

JOURNAL OF THE CHEMICAL SOCIETY

Perkin Transactions 1

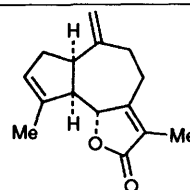
Organic and Bio-organic Chemistry

CONTENTS

Perkin Communications

- 1651 **Synthesis (in *ent*-form) of a novel jalcaguaianolide from *Ferula arrigonii* bocchieri**

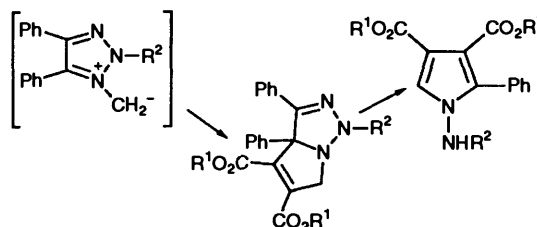
Philippe Delair, Nina Kann and Andrew E. Greene



A recently isolated isodehydrocostus lactone from the genus *Ferula* (Umbelliferae) has been stereoselectively prepared in *ent*-form from α -santonin

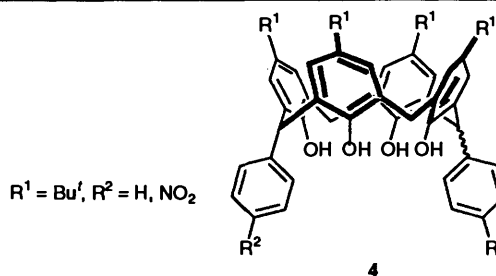
- 1653 **Generation and trapping of a 1,2,3-triazolium 1-unsubstituted methanide. A carbon analogue of the azole *N*-oxide: routes to pyrrolo[1,2-*c*]-[1,2,3]triazoles and substituted 1-amino-pyrroles**

Richard N. Butler, Peter D. McDonald, P. McArdle and D. Cunningham



- 1657 **Acid-catalysed synthesis of a new class of calix[4]arenes**

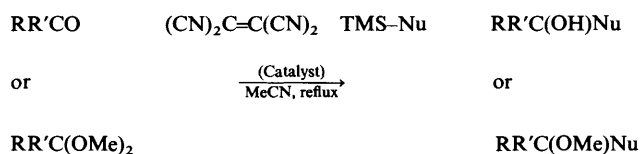
Giovanni Sartori, Raimondo Maggi, Franca Bigi, Arturo Arduini, Andrea Pastorio and Cecilia Porta



Calix[4]arenes **4** were synthesized by treating 2,2'-dihydroxy-triphenylmethanes with paraformaldehyde in acidic media

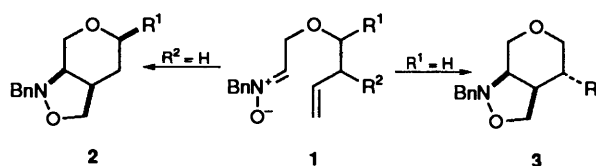
- 1659 **Catalytic activity of tetracyanoethylene in the reactions of aldehydes, ketones and acetals with silylated nucleophiles**

Tsuyoshi Miura and Yukio Masaki



1661 Stereoselectivity of intramolecular cyclisations of nitrones derived from 3-oxahept-6-enals

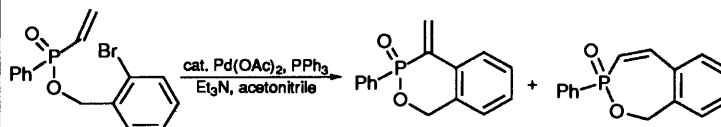
Michael B. Gravestock, David W. Knight, Jennifer S. Lovell and Steven R. Thornton



Intramolecular [1.3]-dipolar cycloadditions of the nitrones **1** proceed with moderate to good stereoselectivities in favour of the *cis*-fused diastereoisomers **2** and **3**

1665 Palladium-catalysed carbocyclization of organophosphorus compounds: a novel and effective method for the synthesis of cyclic organophosphorus compounds including the phosphorus analogues of α -methylene lactones

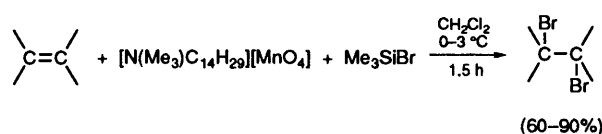
Feng Hong, Jiazhi Xia and Yuanyao Xu



Cyclic organophosphorus compounds including the phosphorus analogues of α -methylene lactones have been synthesized by palladium-catalysed carbocyclization

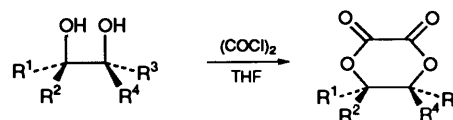
1667 Manganese-mediated novel dibromination of olefins with tetradecyltrimethylammonium permanganate and trimethylbromosilane

Braja G. Hazra, Mahendra D. Chordia, Bharat B. Bahule, Vandana S. Pore and Sourav Basu

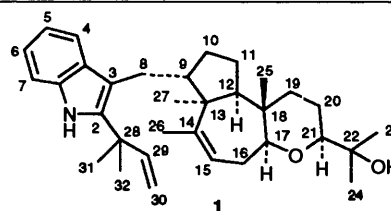


1671 Synthesis of the cyclic oxalates of 1,2-glycols by controlling the formation of the cyclic carbonates

Taisuke Itaya and Takehiko Iida

1673 Structure of a new type of indoloditerpenoid from *Emericella purpurea*

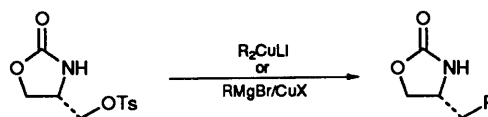
Ken-ichi Kawai, Koohei Nozawa and Shoichi Nakajima



The relative structure of emindole PA **1**, isolated from *E. purpurea*, has been confirmed

1675 A new electrophilic alaninol synthon. A general route to oxazolidinones of D or (*R*)-2-amino alcohols from L-serine

Mukund P. Sibi, Drew Rutherford and Rajiv Sharma

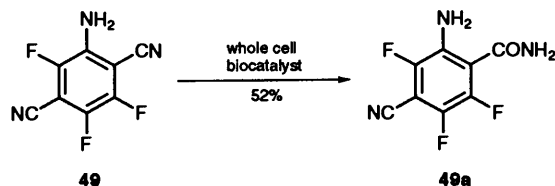


a R = Ph, **b** R = Bn, **c** R = C₆H₄OMe-4, **d** R = piperonyl, **e** R = Me, **f** R = Et, **g** R = Bu, **h** R = *c*-C₆H₁₁, **i** R = dodecyl

Keynote Article

1679 Regioselective hydrolysis of aromatic dinitriles using a whole cell catalyst

John Crosby, Jock Moilliet, Julian S. Parratt and Nicholas J. Turner

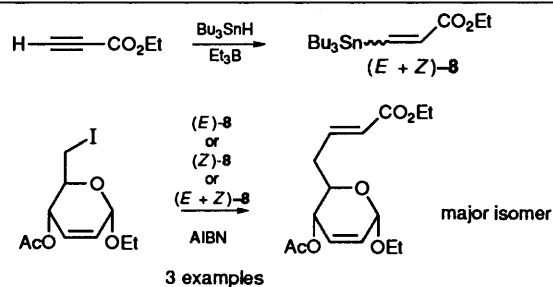


Selected aromatic dinitriles (e.g. **49**) are hydrolysed to single regioisomers (**49a**) using a whole cell biocatalyst

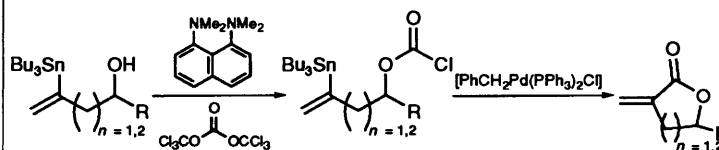
Articles

1689 Some studies on proximal addition–elimination procedures in intermolecular carbon–carbon bond-forming free radical reactions. Convenient synthesis of ethyl (*E*)-(ethyl 2,3,6,7,8-pentadeoxy- α -D-erythro-nona-2,7-dienopyranosid)uronate

Ana M. Gómez, J. Cristóbal López and Bert Fraser-Reid

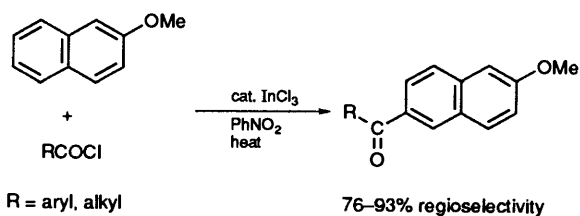
1697 A study of the intramolecular Stille cross coupling reaction of vinylstannyl chloroformates: application to the synthesis of α -methylene lactones

Robert M. Adlington, Jack E. Baldwin, Andreas Gansäuer, William McCoull and Andrew T. Russell



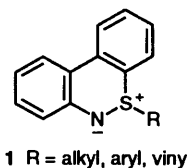
1703 Acylation of 2-methoxynaphthalene with acyl chlorides in the presence of a catalytic amount of Lewis acids

Somma Pivsa-Art, Kazumi Okuro, Masahiro Miura, Satoru Murata and Masakatsu Nomura



1709 Reactions of 9-substituted 9-thia-10-azaphenanthrenes with electrophiles

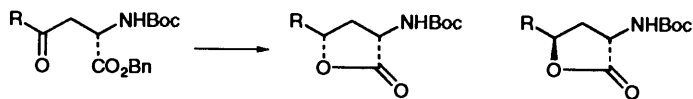
Hiroshi Shimizu, Michinori Ozawa, Takayuki Matsuda, Koji Ikedo, Tadashi Kataoka, Mikio Hori, Kazuhiro Kobayashi and Yukio Tada



Reactions of 9-substituted 9-thia-10-azaphenanthrenes **1** with electrophiles such as dimethyl acetylenedicarboxylate, methyl propiolate and diphenylcyclopropanone afforded novel heterocycles

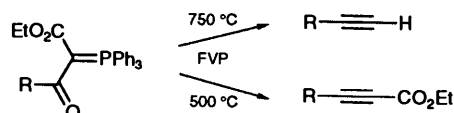
1719 **Reduction of 4-oxo α -amino acids as a route to 4-hydroxylated α -amino acids. Concise approaches to the synthesis of clavalanine, *erythro*-4-hydroxyornithine and (+)-bulgecinine**

Richard F. W. Jackson, Alan B. Rettie, Anthony Wood and Martin J. Wythes



1727 **Flash vacuum pyrolysis of stabilised phosphorus ylides. Part 2. Two-step conversion of acid chlorides into acetylenic esters and terminal alkynes**

R. Alan Aitken, Caroline E. R. Horsburgh, J. Graeme McCreadie and Shirley Seth



1733 **Allenes from 3-bromo-2*H*-1-benzopyrans**

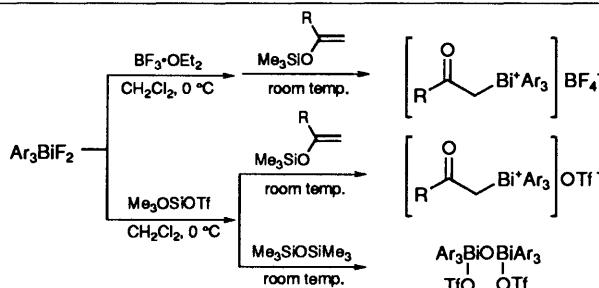
Christopher D. Gabbutt, John D. Hepworth, B. Mark Heron and M. Moshfiqur Rahman



Reagents and conditions: i, BuLi, Et₂O, 0 °C–room temp.; ii, electrophile, H₂O

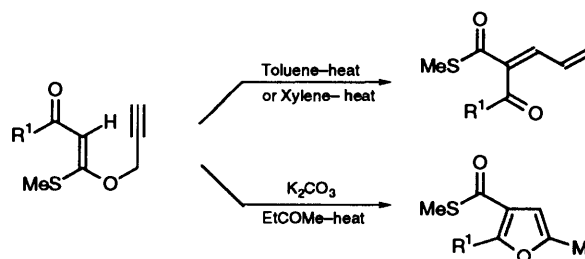
1739 **Synthesis, X-ray structure and reactions of (2-oxoalkyl)triarylbismuthonium salts**

Yoshihiro Matano, Nagao Azuma and Hitomi Suzuki



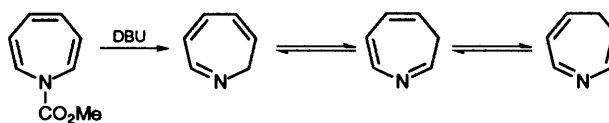
1749 **Rearrangement studies on acylketene *O*-prop-2-ynyl *S*-methylmonothioketals**

Laxminarayan Bhat, Hiriakkanavar Ila and Hiriakkanavar Junjappa



1753 **Demethoxycarbonylation of methyl 2,5- and methyl 3,6-dialkyl-1*H*-azepine-1-carboxylates: formation and characterization of 2*H*-, 3*H*- and 4*H*-azepines**

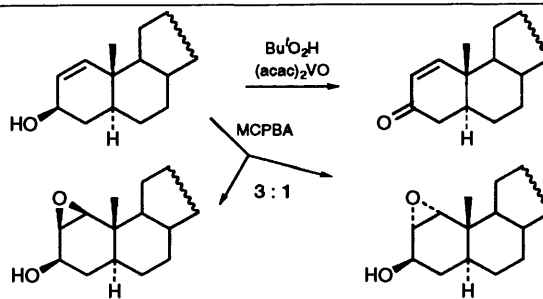
Kyosuke Satake, Ryoichi Okuda, Michiaki Hashimoto, Yasusi Fujiwara, Hideki Okamoto, Masaru Kimura and Shiro Morosawa



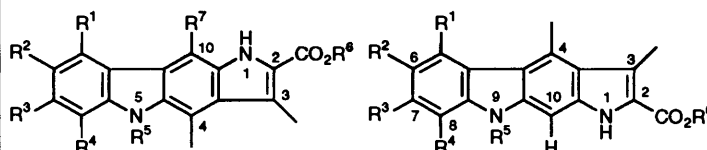
Convenient synthesis and evidence for the thermal isomerization of 3*H*-azepine derivatives are presented

1759 Stereochemistry of epoxidation of allylic and homoallylic cyclohexene alcohols

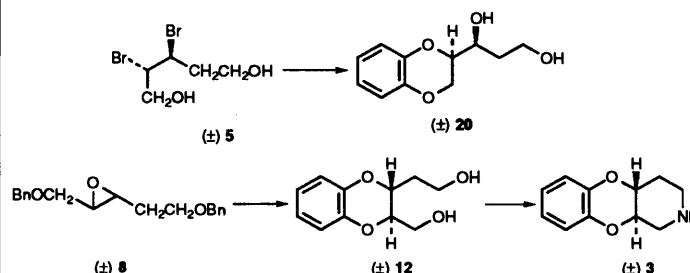
Pavel Kočovský

1765 Further observations on and novel products from acid-catalysed indole-pyrrole condensations: formation of pyrrolo-[2,3-*b*]carbazoles

Laddawan Chunchatprasert and Patrick V. R. Shannon

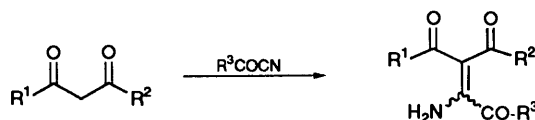
1773 A reinvestigation of the synthesis of *trans*-(±)-1,2,3,4,4a,10a-hexahydro[1,4]benzodioxino-[2,3-*c*]pyridine

Panayiotis A. Procopiou, Peter C. Cherry, Martyn J. Deal and R. Brian Lamont



1779 Reactions of β-dicarbonyl compounds with acyl cyanides catalyzed or promoted by metal centres in the homogeneous phase

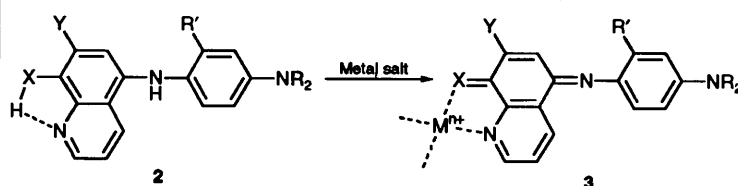
Augusto C. Veronese, Rosella Callegari, Marino Basato, Giovanni Valle



C–C bond forming between β-dicarbonyl compounds and acyl cyanides is catalyzed by nickel acetylacetonate or promoted by tin tetrachloride

1787 Synthesis and colour development properties of indoaniline-type near-IR colour formers

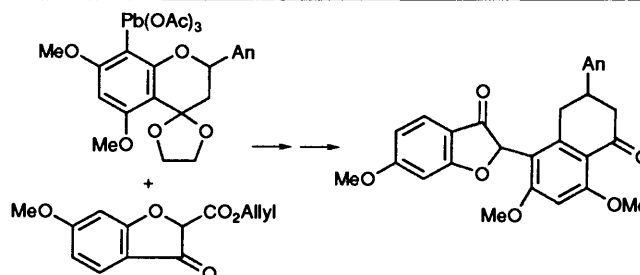
Yuji Kubo



New indoaniline-type near-IR colour formers have been synthesized, producing intense absorption bands immediately in the near-IR region on metal chelate complexation-oxidation

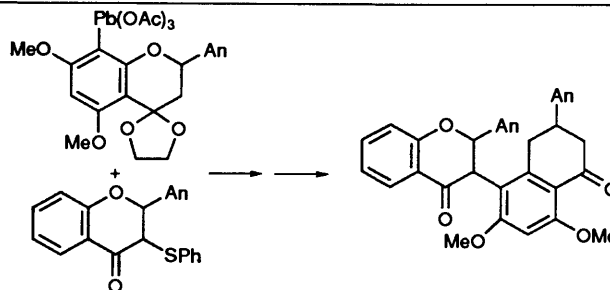
1791 Aryllead triacetates as synthons for the synthesis of biflavonoids. Part 1. Synthesis and reactivity of a flavanonyllead triacetate

Dervilla M. X. Donnelly, Brendan M. Fitzpatrick and Jean-Pierre Finet



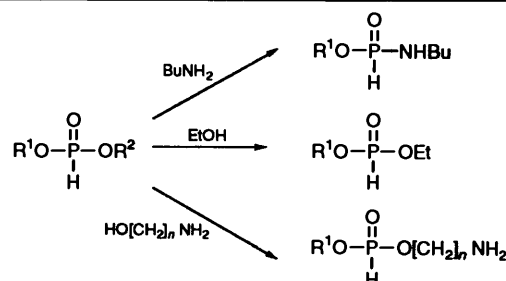
1797 **Arylead triacetates as synthons for the synthesis of biflavonoids. Part 2. Synthesis of a *Garcinia*-type biflavonoid**

Dervilla M. X. Donnelly, Brendan M. Fitzpatrick, Sarah M. Ryan and Jean-Pierre Finet



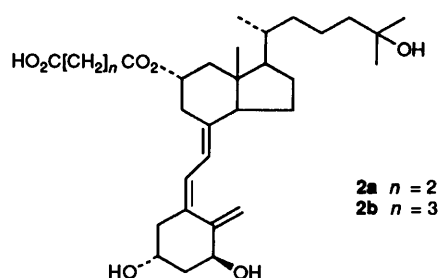
1803 **Studies on reactions of nucleoside H-phosphonates with bifunctional reagents. Part 2. Stability of nucleoside H-phosphonate diesters in the presence of amino alcohols**

Michał Sobkowski, Jacek Stawiński, Anna Sobkowska and Adam Kraszewski



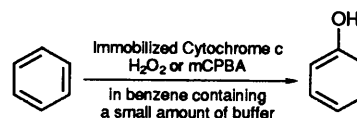
1809 **Syntheses of 11 α -(3-carboxypropanoyloxy)-1 α ,25-dihydroxyvitamin D₃ and 11 α -(4-carboxybutanoyloxy)-1 α ,25-dihydroxyvitamin D₃: novel haptenic derivatives for production of highly specific antibodies to 1 α ,25-dihydroxyvitamin D₃**

Norihiro Kobayashi, Junichi Kitahori, Hidetoshi Mano and Kazutake Shimada



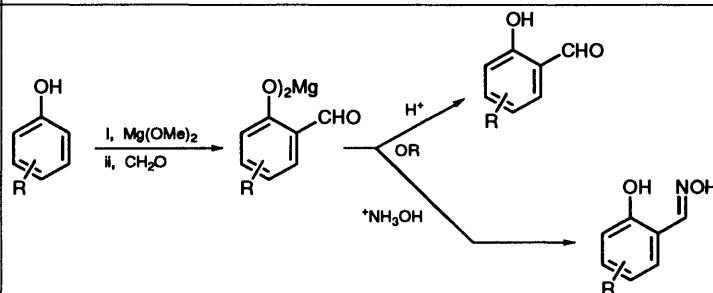
1817 **Hydroxylation of benzene by immobilized cytochrome c in an organic solvent**

Reiko Akasaka, Tadahiko Mashino and Masaaki Hirobe



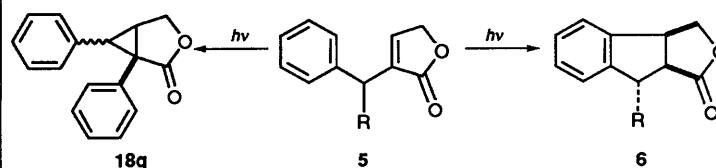
1823 **Magnesium-mediated *ortho*-specific formylation and formaldoximation of phenols**

Robert Aldred, Robert Johnston, Daniel Levin and James Neilan



1833 **Furan-2(3*H*)- and -2(5*H*)-ones. Part 5. Photoreactions of 3-benzylfuran-2(5*H*)-ones; cyclisation to indenofuranones**

Osamu Muraoka, Genzoh Tanabe, Kyohko Sano, Toshie Minematsu and Takefumi Momose

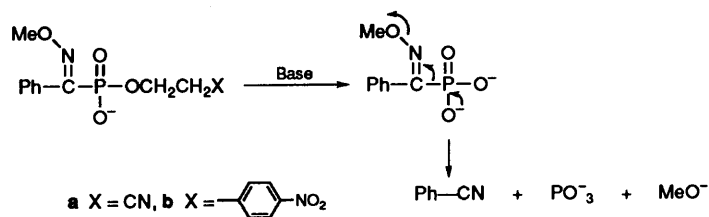


a R = H; **b** R = Me; **c** R = Et; **d** R = Pr; **e** R = cyclohexyl; **f** R = Prⁱ; **g** R = Ph

Characteristic photoreactivity of 5 leading to 6a–f or 18g is discussed

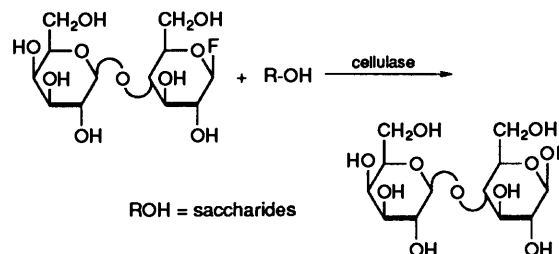
- 1847 **2-Cyanoethyl and *p*-nitrophenethyl α -hydroxyimino- and α -methoxyimino-phosphonates: potential precursors of metaphosphate anion**

Mahmoud Mahajna and Eli Breuer



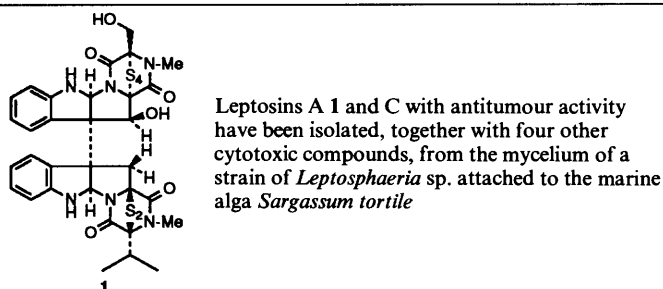
- 1851 **Cellulase-catalysed glycosylation reactions: simple route towards a highly selective synthesis of oligosaccharides**

Olaf Karthaus, Shin-ichiro Shoda, Hiroshi Takano, Kei Obata and Shiro Kobayashi



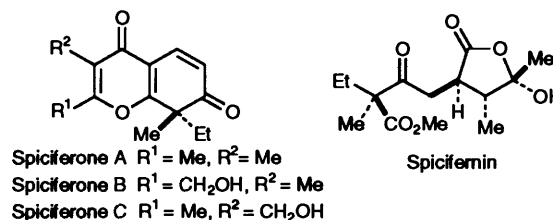
- 1859 **Leptosins, antitumour metabolites of a fungus isolated from a marine alga**

Chika Takahashi, Atsushi Numata, Yoshinori Ito, Eiko Matsumura, Hiromasa Araki, Hideo Iwaki and Katsuhiko Kushida



- 1865 **Absolute stereochemistry of spiciferones and spicifernin, bioactive metabolites of the fungus *Cochliobolus spicifer*: evidence for their unique biosynthesis**

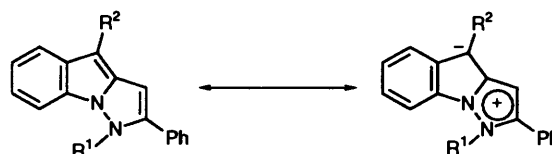
Hiromitsu Nakajima, Keiichi Fukuyama, Hiroaki Fujimoto, Toshiyuki Baba and Takashi Hamasaki



The absolute stereochemistry of spiciferones and spicifernin has been determined by a combination of X-ray analysis and Mosher's method, and by CD spectral comparison

- 1871 **Preparation and reaction of 1*H*-pyrazolo[1,5-*a*]indoles as isoelectronic analogues of azulene (pseudoazulene)**

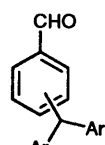
Jing-Kang Shen and Hajime Katayama



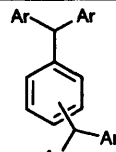
1*H*-Pyrazolo[1,5-*a*]indole derivatives were prepared for the first time by two methods and found to have the chemical characteristics of pseudoazulene

1879 **Chemoselectivity in the reaction of metal phenolates with aromatic dialdehydes**

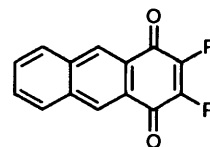
Giovanni Sartori, Franca Bigi, Raimondo Maggi, Andrea Pastorio, Cecilia Porta and Gianmarco Bonfanti



6, 11



7, 12



17

Ar = 2-hydroxy-3,5-dimethylphenyl, 5-*tert*-butyl-2-hydroxyphenyl
R, R' = H, Me, OMe

Products 6, 7, 11, 12 and 17 have been synthesized by treating oxophilic metal phenolates with aromatic dialdehydes

AUTHOR INDEX

- Adlington, Robert M., 1697
 Aitken, R. Alan, 1727
 Akasaka, Reiko, 1817
 Aldred, Robert, 1823
 Araki, Hiromasa, 1859
 Arduini, Arturo, 1657
 Azuma, Nagao, 1739
 Baba, Toshiyuki, 1865
 Bahule, Bharat B., 1667
 Baldwin, Jack E., 1697
 Basato, Marino, 1779
 Basu, Sourav, 1667
 Bhat, Laxminarayan, 1749
 Bigi, Franca, 1657, 1879
 Bonfanti, Gianmarco, 1879
 Breuer, Eli, 1847
 Butler, Richard N., 1653
 Callegari, Rosella, 1779
 Cherry, Peter C., 1773
 Chordia, Mahendra D., 1667
 Chunchatprasert, Laddawan, 1765
 Crosby, John, 1679
 Cunningham, D., 1653
 Deal, Martyn J., 1773
 Delair, Philippe, 1651
 Donnelly, Dervilla M. X., 1791, 1797
 Finet, Jean-Pierre, 1791, 1797
 Fitzpatrick, Brendan M., 1791, 1797
 Fraser-Reid, Bert, 1689
 Fujimoto, Hiroaki, 1865
 Fujiwara, Yasusi, 1753
 Fukuyama, Keiichi, 1865
 Gabbutt, Christopher D., 1733
 Gansäuer, Andreas, 1697
 Gómez, Ana M., 1689
 Gravestock, Michael B., 1661
 Greene, Andrew E., 1651
 Hamasaki, Takashi, 1865
 Hashimoto, Michiaki, 1753
 Hazra, Braja G., 1667
 Hepworth, John D., 1733
 Heron, B. Mark, 1733
 Hirobe, Masaaki, 1817
 Hong, Feng, 1665
 Hori, Mikio, 1709
 Horsburgh, Caroline E. R., 1727
 Iida, Takehiko, 1671
 Ikedo, Koji, 1709
 Ila, Hiriyakkanavar, 1749
 Itaya, Taisuke, 1671
 Ito, Yoshinori, 1859
 Iwaki, Hideo, 1859
 Jackson, Richard F. W., 1719
 Johnston, Robert, 1823
 Junjappa, Hiriyakkanavar, 1749
 Kann, Nina, 1651
 Karthaus, Olaf, 1851
 Kataoka, Tadashi, 1709
 Katayama, Hajime, 1871
 Kawai, Ken-ichi, 1673
 Kimura, Masaru, 1753
 Kitahori, Junichi, 1809
 Knight, David W., 1661
 Kobayashi, Kazuhiro, 1709
 Kobayashi, Norihiro, 1809
 Kobayashi, Shiro, 1851
 Kočovský, Pavel, 1759
 Kraszewski, Adam, 1803
 Kubo, Yuji, 1787
 Kushida, Katsuhiko, 1859
 Lamont, R. Brian, 1773
 Levin, Daniel, 1823
 López, J. Cristóbal, 1689
 Lovell, Jennifer S., 1661
 Maggi, Raimondo, 1657, 1879
 Mahajna, Mahmoud, 1847
 Mano, Hidetoshi, 1809
 Masaki, Yukio, 1659
 Mashino, Tadahiko, 1817
 Matano, Yoshihiro, 1739
 Matsuda, Takayuki, 1709
 Matsumura, Eiko, 1859
 McArdle, P., 1653
 McCoull, William, 1697
 McCreadie, J. Graeme, 1727
 McDonald, Peter D., 1653
 Minematsu, Toshie, 1833
 Miura, Masahiro, 1703
 Miura, Tsuyoshi, 1659
 Moilliet, Jock, 1679
 Momose, Takefumi, 1833
 Morosawa, Shiro, 1753
 Muraoka, Osamu, 1833
 Murata, Satoru, 1703
 Nakajima, Hiromitsu, 1865
 Nakajima, Shoichi, 1673
 Neilan, James, 1823
 Nomura, Masakatsu, 1703
 Nozawa, Koohei, 1673
 Numata, Atsushi, 1859
 Obata, Kei, 1851
 Okamoto, Hideki, 1753
 Okuda, Ryoichi, 1753
 Okuro, Kazumi, 1703
 Ozawa, Michinori, 1709
 Parratt, Julian S., 1679
 Pastorio, Andrea, 1657, 1879
 Pivsa-Art, Sommai, 1703
 Pore, Vandana S., 1667
 Porta, Cecilia, 1657, 1879
 Procopiou, Panayiotis A., 1773
 Rahman, M. Moshfiqur, 1733
 Rettie, Alan B., 1719
 Russell, Andrew T., 1697
 Rutherford, Drew, 1675
 Ryan, Sarah M., 1797
 Sano, Kyohko, 1833
 Sartori, Giovanni, 1657, 1879
 Satake, Kyosuke, 1753
 Seth, Shirley, 1727
 Shannon, Patrick V. R., 1765
 Sharma, Rajiv, 1675
 Shen, Jing-Kang, 1871
 Shimada, Kazutake, 1809
 Shimizu, Hiroshi, 1709
 Shoda, Shin-ichiro, 1851
 Sibi, Mukund P., 1675
 Sobkowska, Anna, 1803
 Sobkowski, Michał, 1803
 Stawiński, Jacek, 1803
 Suzuki, Hitomi, 1739
 Tada, Yukio, 1709
 Takahashi, Chika, 1859
 Takano, Hiroshi, 1851
 Tanabe, Genzoh, 1833
 Thornton, Steven R., 1661
 Turner, Nicholas J., 1679
 Valle, Giovanni, 1779
 Veronese, Augusto C., 1779
 Wood, Anthony, 1719
 Wythes, Martin J., 1719
 Xia, Jiazhi, 1665
 Xu, Yuanyao, 1665

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

Forthcoming Articles in *Perkin Transactions 1*

Synthesis of Amino Acid Derivatives Substituted in the Backbone with Stable Isotopes for Application in Peptide Synthesis
U. Ragnarsson, L. Lankiewicz, B. Nyasse, B. Fransson and L. Grehn

The Synthesis of Calixfuran Macrocycles and Evidence for Gas-phase Ammonium Ion Complexation
A. Whiting and R.M. Musau

Reaction of 2,4-Diphenyl-4,5-dihydro-1,3-oxazol-5-one with *N*-(4-*p*-Tolylsulfonyl)-4-phenyl-1-azabuta-1,3-diene: C=C *versus* C=N double bond addition
P.D. Croce, R. Ferraccioli and C. La Rosa

The Chemistry of Pseudomonic Acid. Part 12. Preparation of Diazole and Triazole Derivatives
A.K. Forrest, P.J. O'Hanlon and G. Walker

β -Glucosyl and β -Galactosyl Transfer Catalysed by β -1,4-Galactosyltransferase in the Preparation of Glycosylated Alkaloids
V. Kren, C. Auge and P. Sedmera

A Novel Ketal Fragmentation with Aluminium Iodide
J.-G. Jun, T.H. Ha, B.P. Mundy, K.E. Bartelt, R.S. Bain and J.H. Cardellina

Synthesis and Silica Gel Catalysed Decomposition of 3-(1-Arylcycloalkyl)-substituted 1,2,4-Trioxolanes and 1,2,4-Dioxazolidines
M. Nojima and R. Fukagawa

Indolizine Studies. Part 3. Synthesis and Dynamic NMR Analysis of Indolizine-2-carboxamides
P.T. Kaye, M.L. Bode and R. George

The Phosphorylation of Organic Compounds by Phosphoric Anhydride. Part 1. Phosphorylated Benzanilides
J.C. Tebby, D.A. Efremov and E.A. Oberlander

Total Syntheses of Sannamycin-type Aminoglycoside Antibiotics Enantiomerically Pure D- and L-Glycosyl Donors
H. Prinzbach, C. Ludin, B. Schwesinger, R. Schwesinger, W. Meier, B. Seitz, T. Weller, C. Hoenke, S. Haitz and S. Erbeck

Facile Nucleophile Displacements of C-4-Triazolopyrimidine Deoxynucleoside: Single-step Synthesis of *N*-Acylated-5-methyldeoxycytidines
M. Perbost and Y.S. Sanghvi

Asymmetric Synthesis of β -Amino- α -hydroxy Acids *via* Diastereoselective Hydroxylation of Homochiral β -Amino Enolates
S.G. Davies, M.E. Bunnage, A.N. Chernega and C.J. Goodwin

Asymmetric Synthesis of the Taxol and Taxotere C-13 Side Chains
S.G. Davies, M.E. Bunnage and C.J. Goodwin

o-*N*-Tosylcarbamido Substituted α -Diazoacetophenones: Their Preparation and Decomposition Reactions
L. Benati, G. Calestani, P.C. Montevecchi and P. Spagnolo

Total Synthesis of (2*S*,3*S*,4*R*)-2-[(2*R*)-Hydroxydocosanoylamino]-16-methylheptadecane-1,3,4-triol, a Ceramide Part of Sponge Cerebrosides
T. Kamikawa, Y. Yamagiwa, T. Iwamura, N. Hirata and H. Nakashima

Chemical Transformations of 2,7-Di-*tert*-butylthiepine
S. Yamazaki

Cycloadditions of Methano[11]annulenones with Dichloro- and Chloro-ketenes. Preparation of 2*H*-Methanocycloundeca[*b*]furan-2-one Ring Systems
M. Nitta, H. Tomioka, A. Akaogi, K. Takahashi, K. Saito and K. Ito

Biosynthetic Study of Alternaric Acid
A. Ichihara, H. Oikawa and H. Tabuchi

A Facile Synthesis of (-)-Deoxymannojirimycin and (2*S*,3*R*,4*R*,5*R*)-Trihydroxypipelicolic Acid *via* Regioselective Hydrolysis
S.G. Lee, Y.J. Yoon and K.H. Park

Preparation of 2,3-Disubstituted 4,5-Dihydrothiophenes and Thiophenes using the Non-classical Intramolecular Wittig Reaction of Thioesters
P.J. Murhpy, P. Chatterjee, R. Pepe and M. Shaw

Convenient Synthesis of 2-Acetamido-2-deoxy- β -D-glucopyranosyl Serine and Threonine Building Blocks for Solid-phase Glycopeptide Assembly
M. Meldal, A. Vargas-Berenguel, H. Paulsen and K. Bock