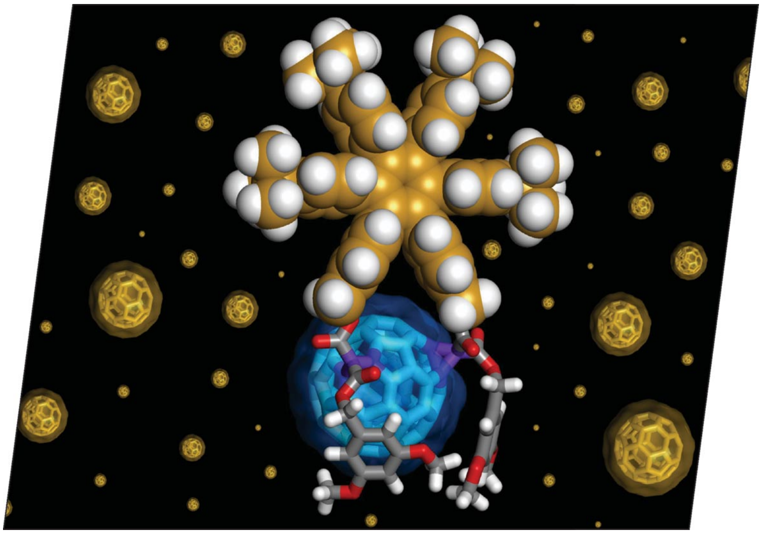
A union formed by chemical societies in Europe (ChemPubSoc Europe) has taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further members of ChemPubSoc Europe (Austria, Czech Republic and Sweden) are Associates of the two journals.

COVER PICTURE

The cover picture shows a sun-shaped hexaphenylbenzene unit *shining over the equator* of a fullerene spheroid. This macrocyclic fullerene bisadduct with an *equatorial* addition pattern was obtained with excellent regioselectivity from the reaction of C_{60} with a bismalonate constructed on a hexaphenylbenzene scaffold. Details are discussed in the article by J.-F. Nierengarten et al. on p. 3879ff.



CONTENTS

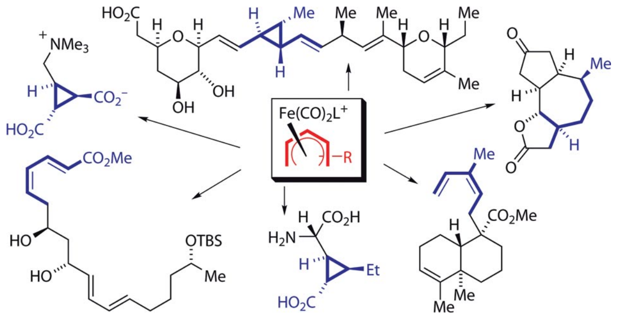
MICROREVIEW

Organoiron Methodology in Synthesis

W. A. Donaldson,*
S. Chaudhury **3831–3843**

Recent Applications of Acyclic (Diene)iron Complexes and (Dienyl)iron Cations in Organic Synthesis

Keywords: Diene ligands / Iron / Synthetic methods / Regioselectivity / Nucleophilic addition



Recent applications of organoiron complexes to the synthesis of conjugated polyenes, cyclopropanes, and cycloheptadienes are reviewed.

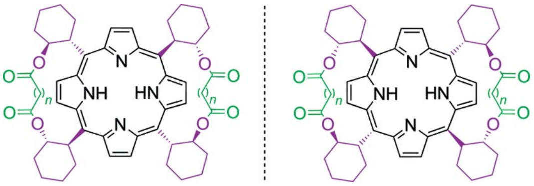
SHORT COMMUNICATIONS

Chiral Bridled Porphyrins

A. Fateeva, J. Pécaut, P.-A. Bayle,
P. Maldivi, L. Dubois* **3845–3848**

Synthesis of Chiral Bridled Porphyrins in their Two Enantiomeric Forms

Keywords: Porphyrinoids / Enzymes / Kinetic resolution / Circular dichroism / NMR pectroscopy / Nitrogen heterocycles



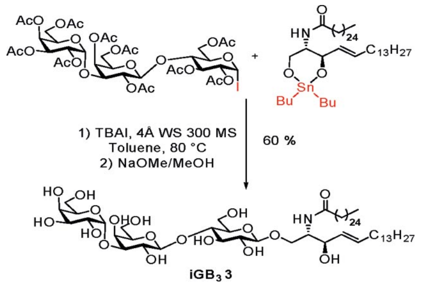
For the first time, the two enantiomers of a chiral bridled porphyrin were obtained by kinetic enzymatic resolution. This resolution method allows easy synthesis of chiral precursors in high yield and on large scale.

β-Glycosyl Ceramides

J. A. Morales-Serna, Y. Díaz,
M. I. Matheu, S. Castillón* **3849–3852**

Efficient Synthesis of β-Glycosphingolipids by Reaction of Stannylceramides with Glycosyl Iodides Promoted by TBAI/AW 300 Molecular Sieves

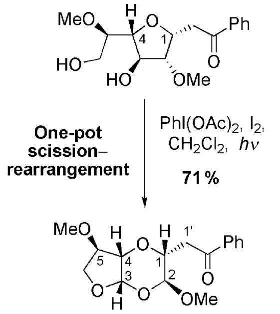
Keywords: Glycosylation / Glycolipids / Sphingolipids / Tin / Ethers



Tetrabutylammonium iodide and acid-washed molecular sieves efficiently promoted the glycosylation of stannyl ceramides with glycosyl iodides to give glycolipids.

Cascade Processes for Sugars

An unusual scission–rearrangement process, which couples radical and ionic reactions, was observed with galactofuranose derivatives. This one-pot process gave six-membered-ring sugar analogues in good yields. The method can also be applied to prepare *C*-glycoside analogues.



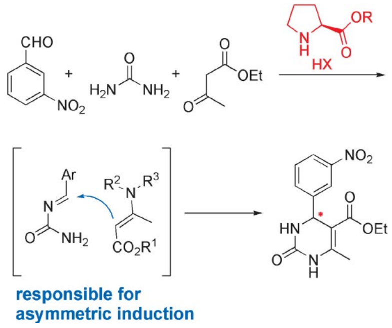
A. Boto,* D. Hernández, R. Hernández,* E. Álvarez **3853–3857**

Coupling Radical and Ionic Processes: An Unusual Rearrangement Affords Sugar and *C*-Glycoside Derivatives

Keywords: Radical reactions / Rearrangement / Carbohydrates / Sequential processes / Photochemistry

Asymmetric Organocatalysis

Studies on the mechanism and understanding of the enantioselectivity of the asymmetric Biginelli reaction using proline ester salts as catalyst affording 3,4-dihydropyrimidin-2(1*H*)-ones were performed.



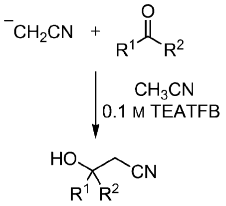
J.-H. Sohn,* H.-M. Choi, S. Lee, S. Joung, H.-Y. Lee* **3858–3862**

Probing the Mode of Asymmetric Induction of Biginelli Reaction Using Proline Ester Salts

Keywords: Asymmetric Biginelli reaction / Organocatalysis / Proline / Multicomponent reactions

Green Organic Electrochemistry

The electrogenerated cyanomethyl anion reacts with carbonyl compounds to yield the corresponding β-hydroxynitriles in moderate to high yields. The reported methodology is very clean and safe, avoiding the use of any classical base or catalyst.



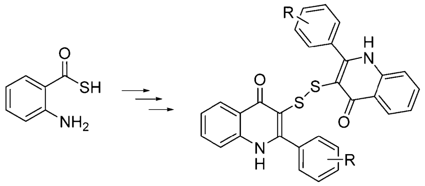
G. Bianchi, M. Feroci, L. Rossi* **3863–3866**

Reaction of the Electrogenerated Cyanomethyl Anion with Carbonyl Compounds: A Clean and Safe Synthesis of β-Hydroxynitriles

Keywords: Green chemistry / Electrochemistry / Nucleophilic addition / Carbanions / Cyanides

Cytotoxic Quinolin-4(1*H*)-one Disulfides

Novel organic disulfides derived from the 2-(substituted phenyl)quinolin-4(1*H*)-one ring are efficiently synthesized. The in vitro cytotoxicity of the target compounds and their precursors against various cancer cell lines including polyresistant subclones is reported and discussed. A method for the preparation of 4-oxo-2-(substituted phenyl)-1,4-dihydroquinoline-3-sulfonamides is presented.



M. Soural,* J. Hlaváč, P. Hradil, M. Hajdúch **3867–3870**

Efficient Synthesis and Cytotoxic Activity of Some Symmetrical Disulfides Derived from the Quinolin-4(1*H*)-one Skeleton

Keywords: Heterocycles / Quinolinone / Biological activity / Cytotoxicity / Rearrangement

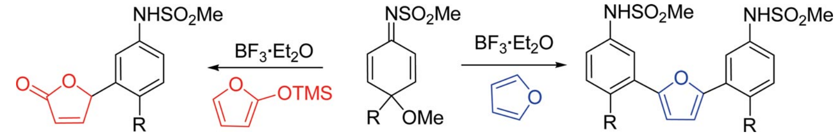
CONTENTS

Cross-Coupling Reactions

M.-A. Giroux, K. C. Guérard,
M.-A. Beaulieu, C. Sabot,
S. Canesi* 3871–3874

Alternative Coupling Reaction with Unactivated Furan Derivatives

Keywords: Oxygen heterocycles / Michael addition / Aromaticity / Cross-coupling / Sulfonamides



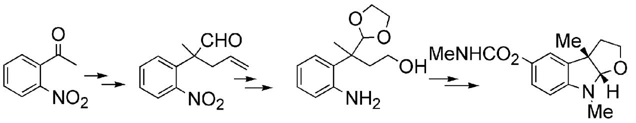
Treatment of various dienimides in the presence of a Lewis acid and (trimethylsiloxy)furan leads to the corresponding aniline furan-2(5*H*)-ones. The same reaction with furan yields a triaryl byproduct and, surprisingly, a birdcage system with a pentacyclo[5.4.0.0.0.0]undecane main core containing nine stereogenic centres. These products were produced with complete diastereoselectivity.

Indole Alkaloids

M. G. Kulkarni,* A. P. Dhondge,
A. S. Borhade, D. D. Gaikwad,
S. W. Chavhan, Y. B. Shaikh,
V. B. Nigdale, M. P. Desai, D. R. Birhade,
M. P. Shinde 3875–3877

Total Synthesis of (±)-Physovenine

Keywords: Alkaloids / Olefination / Rearrangement / Ozonolysis / Reduction



The Wittig olefination–Claisen rearrangement protocol was applied to the total synthesis of (±)-physovenine

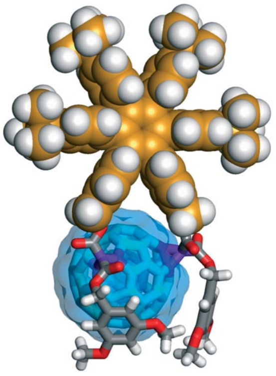
FULL PAPERS

Fullerene Chemistry

T. M. Figueira-Duarte, A. Gégout,
J. Olivier, F. Cardinali,
J.-F. Nierengarten* 3879–3884

Bismalonates Constructed on a Hexaphenylbenzene Scaffold for the Synthesis of *Equatorial* Fullerene Bisadducts

Keywords: onjugation / Cyclotrimerization / Fullerenes / Macrocycles / Structure elucidation



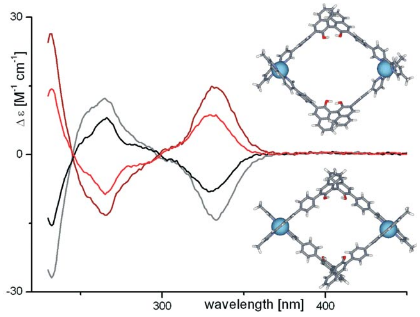
Macrocyclization of C_{60} with bismalonate derivatives built on a hexaphenylbenzene scaffold gives *equatorial* fullerene bisadducts with excellent regioselectivity.

Diastereoselective Self-Assembly

J. Bunzen, M. Hapke,
A. Lützen* 3885–3894

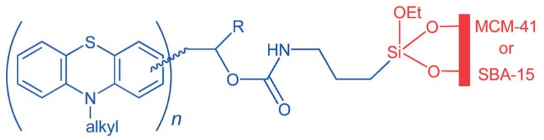
The Influence of Different Spacer Lengths on the Selectivity of Self-Assembly Processes of Bis(bipyridine)-BINOL Helicates

Keywords: Diastereoselectivity / Helical structures / Circular dichroism / Self-assembly / Heterocycles



The concise synthesis of enantiomerically pure bis(bipyridine)-BINOL ligands is reported. The influence of spacer length on the self-assembly of helicates formed by coordination with transition-metal ions has been studied. Only the formation of triple-stranded helicates is less selective on increasing the spacer length, the assembly of double-stranded helicates still being completely selective.

Phenothiazine Silica Hybrids



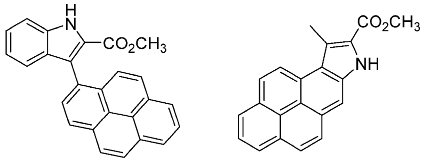
Mesoporous hybrid materials of (oligo)phenothiazines covalently grafted onto MCM-41 or SBA-15 silica are readily accessible from (oligo)phenothiazinyl carbamates. The resulting hybrid materials are highly fluorescent upon UV excitation and form stable radical-cationic materials upon mild oxidation.

A. W. Franz, Z. Zhou, R. Turdean, A. Wagener, B. Sarkar, M. Hartmann, S. Ernst, W. R. Thiel,* T. J. J. Müller* 3895–3905

Carbamate-Linked (Oligo)phenothiazines in Mesoporous Silica by Post-Synthetic Grafting: Fluorescent Redox-Active Hybrid Materials

Keywords: Cyclic voltammetry / Fluorescence / Heterocycles / Mesoporous materials / Radical ions

Fluorescent Probes



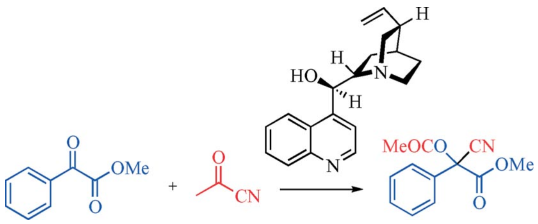
Two new fluorescent compounds, a pyrenylindole-2-carboxylate (left) and a phenalenoindole-8-carboxylate (right), were synthesized from the corresponding β,β-disubstituted dehydroalanines. The photophysical behaviour was studied in solvents and in lipid membranes. The results show that the products can be used as fluorescent probes for biological systems.

G. Pereira, A. S. Abreu, E. M. S. Castanheira,* P. J. G. Coutinho, P. M. T. Ferreira,* M.-J. R. P. Queiroz 3906–3916

Synthesis and Photophysical Studies of a Pyrenylindole and a Phenalenoindole Obtained from Dehydroamino Acid Derivatives – Application as Fluorescent Probes for Biological Systems

Keywords: Cyclization / Palladium / Peptides / Fluorescent probes / Nitrogen heterocycles / Membranes

Asymmetric Catalysis



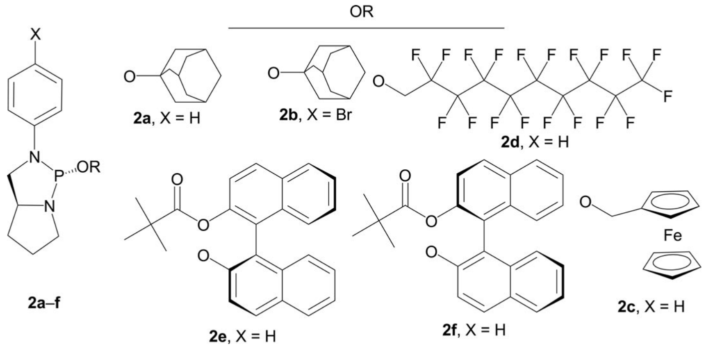
Acetyl cyanide adds to activated ketones to give enantioenriched *O*-acylated cyanohydrins in the presence of a chiral base.

F. Li, K. Widyan, E. Wingstrand, C. Moberg* 3917–3922

Chiral Lewis Base Catalyzed Enantioselective Acetylcyanation of α-Oxo Esters

Keywords: Acylation / Addition reactions / Asymmetric catalysis / Cyanides / Kinetic resolution / Lewis bases

Bulky *P**-Chiral Diamidophosphites



A series of easily prepared bulky *P**-chiral diamidophosphites have been designed and developed. Ligands of this type exhibited high enantioselectivities in Pd-catalysed allylic substitution reactions of (*E*)-1,3-diphenylallyl acetate and in Rh-catalysed asymmetric hydrogenations of dimethylitaconate, methyl (*Z*)-2-acetamido-3-phenylacrylate and methyl 2-acetamidoacrylate.

K. N. Gavrilov,* E. B. Benetskiy, T. B. Grishina, E. A. Rastorguev, M. G. Maksimova, S. V. Zheglov, V. A. Davankov, B. Schäffner, A. Börner, S. Rosset, G. Bailat, A. Alexakis 3923–3929

Bulky *P**-Chirogenic Diazaphospholidines as Monodentate Ligands for Asymmetric Catalysis

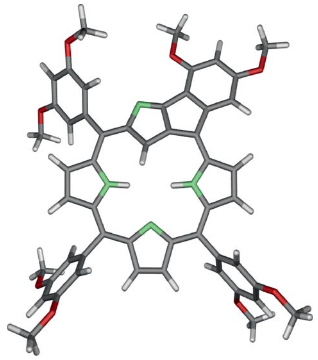
Keywords: Asymmetric catalysis / P ligands / Hydrogenation / Allylation / Conjugate addition

Porphyrinoids

P. J. Chmielewski,* J. Maciołek,
L. Szterenberg 3930–3939

Efficient Regiospecific Conjugated Ring Fusion in N-Confused Porphyrin

Keywords: Porphyrinoids / Aromaticity / Macrocycles / Fused ring systems



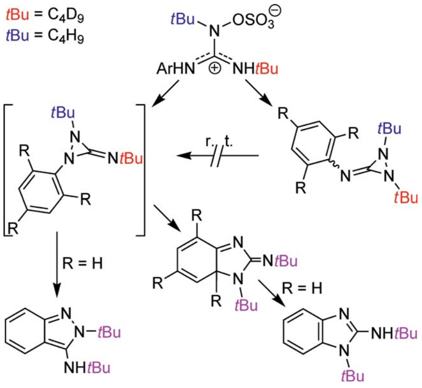
An additional fused ring involving the external carbon atom of the N-confused pyrrole and the *ortho*-carbon atom of the adjacent *meso*-aryl group is formed upon the reaction of N-confused porphyrin with trifluoroacetic acid. The derivative is aromatic. Dimers of the fused porphyrin with proton or silver(I) bridges between the external nitrogen atoms have been prepared.

3-, 5-, & 7-Membered N-Heterocycles

H. Quast,* K.-H. Ross, G. Philipp,
M. Hagedorn, H. Hahn,
K. Banert 3940–3952

Syntheses and ^{15}N NMR Spectra of Iminodiaziridines – Ring-Expansions of 1-Aryl-3-iminodiaziridines to 1*H*- and 3a*H*-Benzimidazoles, 2*H*-Indazoles, and 5*H*-Dibenzo[*d*,*f*][1,3]diazepines

Keywords: Elimination / Diaziridines / Guanidines / Nitrogen heterocycles / Sigmatropic rearrangement



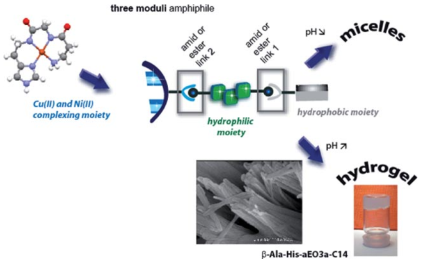
Elimination of sulfuric acid from *N*′-aryl-*N*-hydroxyguanidine *O*-sulfonic acids yields (*N*-arylimino)diaziridines, 3a*H*- and 1*H*-benzimidazoles, and 2*H*-indazoles. Precursors with two aryl groups afford benzimidazoles and 5*H*-dibenzo[*d*,*f*][1,3]diazepines, but neither iminodiaziridines nor indazoles.

Amphiphilic Complexing Products

P. Gizzi, A. Pasc, N. Dupuy, S. Parant,
B. Henry, C. Gérardin* 3953–3963

Molecular Tailored Histidine-Based Complexing Surfactants: From Micelles to Hydrogels

Keywords: Peptides / Surfactants / Self-assembly / Gels / Chelates / Amphiphiles



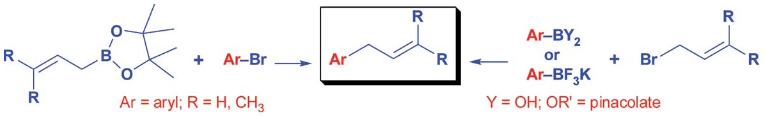
A series of tripart histidine-based complexing surfactants, containing a hydrocarbon chain and peptidic and polyethylenic moieties, were synthesized; their self-assembling and complexing properties were investigated. Correlations were established between molecular structure and aggregation properties. Gelation ability of some of them for the obtention of stimuli-sensible hydrogels was described.

Suzuki Cross-Coupling Prenylation

D. C. Gerbino, S. D. Mandolesi,
H.-G. Schmalz,*
J. C. Podestá* 3964–3972

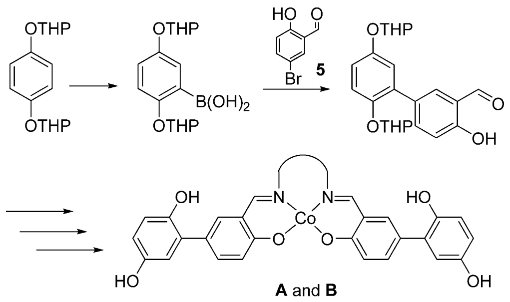
Introduction of Allyl and Prenyl Side-Chains into Aromatic Systems by Suzuki Cross-Coupling Reactions

Keywords: Cross-coupling / Boron / Borates / Arenes



We report here the introduction of allyl and prenyl side-chains into aromatic compounds by Suzuki cross-coupling reactions as well as the preparation of the starting organoboranes.

Hybrid Oxidation Catalysts



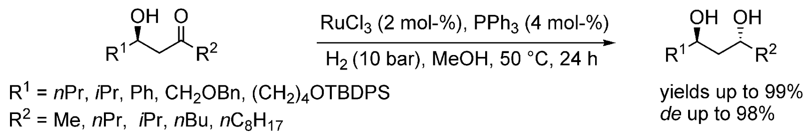
An improved synthesis of hybrid aerobic oxidation catalysts that include an oxygen-activating motif and pendant hydroquinone groups is reported. The key step is an efficient Suzuki cross-coupling, which allows the use of unprotected aldehyde **5**, to generate hybrid catalysts **A** and **B** in high yield form inexpensive starting materials.

E. V. Johnston, E. A. Karlsson, L.-H. Tran, B. Åkermark, J.-E. Bäckvall* 3973–3976

Efficient Synthesis of Hybrid (Hydroquinone–Schiff base)cobalt Oxidation Catalysts 💻

Keywords: Hybrid catalyst / Oxidation / Biomimetic oxidation / Electron transfer / Catalyst synthesis / Cross coupling

Ru-Mediated Hydrogenation



A variety of *anti*-1,3-diols were prepared in good yields and with a high level of diastereoselectivity through catalytic hydrogenation of enantioenriched β-hydroxy ketones by using $RuCl_3$ associated with PPh_3, both commercially available and inexpensive reagents. This method is an interesting alternative to the use of organoboron reagents for the diastereoselective reduction of β-hydroxy ketones.

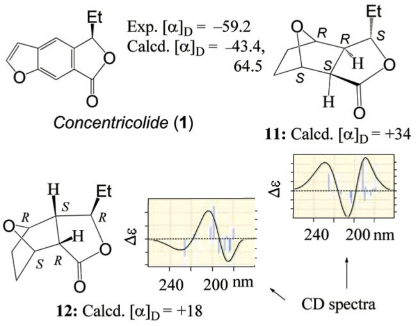
C. Roche, O. Labeeuw, M. Haddad, T. Ayad, J.-P. Genet, V. Ratovelomanana-Vidal,* P. Phansavath* 3977–3986

Synthesis of *anti*-1,3-Diols through $RuCl_3$/PPh_3-Mediated Hydrogenation of β-Hydroxy Ketones: An Alternative to Organoboron Reagents

Keywords: Homogeneous catalysis / Hydrogenation / Phosphane ligands / Ruthenium

Optical Rotation

By using optical rotation and/or circular dichroism, absolute configuration assignments of bioactive chiral lactones were determined.



J. Ren, J.-X. Jiang, L.-B. Li, T.-G. Liao, R.-R. Tian, X.-l. Chen,* S.-P. Jiang,* C. U. Pittman Jr., H.-J. Zhu* 3987–3991

Assignment of the Absolute Configuration of *Concentricolide* – Absolute Configuration Determination of Its Bioactive Analogs Using DFT Methods 💻

Keywords: Configuration determination / Biological activity / Density functional calculations / Chirality / Circular dichroism

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* Author to whom correspondence should be addressed.

💻 Supporting information on the WWW (see article for access details).