

## JOURNAL OF THE CHEMICAL SOCIETY

## Perkin Transactions 1

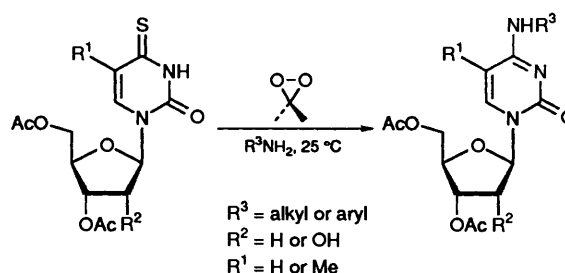
## Organic and Bio-organic Chemistry

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## Perkin Communications

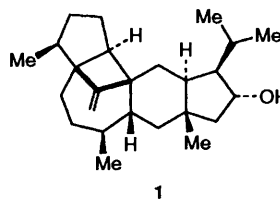
- 3053 A new and efficient synthesis of cytidine and adenosine derivatives by dimethyldioxirane oxidation of thiopyrimidine and thiopurine nucleosides

Raffaele Saladino, Claudia Crestini, Roberta Bernini, Giuseppe Frachey and Enrico Mincione



- 3055 Biosynthesis of astellatol, a novel rearranged sesterterpenoid metabolite of *Aspergillus varicolor*

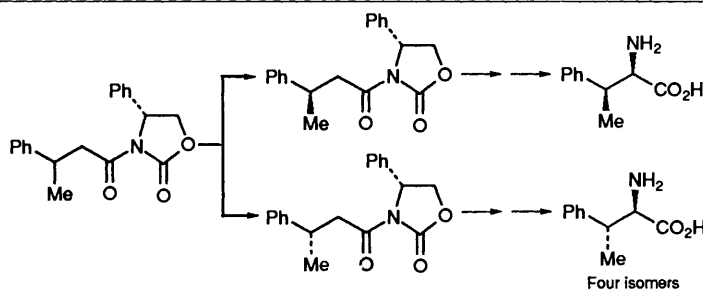
Thomas J. Simpson



Incorporation of  $[1,2-^{13}\text{C}_2]$ acetate into astellatol 1 confirms its biosynthesis *via* geranyl farnesyl pyrophosphate

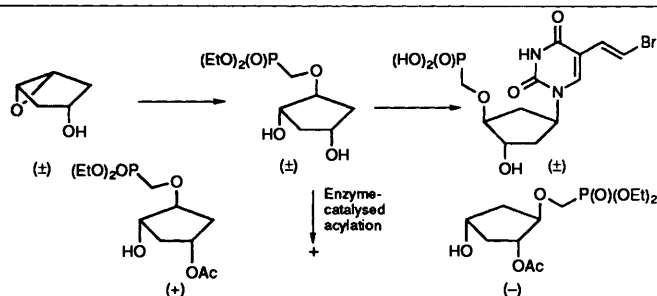
- 3057 Exploration for large-scale stereoselective synthesis of unusual amino acids by using 4-phenyloxazolidinone as a new chiral resolution reagent

Guigen Li, Dinesh Patel and Victor J. Hruby

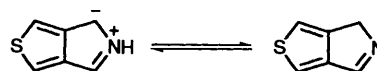


- 3061 Synthesis of the phosphonate isostere of carbocyclic 5-bromovinyldeoxyuridine monophosphate

Diane M. Coe, Antonio Garofalo, Stanley M. Roberts, Richard Storer and Andrew J. Thorpe



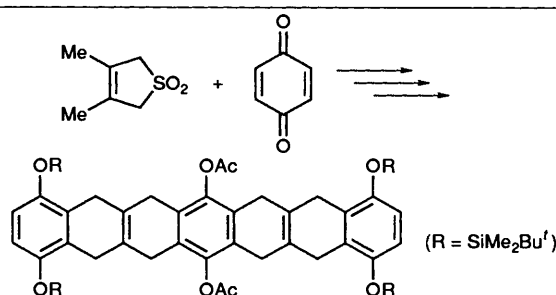
## Articles

3065 Synthesis and trapping of 4*H*- and 5*H*-thieno[3,4-*c*]pyrroles

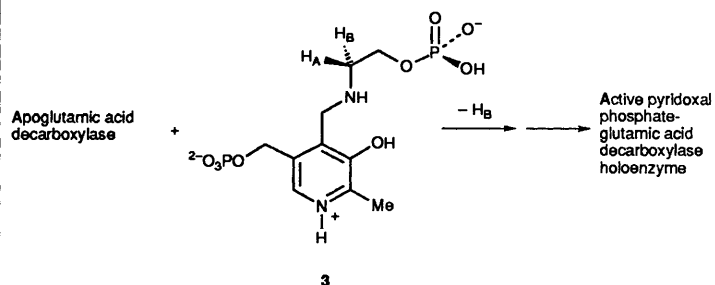
Chin-Kang Sha and Chiu-Peng Tsou

## 3071 Intermediates for the synthesis of linear chains of 1,2:4,5-fused cyclohexa-1,4-diene rings and beltenes by repeated Diels–Alder reactions

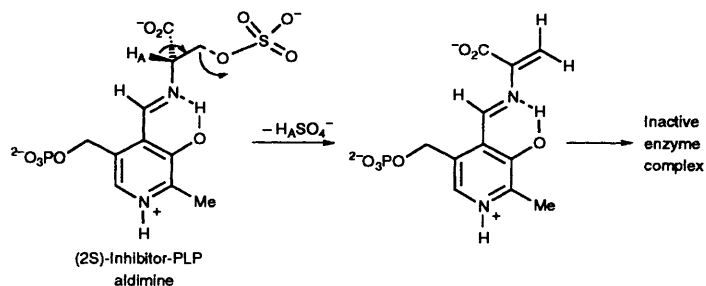
Roger W. Alder, Paul R. Allen, Lee S. Edwards, Gordon I. Fray, Katy E. Fuller, Paul M. Gore, Nicholas M. Hext, Martin H. Perry, Alex R. Thomas and Kevin S. Turner

3079 The stereochemical course of decarboxylation, transamination and elimination reactions catalysed by *Escherichia coli* glutamic acid decarboxylase

Kevin Tilley, Mahmoud Akhtar and David Gani

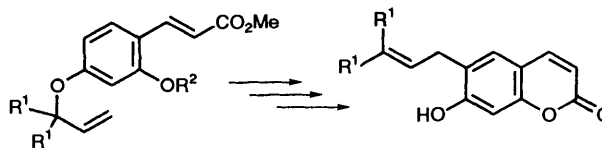
The stereochemical courses of the  $\alpha$ -decarboxylation of (2*S*)-aspartic acid and the abortive transamination decarboxylation of the coenzyme with (2*S*)-glutamic acid as substrate are also described3089 Mechanisms and stereochemistry of the activation of (2*S*)- and (2*R*)-serine *O*-sulfate as suicide inhibitors for *Escherichia coli* glutamic acid decarboxylase

Janet E. Rose, Paul D. Leeson and David Gani

The inactivation of the enzyme by the (2*R*)-enantiomer also occurs but follows a different mechanism

- 3095 **Boron halide catalysed regioselective *ortho*-Claisen rearrangements of 4'-allyloxycoumaric acid derivatives: total synthesis of demethylsuberosin**

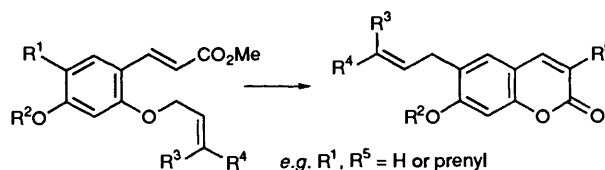
Nicholas Cairns, Laurence M. Harwood,  
David P. Astles and Alex Orr



6-Substituted coumarins are prepared *via* regioselective Lewis acid catalysed rearrangements of methyl 4'-allyloxycoumarates

- 3101 **Tandem thermal Claisen–Cope rearrangements of coumarate derivatives. Total syntheses of the naturally occurring coumarins: suberosin, demethylsuberosin, ostruthin, balsamiferone and gravelliferone**

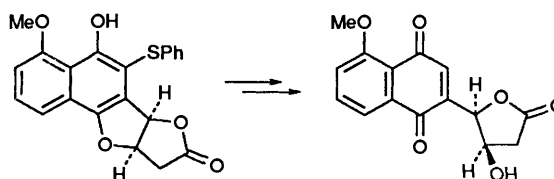
Nicholas Cairns, Laurence M. Harwood and  
David P. Astles



6-Substituted and 3,6-disubstituted coumarins are prepared *via* multiple [3,3]sigmatropic rearrangements of methyl 2'-allyloxycoumarates

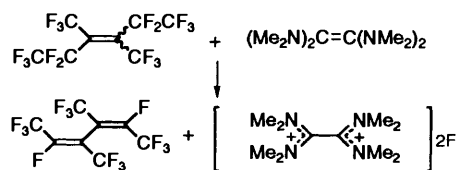
- 3109 **Formal synthesis of the juglomycins**

Margaret A. Brimble and Elaine Ireland



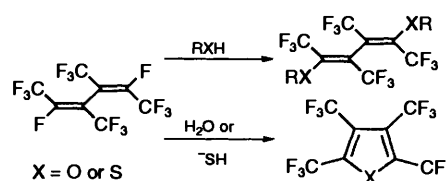
- 3115 **Reactions involving fluoride ion. Part 38. New fluorinated dienes by defluorination**

Mark W. Briscoe, Richard D. Chambers,  
Steven J. Mullins, Takayuki Nakamura,  
Julian F. S. Vaughan and Frederick G.  
Drakesmith



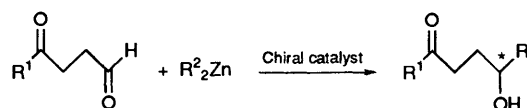
- 3119 **Reactions involving fluoride ion. Part 39. Reactions of perfluorinated dienes with oxygen and sulphur nucleophiles**

Mark W. Briscoe, Richard D. Chambers,  
Steven J. Mullins, Takayuki Nakamura and  
Julian F. S. Vaughan

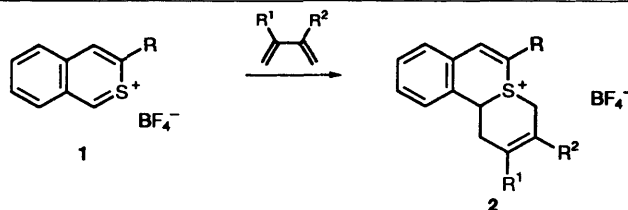


- 3125 **Catalytic asymmetric synthesis of  $\gamma$ -hydroxy ketones and aromatic hydroxy ketones by the chemo- and enantio-selective alkylation of keto aldehydes with dialkylzincs**

Masami Watanabe and Kenso Soai

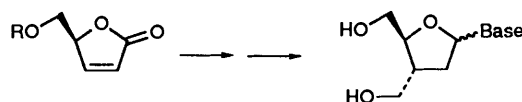


## 3129 Polar cycloaddition of 2-benzothiopyrylium salts with conjugated dienes

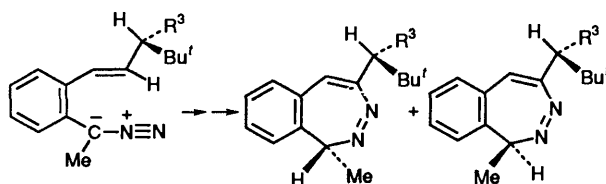


Hiroshi Shimizu, Shojiro Miyazaki, Tadashi Kataoka, Mikio Hori and Osamu Muraoka

2-Benzothiopyrylium salts **1** undergo a polar cycloaddition with conjugated dienes to afford benzo-fused bicyclic sulfonium salts **2** having sulfur at a bridgehead position in good yields

3141 Photocatalysed addition of alcohols to 5-substituted 2,5-dihydrofuran-2-ones: novel synthesis of (3'*R*)-2',3'-dideoxy-3'-hydroxymethyl nucleosides

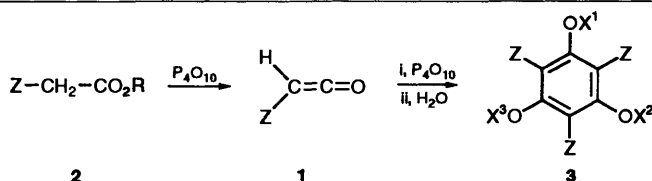
John Mann and Alexander C. Weymouth-Wilson

3149 Asymmetric induction in the electrocycloisatn reactions of 1,3 dipolar intermediates: the 1.7 cyclisation of diene-conjugated diazo-compounds to give 1*H*-2,3-benzodiazepines

Alexander J. Blake, Mervyn Harding and John T. Sharp

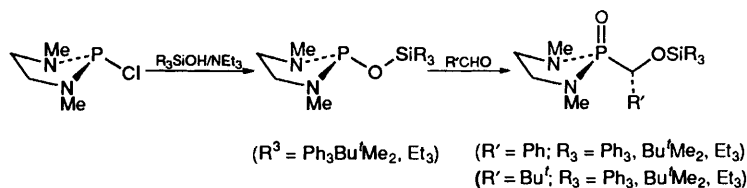
Face selectivity is strongly influenced by the nature of the medium sized group  $R^3$

## 3163 The phosphorylation of organic compounds by phosphoric anhydride. Part 3. Synthesis of monosubstituted ketenes in the reaction of esters with phosphoric anhydride and cyclotrimerization of these ketenes

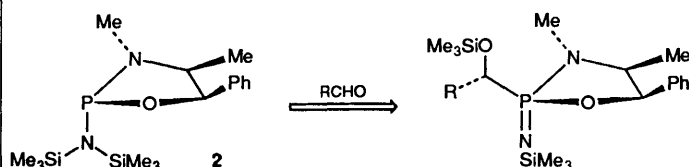


Dimitry A. Efremov, Pavel M. Zavlin, Nataly S. Essentseva and John C. Tebby

Monosubstituted ketenes **1** have been synthesized from substituted acetic esters **2** by elimination of alcohol under the action of phosphoric anhydride; the ketenes undergo cyclotrimerisation to give substituted 1,3,5-trihydroxybenzenes **3** and their phosphorylated derivatives

3169 Carbonyl phosphorylation via [1<sup>N</sup>,3<sup>E</sup>]-bifunctional reagents. Probing mechanistic and reactivity features through chemical and isotopic labelling

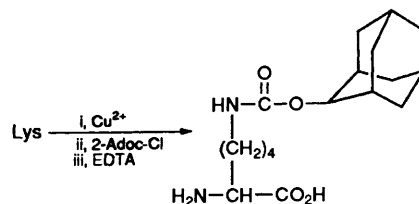
Paul G. Devitt and Terence P. Kee

3183 [1<sup>N</sup>,3<sup>E</sup>]-Bifunctional phosphoramidites and the diastereoselective phosphorylation of aldehydes. Controlling, elucidating and rationalising the stereochemical course of the asymmetric Abramov reaction

Vivienne Sum, Christopher A. Baird, Terence P. Kee and Mark Thornton-Pett

- 3201 **Amino acids and peptides. Part 38.**  
**Development of a new amino-protecting group, 2-adamantyloxycarbonyl, and its application to peptide synthesis**

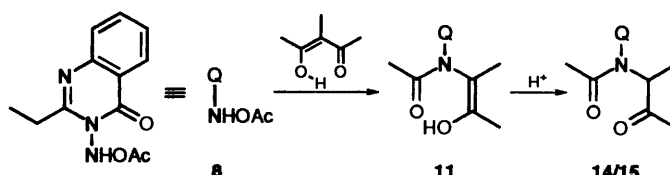
Yasuhiro Nishiyama, Noriyuki Shintomi,  
 Yukihiro Kondo and Yoshio Okada



A new  $\epsilon$ -amino protecting group, 2-adamantyloxycarbonyl (2-Adoc), has been developed, and its application to the solid-phase synthesis of protected peptides in combination with  $N^{\alpha}$ -Fmoc protection and TFA-cleavable solid support as well as the solution-phase peptide synthesis depending on Boc-chemistry are described

- 3209 **Reaction of 3-(acetoxycarbonyl)quinazolin-4(3H)-ones with enolic  $\beta$ -diketones: the  $N$ - $N$  bond as a chiral axis in  $N$ -(3,4-dihydro-4-oxoquinazolin-3-yl)- $N$ -acyl- $\alpha$ -aminoketones; reductive and base-catalysed cleavage of the  $N$ - $N$  bond in  $N$ -acetyl- $N$ -(3,4-dihydro-4-oxoquinazolin-3-yl)- $\alpha$ -amino acid esters**

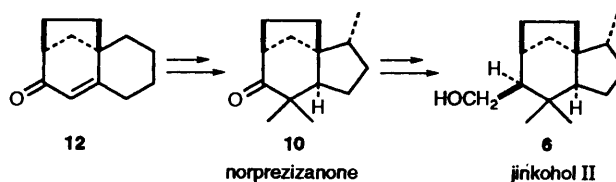
Robert S. Atkinson, Paul J. Edwards and  
 Gordon A. Thomson



14/15 Exist as stable diastereoisomers because the Q-N bond is a chiral axis

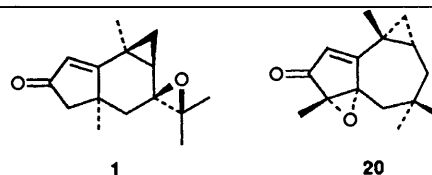
- 3217 **Synthesis based on cyclohexadienes. Part 15.**  
**Total synthesis of ( $\pm$ )-prezizaene, ( $\pm$ )-prezanol and ( $\pm$ )-jinkohol II**

Natesan Selvakumar and G. S. R. Subba Rao



- 3225 **Studies on the structure of the sesquiterpene caespitenone isolated from *Porella* species of liverwort**

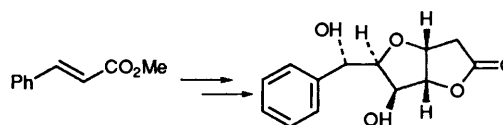
Motoo Tori, Yoshihiro Kohama, Katsuyuki  
 Nakashima and Yoshinori Asakawa



The structure of caespitenone isolated from the liverwort *Porella caespitans* var. *setigera* or *P. swartziana* has been revised from **1** to **20** including the absolute configuration by 2D NMR techniques and synthetic studies

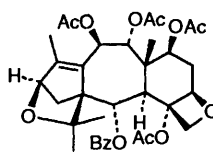
- 3231 **A convenient enantioselective synthesis of (+)-8-*epi*-goniofufurone**

Zhi-Cai Yang and Wei-shan Zhou

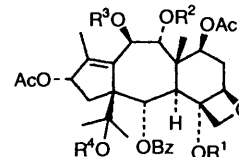


3233 **Chemistry and occurrence of taxane derivatives. Part 16. Rearranged taxoids from *Taxus × media* Rehd. cv *Hicksii*. X-Ray molecular structure of 9-*O*-benzoyl-9,10-dide-*O*-acetyl-11(15 → 1)*abeo*-baccatin VI**

Luciano Barboni, Pierluigi Gariboldi, Elisabetta Torregiani, Giovanni Appendino, Giancarlo Cravotto, Ezio Bombardelli, Bruno Gabetta and Davide Viterbo



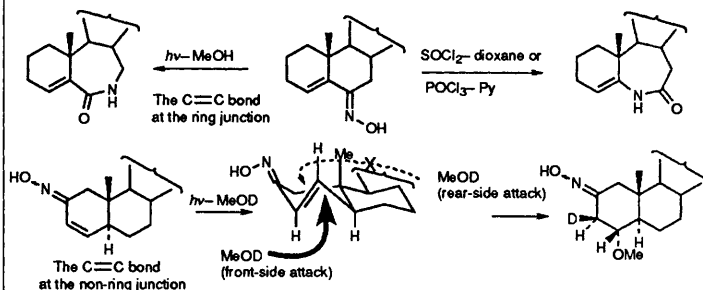
2

3  $R^1 = R^4 = H, R^2 = R^3 = Ac$ 4  $R^1 = Ac, R^2 = Bz, R^3 = R^4 = H$ 5  $R^1 = R^3 = Ac, R^2 = Bz, R^4 = H$ 

The new 11(15 → 1)*abeo*-taxanes 2–5 have been isolated from the roots of *Taxus × media* Rehd. cv *Hicksii*

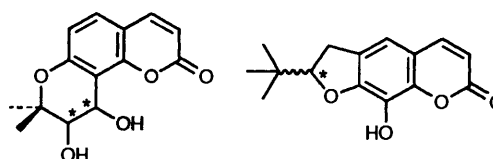
3239 **Photoinduced molecular transformations. Part 149. Stereospecific photoadditions and photorearrangements of the oximes of some steroidal  $\alpha,\beta$ -unsaturated cyclic ketones and their deuterio derivatives**

Hiroshi Suginome, Koji Ohshima, Yoshihiko Ohue, Takashi Ohki and Hisanori Senboku



3251 **Natural product chemistry. Part 181. Investigations on the synthesis of dihydropyrano- and dihydrofurano-coumarins by application of catalytic enantioselective *cis*-dihydroxylation**

Johannes Reisch and Arnd A. W. Voerste

1b (–)-*cis*(1*S*, 2*S*)1c (–)-*trans*(1*S*, 2*R*)

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NOTE: An asterisk in the heading of each paper indicates the author who is to receive any correspondence.

## Forthcoming Articles in *Perkin Transactions 1*

Reactions of Tetrasulfur Tetranitride with Aryl Dibromomethyl Ketones: One Pot Synthesis of 3-Aroylformamido-4-aryl-1,2,5-thiadiazoles and their Reactions **K. Kim, J. Cho and S.C. Yoon**

Photoresponsive Melittin Having a Spiropyran Residue in the Hydrophobic Region of the Sequence  
**S. Kimura, T. Oeda, K. Nagamine and Y. Imanishi**

Stereocontrol in the Nucleophilic Epoxidation of  $\alpha$ -(1-Hydroxyalkyl)- $\alpha,\beta$ -unsaturated Sulfones  
**R.F.W. Jackson, S.P. Standen, W. Clegg and A. McCamley**

Control of Diastereofacial Selectivity in the Nucleophilic Epoxidation of  $\gamma$ -Oxygenated- $\alpha,\beta$ -unsaturated Sulfones  
**R.F.W. Jackson, S.P. Standen and W. Clegg**

Effect of Molecular Sieves on the Formation and Acid-catalysed Mono- and Bis-cyclization of *N*-Arylimines. An Easy Entry to Polycyclic Ring Systems by a Novel Cascade Reaction **S. Laschat and O. Temme**

Enantiopure Didemnenones *via* Kinetic Resolution **E. Winterfeldt and M. Gores**

Optical Resolution and Absolute Stereochemistry of *trans*-2,5-Dimethyl-1-phenyl-1-silacyclopentane  
**B.P. Roberts, H.-S. Dang and D.A. Tocher**

Asymmetric Synthesis of (1*R*,1'*R*)- and (1*S*,1'*S*)-Diaryldiethylamines by way of a Diastereoselective Addition of Chiral Imines and 1,3-Oxazolindines with Organometallic Reagents **K. Higashiyama, H. Inoue, T. Yamauchi and H. Takahashi**

Synthetic Applications of Arenetricarbonylchromium(0) Complexes: The Synthesis of Polyfunctionalised Thiophenes  
**D.A. Widdowson, M.S. Loft and T.J. Mowlem**

Nickel-catalysed Substitutions of Aryl *tert*-Butyl Sulfones with Organometallic Reagents: Synthesis of *ortho*-Substituted Unsymmetrical Biaryls **J. Clayden, J.J.A. Cooney and M. Julia**

PbCl<sub>2</sub>/Ga Bimetal Redox System-mediated Reactions of Carbon-Carbon Bond Formation between Carbonyl Compounds with Ethyl Trichloroacetate and with Iodoacetonitrile **X.-L. Zhang, W.-T. Tao and Y.-Z. Huang**

Oxazolidinofullerene **T.-Y. Luh, L.-L. Shiu, K.-M. Chien, T.-Y. Liu, T.-I. Lin, G.-R. Her and S.-L. Eng**

Regioselectivity in the Reductive Cleavage of Pyrogallol Derivatives: Reductive Electrophilic Substitution of Acetals of 2,3-Dimethoxyphenol **U. Azzena, G. Melloni and L. Pisana**

On the Mechanism of Phototransformations of 3-Alkoxy-2-(2-furyl)-4-oxo-4*H*-1-benzopyrans  
**S.C. Gupta, A. Saini, D. Kumar, N.S. Yadav, K. Chand, S. Mor and S.N. Dhawan**

Additivity Relationships in the Carbon-13 Nuclear Magnetic Resonance Spectra of Polyhydroxy Steroids  
**M. Kobayashi**

(Halogenomethyl)phenyl  $\alpha$ -D-Glucopyranosides as Enzyme Activated Irreversible Inhibitors of Yeast  $\alpha$ -Glucosidase and Potential Anti-HIV Agents **A.H. Haines, J.C. Briggs and R.J.K. Taylor**

Radical Cyclisation in Heterocycle Synthesis. Part 1. Thiyl Radical Addition-Cyclisation of Dienylamides for Lactam Synthesis **T. Naito, Y. Honda, O. Miyata and I. Ninomiya**

Improved Synthesis of Isoguanosine and 6-Substituted Xanthosine Derivatives  
**G. Piccialli, L. de Napoli, D. Montesarchio, C. Santacroce and M. Varra**

Allene-based Electrophile-mediated Cyclisations: Efficient Synthesis of Medium Ring Azacycles  
**T. Gallagher and R.W. Shaw**

Synthesis of Medium Ring Azacycles *via* Allene-based Cyclisations: Evaluation of Possible Mechanistic Pathways  
**T. Gallagher, I.W. Davies, R.W. Shaw and R. Wisedale**

5,9-Methanobenzocycloalkenamides. Part 1. An Improved Synthesis of 11-Amino-5,9-methanobenzocyclooctenes  
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