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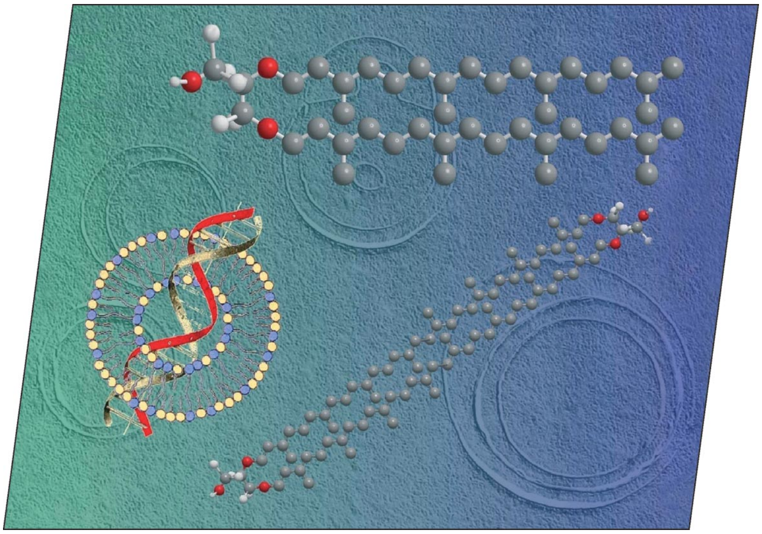
A union formed by chemical societies in Europe (ChemPubSoc Europe) has taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further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

COVER PICTURE

The cover picture shows the molecular structure of monopolar diether-type and bipolar tetraether-type lipids found in archaea membranes as well as a schematized representation of an archaeosome–DNA complex based on archaeal lipids. The background offers a view of archaeosomes (cross-fractured vesicles made from synthetic archaeal bipolar lipids) observed by freeze-fracture electron microscopy. Details of the structure and properties of these original natural or synthetic lipids and their potential biotechnological applications are presented in the Microreview by T. Benvegnu et al. on p. 4725ff.



CONTENTS

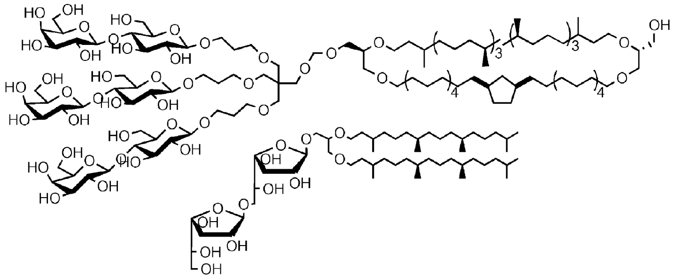
MICROREVIEW

Archaeal Lipids

**T. Benvegnu,* L. Lemiègre,
S. Cammas-Marion** **4725–4744**

Archaeal Lipids: Innovative Materials for Biotechnological Applications

Keywords: Archaeal lipids / Oligoethers / Self-assembly / Vesicles / Membranes



Synthetic archaeal lipid analogues represent materials with potential for the development of a new generation of stable liposomes and artificial membranes of biotechnological interest.

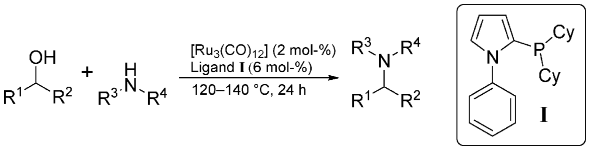
SHORT COMMUNICATIONS

Amination Reactions

**A. Tillack, D. Hollmann, K. Mevius,
D. Michalik, S. Bähn,
M. Beller*** **4745–4750**

Salt-Free Synthesis of Tertiary Amines by Ruthenium-Catalyzed Amination of Alcohols

Keywords: Ruthenium / Amination / Alcohols



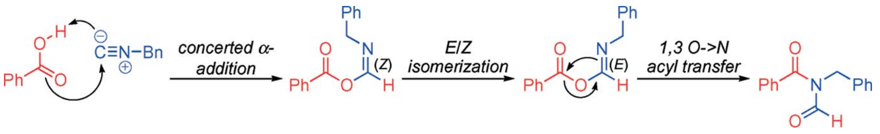
The amination of secondary alcohols by using secondary cyclic amines, for example piperidine, pyrrolidine, and piperazine, is described. This reaction proceeds in the presence of an in situ generated ruthenium catalyst to give the tertiary amines in yields up to 97%.

Isocyanides

T. Marcelli, F. Himo* **4751–4754**

Reaction of Carboxylic Acids with Isocyanides: A Mechanistic DFT Study

Keywords: Density functional calculations / Isocyanides / Reaction mechanisms / *E*/*Z* isomerism / Glycosylation

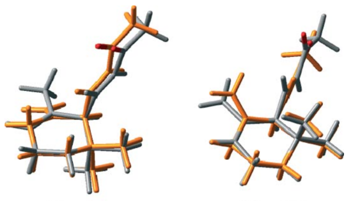


Take it *E*/*Z*! DFT calculations show that the reaction of isocyanides with carboxylic acids leading to *N*-formyl imides proceeds through a stereoselective α-addition, a thermal isomerization of the resulting *Z*-acyl imidate, and a rate-limiting 1,3 O→N acyl transfer.

FULL PAPERS

Modeling of Ionones and Irones

A modeling study on a group of natural α-, β-, and γ-ionones and irones and three synthetic α-ionone analogues was carried out with the aid of DFT calculations at the B3LYP/6−31G(d) level. The relationship between structural and conformational features of the compounds and their olfactory properties is discussed.

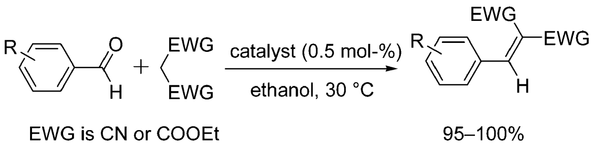

1A *vs* **3A** **1E** *vs* **3E**

L. Legnani, M. Luparia, G. Zanoni, L. Toma,* G. Vidari .... **4755−4762**

A Full Conformational Characterization of Natural Ionones and Irones, as well as 13-Alkyl-Substituted α-Ionones

Keywords: Molecular modeling / Density functional calculations / Fragrances / Terpenoids / Olfactory properties

Dendrimers and Organocatalysis



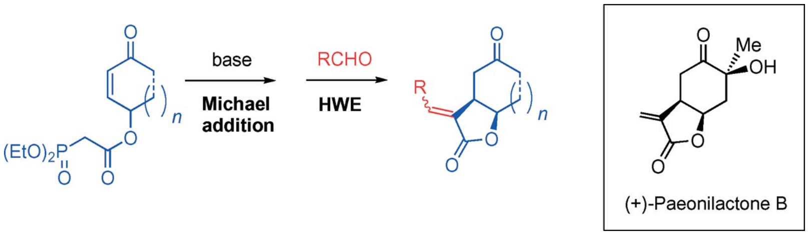
Polystyrene-supported PAMAM dendrimers of first, second and third generations have been used as reusable basic organocatalysts in Knoevenagel condensations of carbonyl compounds with active methylene compounds. The reactions proceed in short periods of time with 100% selectivity. The catalysts can be recycled ten times.

G. R. Krishnan, K. Sreekumar* .... **4763−4768**

First Example of Organocatalysis by Polystyrene-Supported PAMAM Dendrimers: Highly Efficient and Reusable Catalyst for Knoevenagel Condensations

Keywords: Dendrimers / Polymer-supported catalysts / Knoevenagel condensations / Ketones / Aldehydes / Active hydrogen compounds

Routes to Methylene Lactones



A novel telescoped intramolecular Michael addition/proton transfer/HWE olefination sequence was developed to provide rapid access to α-alkylidene-γ-butyrolactones. A range of model tetrahydrobenzofuran-2,5-diones and related systems were prepared, and this method was utilised in an extremely short synthesis of the natural product (+)-paeonilactone B in enantiomerically pure form.

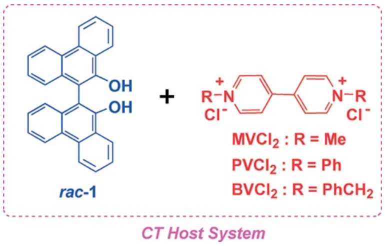
M. G. Edwards, M. N. Kenworthy, R. R. A. Kitson, A. Perry, M. S. Scott, A. C. Whitwood, R. J. K. Taylor* .... **4769−4783**

The Preparation of α-Alkylidene-γ-Butyrolactones Using a Telescoped Intramolecular Michael/Olefination (TIMO) Sequence: Synthesis of (+)-Paeonilactone B

Keywords: Tandem reactions / Phosphonates / Michael addition / Horner−Wadsworth−Emmons / Lactones

Charge-Transfer Host System

A charge-transfer (CT) complex composed of racemic 10,10′-dihydroxy-9,9′-biphenanthryl as the electron-donor and the diquaternary derivative of 4,4′-bipyridinium (viologen) as the electron-acceptor is formed by inclusion of guest molecules. The color and diffuse reflectance spectra of this complex are sensitive to the guests, and their properties can be tuned by changing the viologen derivatives.



CT Host System

Y. Imai,* K. Kamon, S. Kido, T. Sato, N. Tajima, R. Kuroda, Y. Matsubara* .... **4784−4789**

Molecular Recognition Properties of a Charge-Transfer Host System Composed of 10,10′-Dihydroxy-9,9′-biphenanthryl and Viologen Derivatives

Keywords: Charge-transfer complex / Biphenanthryl / Host−guest systems / Molecular recognition / Viologen

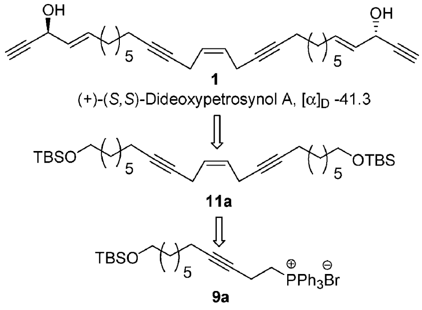
CONTENTS

Natural Product Synthesis

B. W. Gung,* A. O. Omollo 4790–4795

First Total Synthesis of the Potent Anticancer Natural Product Dideoxypetrosynol A: Preparation of the "Skipped" (*Z*)-Enediyne Moiety by Oxidative Coupling of Homopropargylphosphonium Ylide

Keywords: Total synthesis / Antitumor agents / Natural products / (*Z*)-Enediyne / Dideoxypetrosynol A



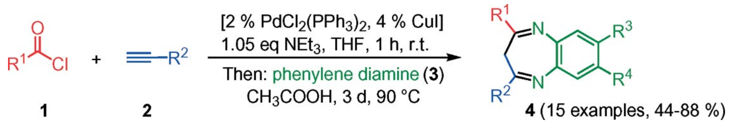
Dideoxypetrosynol A (**1**) was found to have potent anticancer activity and exhibited an ED_{50} of 0.02 µg/mL against human ovarian cancer cells and of 0.01 µg/mL against human skin cancer cells. Dideoxypetrosynol A (**1**) was also found to inhibit DNA replication at the initiation stage. The first total synthesis of dideoxypetrosynol A is reported.

Cryofluorescent Benzodiazepines

B. Willy, T. Dallos, F. Rominger, J. Schönhaber, T. J. J. Müller* 4796–4805

Three-Component Synthesis of Cryofluorescent 2,4-Disubstituted 3*H*-1,5-Benzodiazepines – Conformational Control of Emission Properties

Keywords: Benzodiazepines / C–C coupling / Cyclocondensation / Fluorescence / Microwave-assisted reactions / Multicomponent reactions



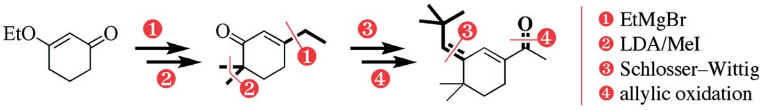
2,4-Disubstituted benzodiazepines are readily synthesized from acyl chlorides, alkynes, and benzene-1,2-diamines by a one-pot Sonogashira coupling/Michael addition/cyclocondensation sequence. These diazepines display intense solid-state fluorescence, and although their solution fluorescence is weak at room temp., cryofluorescence is observed at lower temperatures.

New Musk Odorants

P. Kraft,* K. Popaj 4806–4814

New Musk Odorants: (3*E*)-4-(2′-Alkyl-5′,5′-dimethylcyclopent-1′-enyl)but-3-en-2-ones and (3*E*)-1-Acetyl-3-alkylidene-4,4-dimethylcyclohexenes

Keywords: Allylic oxidation / Fragrances / Musk odorants / Structure–activity relationships



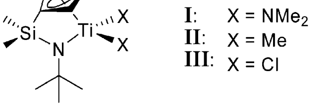
Four new members in the young family of dienone musks! Cyclopentenylbutenones and acetylalkylidenecyclohexenes, accessible on short synthetic routes as shown for the latter class: Woods–Grignard on 3-ethoxycyclohex-2-enone, *gem*-6,6-dimethylation, (*E*)-selective Schlosser–Wittig, and concluding dirhodium(II) caprolactamate-catalyzed allylic oxidation.

Hydroamination

K. Gräbe, F. Pohlki, S. Doye* ... 4815–4823

Neutral Ti Complexes as Catalysts for the Hydroamination of Alkynes and Alkenes: Do the Labile Ligands Change the Catalytic Activity?

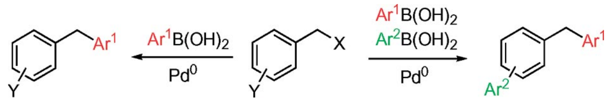
Keywords: Alkynes / Amines / Hydroamination / Homogeneous catalysis / Titanium



Comparison of three hydroamination catalysts

Three Ti hydroamination precatalysts with a common bidentate ligand and two other ligands X (NMe_2, Me, Cl) are compared. Only in the cases of complexes **I** and **II** (X = NMe_2, Me) are the ligands X proteolytically removed by the reacting amine to form identical catalytically active species, together with dimethylamine or methane. Since the former byproduct inhibits hydroamination, **II** is a better precatalyst.

C–C Coupling



A very simple, mild and inexpensive palladium-catalyzed cross-coupling of (hetero)arylboronic acids with (ar)alkyl halides occurs in good yield with high functional group tolerance. This method allowed one-pot dual substitutions of bromobenzyl chloride, 2-chloromethyl-6-halogenoimidazo[1,2-*a*]pyridine or -[1,2-*b*]pyridazine, leading to numerous new unsymmetrical methylene-linked biaryl systems.

N. Henry, C. Enguehard-Gueiffier, I. Thery, A. Gueiffier* **.......... 4824–4827**

One-Pot Dual Substitutions of Bromobenzyl Chloride, 2-Chloromethyl-6-halogenoimidazo[1,2-*a*]pyridine and -[1,2-*b*]pyridazine by Suzuki–Miyaura Cross-Coupling Reactions

Keywords: Suzuki–Miyaura cross-coupling / Nitrogen heterocycles / Halides / Palladium / Diarylmethanes

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* Author to whom correspondence should be addressed.

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