part VI. Methoxy- and hydroxy-(phenyl)-1,4-benzoquinones and (4-substituted phenyl)-1,4-benzoquinones By JOHN M. BLATCHLY, RICHARD J. S. GREEN, JOHN F. W. McOMIE, and SADIQ A. SALEH . . . . .	309
Thiele-Winter acetoxylation of quinones. Part VII. Some bromo-derivatives of phenyl-1,4-benzoquinone By JOHN F. W. McOMIE, JOHN B. SEARLE, and SADIQ A. SALEH . . . . .	314
Photoaddition of allenes to <i>p</i> -quinones By NOBUYUKI ISHIBE, KIYOYASU HASHIMOTO, and YUKIO YAMAGUCHI . . . . .	318
Epoxidation of 3 $\alpha$ ,5-cyclo-5 $\alpha$ -androst-6-en-17-one By RICHARD C. CAMBIE, PETER W. THOMAS, and JAMES R. HANSON. . . . .	323
Benzoquinone derivatives. Part I. Reactions of primary aliphatic amines with embelin (2,5-dihydroxy-3-undecyl-1,4-benzoquinone) and di- <i>O</i> -methylembelin By BALAWANT S. JOSHI and VENKATESH N. KAMAT . . . . .	327
The chemistry of terpenes. Part XVIII. Synthesis of methyl (–)- <i>cis</i> -chrysanthemate and of a methyl (+)- <i>cis</i> -homochrysanthemate from (+)-car-3- and -2-ene By WESLEY COCKER, HUNTLY ST. J. LAUDER, and PATRICK V. R. SHANNON . . . . .	332
18-Norandrosta-8,11,13-trienes. Part IV. 7-Hydroxy-derivatives By COLIN L. HEWETT, SAMUEL G. GIBSON, IAIN M. GILBERT, JAMES REDPATH, DAVID S. SAVAGE, THOMAS SLEIGH, and ROBERT TAYLOR . . . . .	336
Acid-catalysed cyclisations of cyclo-octenyliidene derivatives to produce bicyclo[3.3.1]nonanes By ROBERT S. ATKINSON and RICHARD H. GREEN . . . . .	340
<i>v</i> -Triazolo[4,5- <i>d</i> ]pyrimidines (8-azapurines). Part XVI. Preparation of 6-amino-8-azapurines by heating 4-amino-1,2,3-triazole-5-carbonitrile (and its <i>N</i> -alkyl derivatives) with amidines By ADRIEN ALBERT . . . . .	345
4-Acetyl-3-benzylidenepiperazine-2,5-diones By SRINIVASACHARI RAJAPPA and BHAGWAN G. ADVANI . . . . .	349
Constituents of the higher fungi. Part XV. 3-(3,4-Dihydroxyphenyl)-2,7,8-trihydroxydibenzofuran-1,4-dione, a precursor of thelephoric acid from the fungus <i>Suillus grevillei</i> (Klotsch) Sing. [ <i>Boletus elegans</i> (Schum. per Fries)] By RAYMOND L. EDWARDS and MELVYN GILL. . . . .	351
Crustacean surface waxes. Part I. The hydrocarbons from the surface of <i>Ligia oceanica</i> By R. J. HAMILTON, M. Y. RAIE, I. WEATHERSTON, C. J. BROOKS, and JULIET H. BORTHWICK . . . . .	354
Microbiological hydroxylation. Part XV. Hydroxylation in the terminal rings of mono- and di-oxygenated 5 $\alpha$ -androstanes with the fungus <i>Daedalea rufescens</i> By ALAN M. BELL, SIR EWART R. H. JONES, G. DENIS MEAKINS, JOHN O. MINERS, and ANTHONY PENDLEBURY . . . . .	357

	PAGE
The allyl ether as a protecting group in carbohydrate chemistry. Part VII. The 2- <i>O</i> -allyl group as a non-participant in 1,2- <i>cis</i> -glycoside synthesis By PATRICIA A. GENT and ROY GIGG . . . . .	361
Synthesis of 1,2-di- <i>O</i> -hexadecanoyl-3- <i>O</i> -( $\beta$ -D-galactopyranosyl)-L-glycerol (a 'galactosyl diglyceride') and 1,2-di- <i>O</i> -octadecanoyl-3- <i>O</i> -(6- <i>O</i> -octadecanoyl- $\beta$ -D-galactopyranosyl)-L-glycerol By PATRICIA A. GENT and ROY GIGG . . . . .	364
Kinetics and mechanism of reaction of hydroxylamine with cytosine and its derivatives By G. MICHAEL BLACKBURN, STEVEN JARVIS, MELVIN C. RYDER, and VISHNU SOLAN . . . . .	370
Condensation reactions of chloroformylsulphur chloride with 2- and 4-aminopyrimidines, 2-aminothiazole, and 2-amino- $\Delta^2$ -thiazoline By DEREK BALDWIN and PETER VAN DEN BROEK . . . . .	375
Terpenoids. Part VI. Preparation of <i>ent</i> -[13,14 $\alpha$ - <sup>2</sup> H <sub>2</sub> ]kaur-16-ene and some derivatives; bridgehead enolisation of <i>ent</i> -17-nor[13,14 $\alpha$ - <sup>2</sup> H <sub>2</sub> ]kauran-16-one By DAVID H. BOWEN, CHRISTOPHER CLOKE, and JAKE MACMILLAN . . . . .	378
Stereospecific exchange of a $\beta$ -methylene proton in phenylalanine preceding biosynthetic incorporation into gliotoxin By NICHOLAS JOHNS, GORDON W. KIRBY, JOHN D. BU'LOCK, and ALAN P. RYLES . . . . .	383
Degradation of cobaloximes to derivatives of imidazo[1,2- <i>a</i> ]pyridine By NATHANIEL W. ALCOCK, BERNARD T. GOLDING, DAVID R. HALL, ULRICH HORN, and WILLIAM P. WATSON . . . . .	386
Addition reactions of heterocyclic compounds. Part LIX. A <sup>13</sup> C tracer study of the mechanism of formation of azepines from 2-methylquinolines and dimethyl acetylenedicarboxylate By R. MORRIN ACHESON and ROWENA F. FLOWERDAY . . . . .	394
Photochemistry of halogenocarbon compounds. Part I. Rearrangement of pyridazines to pyrazines By RICHARD D. CHAMBERS, J. A. HUGH MACBRIDE, JERZY R. MASLAKIEWICZ, and (in part) KRISHNA C. SRIVASTAVA . . . . .	396