

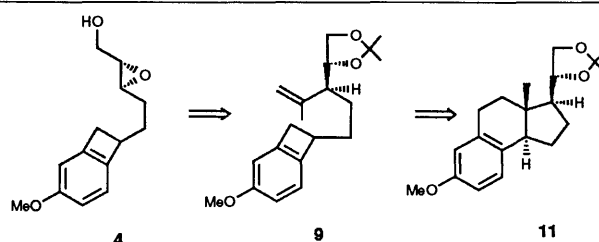
JOURNAL OF THE CHEMICAL SOCIETY

Perkin Transactions 1

Organic and Bio-organic Chemistry

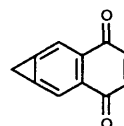
CONTENTS

Perkin Communications

2237 Rapid enantioselective access to des-*AB*-trienic corticosteroids *via* intramolecular cycloaddition

Hideo Nemoto, Atsushi Satoh and Keiichiro Fukumoto

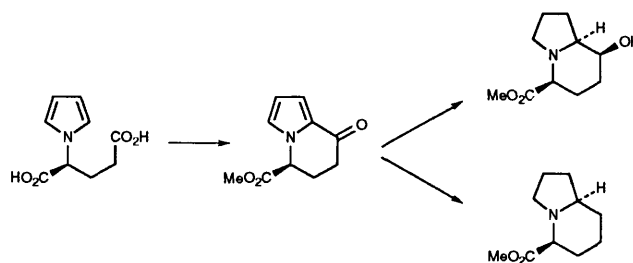
A short synthesis of an enantiomerically pure des-*AB*-trienic steroid **11** achieved by thermolysis of **9** itself prepared from the chiral epoxide **4** as starting material

2239 1*H*-Cyclopropa[*b*]naphthalene-3,6-dione

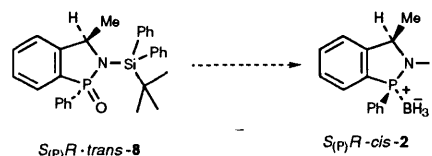
Brian Halton, Andrew J. Kay and Zha Zhi-mei

1*H*-Cyclopropa[*b*]naphthalene-3,6-dione has been obtained as the first stable cyclopropaquinone

2241 Efficient asymmetric synthesis of indolizidine building blocks



Timothy J. Bond, Robert Jenkins, Andrew C. Ridley and Paul C. Taylor

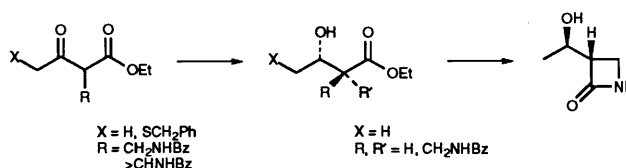
2243 Synthesis of a new class of asymmetric ketone reduction catalyst *via* a diastereoselective cyclisation reaction: X-ray crystal structure of *S*_(P)*R*-(−)-*N*-(*tert*-butyldiphenylsilyl) dihydrobenzaphosphole oxide

Barry Burns, Eric Merifield, Mary F. Mahon, Kieran C. Molloy and Martin Wills

Stereoselective synthesis and X-ray crystal structure of *S*_(P)*R*-**8**, a precursor of a new class of asymmetric ketone reduction catalyst, *S*_(P)*R*-**trans-2**, is described

2247 **Microbial generation of (2*R*,3*S*)- and (2*S*,3*S*)-ethyl 2-benzamidomethyl-3-hydroxybutyrate, a key intermediate in the synthesis of (3*S*,1'*R*)-3-(1'-hydroxyethyl)-azetidin-2-one**

Claudio Fuganti, Simonetta Lanati, Stefano Servi, Auro Tagliani, Angelo Bedeschi and Giovanni Franceschi

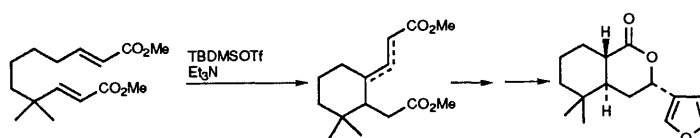


The microbial reduction of various β -keto esters for the synthesis of azetidin-2-ones is described

Articles

2251 **Deconjugation of α,β -unsaturated esters and an intramolecular Michael reaction of bis- α,β -unsaturated esters with trialkylsilyl trifluoromethanesulfonate in the presence of tertiary amine: synthesis of (\pm)-ricciocarpin A**

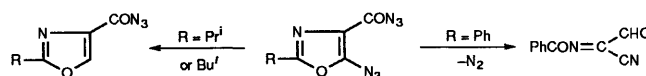
Masataka Ihara, Shuichi Suzuki, Nobuaki Taniguchi and Keiichiro Fukumoto



Intramolecular Michael reaction of bis- α,β -unsaturated esters gave cyclic products, which were transformed into (\pm)-ricciocarpin A

2259 **Synthesis and thermolysis of 5-azido-4-formyloxazoles**

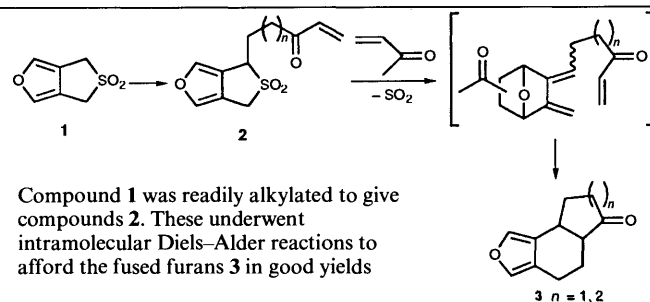
Gerrit L'abbé, Anna-Maria Ilisiu, Wim Dehaen and Suzanne Toppet



5-Azidooxazole-4-carbaldehydes with a 2-isopropyl or *tert*-butyl substituent undergo a Cornforth rearrangement, whereas the phenyl derivative undergoes thermolysis with loss of nitrogen

2263 **Alkylation of 4*H*,6*H*-thieno[3,4-*c*]furan 5,5-dioxide and its use as a 3,4-dimethylenefuran synthon in intramolecular Diels–Alder reaction**

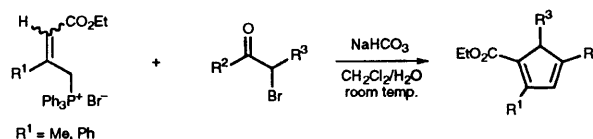
Kaori Ando, Naoki Akadegawa and Hiroaki Takayama



Compound **1** was readily alkylated to give compounds **2**. These underwent intramolecular Diels–Alder reactions to afford the fused furans **3** in good yields

2269 **[3 + 2]-Annulation using allylidene(triphenyl)phosphoranes: a one-step synthesis of cyclopentadienes**

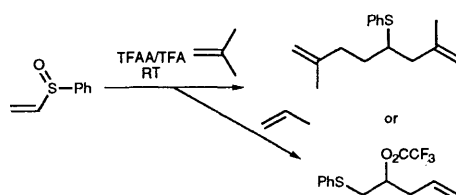
Minoru Hatanaka, Yuichiro Himeda and Ikuo Ueda



A convenient synthesis of substituted cyclopentadienes is described using allyltriphenylphosphonium bromides

2275 Electrophilic ene-type reactions of phenyl vinyl sulfoxide with alkenes

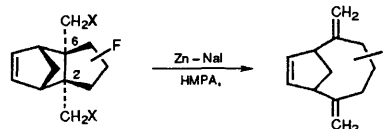
Jeremy Harvey, Marie-Hélène Brichard and Heinz G. Viehe



Experiments are described which establish the mechanism of both types of reaction, involving thionium ions

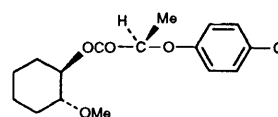
2281 Strain-assisted reductive ring cleavage. Convenient route to bridged eight-membered rings present in taxanes

Subrata Ghosh, Subrata Sarkar and Goutam Saha



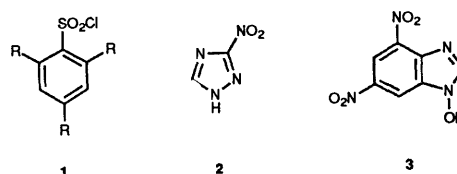
2287 Some diastereoselective enzyme-catalysed esterifications and interesterifications

Emma L. A. Macfarlane, Stanley M. Roberts, Veronique G. R. Steukers and Philip L. Taylor

The above diastereoisomer was obtained almost exclusively in the interesterification involving (\pm)-*p*-chlorophenoxypropionic acid and (\pm)-2-methoxycyclohexanol in hexane using CCL as the catalyst

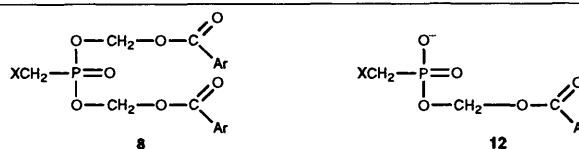
2291 Phosphotriester approach to the synthesis of oligonucleotides: a reappraisal

Colin B. Reese and Zhang Pei-Zhuo

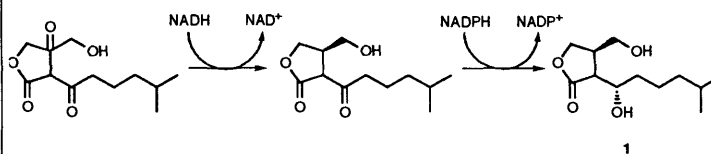
Oligonucleotide coupling reactions are effected with **1** (R = Me or Me₂CH), 1-methylimidazole and an additional nucleophilic catalyst (such as **2** or **3**) in pyridine-acetonitrile solution

2303 Synthesis and bioactivation of bis(aryloxymethyl) and mono(aryloxymethyl) esters of benzylphosphonate and phosphonoacetate

William Thomson, Dave Nicholls, Antony G. Mitchell, Julie A. Corner, William J. Irwin and Sally Freeman

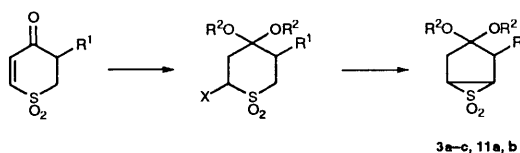
The biolabile prodrugs, **8** and **12** (X=Ph, Ar=Ph or 2-MeC₆H₄) degrade in the presence of porcine liver carboxyesterase to benzylphosphonate whereas for Ar=2,4,6-Me₃C₆H₂ there is no reaction. For compounds where X=MeO₂C there is competition with cleavage of the methyl ester2309 Biosynthetic studies on virginiae butanolide A, a butyrolactone autoregulator from *Streptomyces*. Part 2. Preparation of possible biosynthetic intermediates and conversion experiments in a cell-free system

Shohei Sakuda, Sumiko Tanaka, Kimihiro Mizuno, Oratai Sukcharoen, Takuya Nihira and Yasuhiro Yamada

The biosynthetic pathway to virginiae butanolide A **1** has been confirmed in a cell-free system

2317 Isolation of episulfones from the Ramberg-Bäcklund rearrangement. Part 2. X-Ray molecular structure of 2,3-epithio-8,8-dimethyl-6,10-dioxaspiro[4.5]decane *S,S*-dioxide and of *r*-6-benzyl-*t*-7,*t*-8-epithio-1,4-dioxaspiro[4.4]nonane *S,S*-dioxide

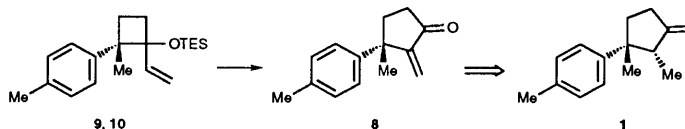
Stephen M. Jeffery, Alan G. Sutherland, Simon M. Pyke, Anne K. Powell and Richard J. K. Taylor



Episulfones **3a-c** and **11a, b** are isolated from the Ramberg-Bäcklund rearrangement

2329 Chiral cyclobutanones as versatile synthons: the first enantioselective total synthesis of (+)-laurene

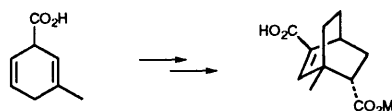
Hideo Nemoto, Masatoshi Nagamochi and Keiichiro Fukumoto



The total synthesis of (+)-laurene **1** has been achieved *via* the cyclopentanone **8**, prepared by palladium-mediated ring expansion of the chiral cyclobutane **9, 10**

2333 Synthesis based on cyclohexadienes, part 8. Synthesis of 1-methylbicyclo[2.2.2]oct-2-ene carboxylate derivatives

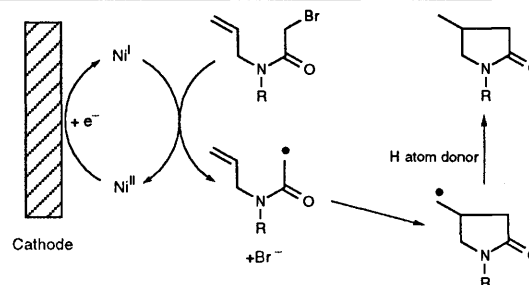
G. S. R. Subba Rao and K. Vijaya Bhaskar



The synthesis of bicyclo[2.2.2]octenecarboxylate derivatives having a methyl group at the bridgehead is described

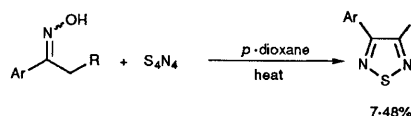
2339 Indirect electroreductive cyclisation of *N*-allylic and *N*-propargylbromo amides and *o*-bromoacryloylanilides using nickel(II) complexes as electron-transfer catalysts

Shigeko Ozaki, Hidenori Matsushita and Hidenobu Ohmori



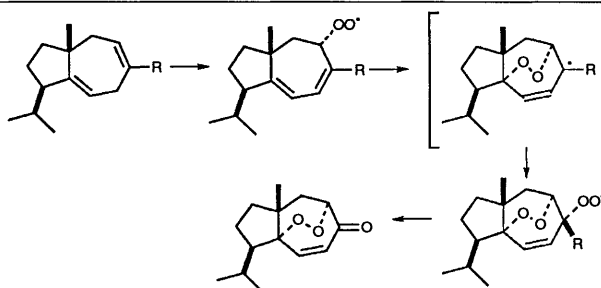
2345 Reactions of tetrasulfur tetranitride with alkyl aryl ketoximes: synthesis of 3-aryl- and 3-alkyl-4-aryl-1,2,5-thiadiazoles

Jaeock Cho and Kyongtae Kim



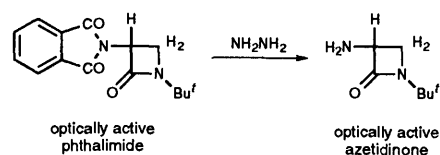
2351 Autoxidation study of carotane sesquiterpenes possessing a non-conjugated 1,4-diene system

Yasuyuki Hashidoko, Satoshi Tahara and Junya Mizutani



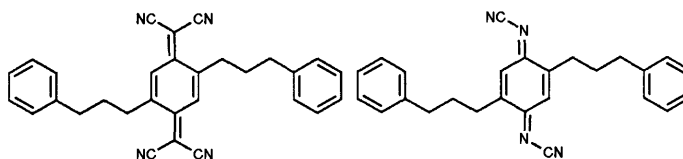
- 2357 **Preparation of optically active amines by a combination of Gabriel synthesis and optical resolution. X-Ray crystal structure of the adduct between (–)-10,10'-dihydroxy-9,9'-biphenanthryl and *N*-(1-*tert*-butyl-2-oxoazetid-3-yl)phthalimide**

Fumio Toda, Shinichi Soda and Israel Goldberg



- 2363 **Novel molecules for the design of organic conductors. Synthesis of 7,7,8,8-tetracyano-2,5-bis(3-phenylpropyl)-*p*-quinodimethane and *N,N'*-dicyano-2,5-bis(3-phenylpropyl)-*p*-quinodiimine and X-ray structure of the TCNQ derivative**

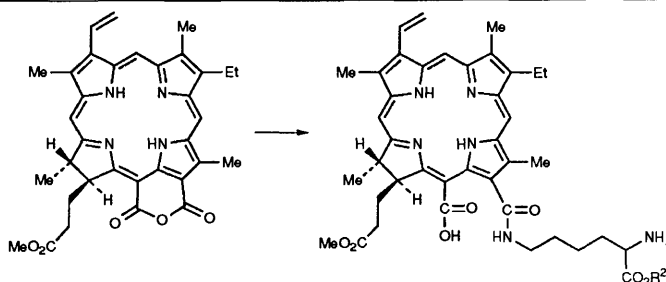
Nazario Martín, José Luis Segura, Carlos Seoane, Armando Albert and Félix H. Cano



The acceptor TCNQ and DCNQI moieties linked to the weak donors, phenyl rings, through methylene units are studied as intended donor–acceptor–donor (D–A–D) systems

- 2369 **Use of the chlorophyll derivative, purpurin-18, for syntheses of sensitizers for use in photodynamic therapy**

Shwn-Ji H. Lee, Nadine Jagerovic and Kevin M. Smith



AUTHOR INDEX

- Akadegawa, Naoki, 2263
Albert, Armando, 2363
Ando, Kaori, 2263
Bedeschi, Angelo, 2247
Bhaskar, K. Vijaya, 2333
Bond, Timothy J., 2241
Brichard, Marie-Hélène, 2275
Burns, Barry, 2243
Cano, Félix H., 2363
Cho, Jaeock, 2345
Corner, Julie A., 2303
Dehaen, Wim, 2259
Franceschi, Giovanni, 2247
Freeman, Sally, 2303
Fuganti, Claudio, 2247
Fukumoto, Keiichiro, 2237, 2251, 2329
Ghosh, Subrata, 2281
Goldberg, Israel, 2357
Halton, Brian, 2239
Harvey, Jeremy, 2275
Hashidoko, Yasuyuki, 2351
Hatanaka, Minoru, 2269
Himeda, Yuichiro, 2269
Ihara, Masataka, 2251
Ilisiu, Anna-Maria, 2259
Irwin, William J., 2303
Jagerovic, Nadine, 2369
Jeffery, Stephen M., 2317
Jenkins, Robert, 2241
Kay, Andrew J., 2239
Kim, Kyongtae, 2345
L'abbé, Gerrit, 2259
Lanati, Simonetta, 2247
Lee, Shwn-Ji H., 2369
Macfarlane, Emma L. A., 2287
Mahon, Mary F., 2243
Martin, Nazario, 2363
Matsushita, Hidenori, 2339
Merifield, Eric, 2243
Mitchell, Antony G., 2303
Mizuno, Kimihiro, 2309
Mizutani, Junya, 2351
Molloy, Kieran C., 2243
Nagamochi, Masatoshi, 2329
Nemoto, Hideo, 2237, 2329
Nicholls, Dave, 2303
Nihira, Takuya, 2309
Ohmori, Hidenobu, 2339
Ozaki, Shigeko, 2339
Pei-Zhuo, Zhang, 2291
Powell, Anne K., 2317
Pyke, Simon M., 2317
Reese, Colin B., 2291
Ridley, Andrew C., 2241
Roberts, Stanley M., 2287
Saha, Goutam, 2281
Sakuda, Shohei, 2309
Sarkar, Subrata, 2281
Satoh, Atsushi, 2237
Segura, José Luis, 2363
Seoane, Carlos, 2363
Servi, Stefano, 2247
Smith, Kevin M., 2369
Soda, Shinichi, 2357
Steukers, Veronique G. R., 2287
Subba Rao, G. S. R., 2333
Sukcharoen, Oratai, 2309
Sutherland, Alan G. 2317
Suzuki, Shuichi, 2251
Tagliani, Auro, 2247
Tahara, Satoshi, 2351
Takayama, Hiroaki, 2263
Tanaka, Sumiko, 2309
Taniguchi, Nobuaki, 2251
Taylor, Paul C., 2241
Taylor, Philip L., 2287
Taylor, Richard J. K., 2317
Thomson, William, 2303
Toda, Fumio, 2357
Toppet, Suzanne, 2259
Ueda, Ikuo, 2269
Viehe, Heinz G., 2275
Wills, Martin, 2243
Yamada, Yasuhiro, 2309
Zha, Zhi-mei, 2239

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