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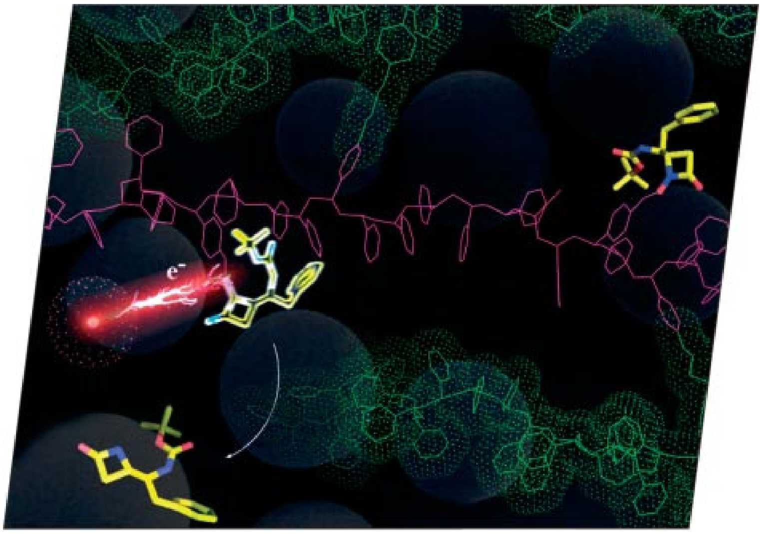
The EUChemSoc Societies have taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry.* Three further EUChemSoc Societies (Austria, Czech Republic and Sweden) are Associates of the two journals.

COVER PICTURE

The cover picture shows that electrons have become a valuable reagent in *S*olid-*P*hase *O*rganic *S*ynthesis (SPOS). Through the addition of electron-transfer reagents or catalysts, new transformations are now possible within the environment of polymer-bound substrates, which significantly expands the toolbox for solid-phase organic synthesis. The picture depicts how an electron donated by a metal complex cleaves the linker of a substrate to the polymer chain. Details are presented in the Microreview by M. Mentel and R. Breinbauer on pp. 4283ff.



CONTENTS

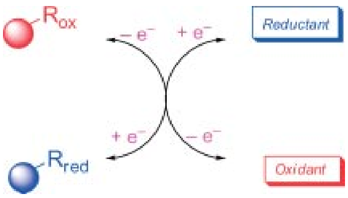
MICROREVIEW

Solid-Phase Organic Synthesis

M. Mentel, R. Breinbauer* 4283–4292

Electrons as a Reagent in Solid-Phase Organic Synthesis

Keywords: Combinatorial chemistry / Electrochemistry / Electron transfer / Organic synthesis / Solid-phase synthesis



Electron-transfer reactions and electroorganic synthesis are reaction types that have not yet received much attention in Solid-Phase Organic Synthesis (SPOS). In this review the current status of electron-transfer reactions carried out on solid phase is described and future developments are discussed.

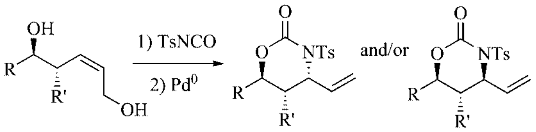
SHORT COMMUNICATION

Pd-Catalyzed Cyclizations

G. Broustal, X. Ariza, J.-M. Campagne,* J. Garcia,* Y. Georges, A. Marinetti, R. Robiette* 4293–4297

A Stereoselective Approach to 1,3-Amino Alcohols Protected as Cyclic Carbamates: Kinetic vs. Thermodynamic Control

Keywords: Palladium / Allylation / 1,5-Diols / Carbamates / Aldol reactions



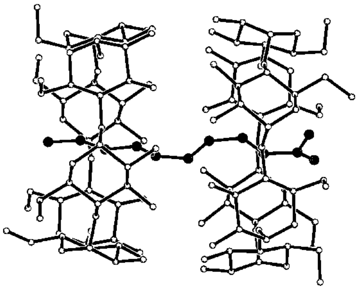
The Pd-catalyzed stereoselective cyclization of dicarbamates proceeded with 1,3-asymmetric induction under either thermodynamic or kinetic control to afford enantioselectively six-membered-ring cyclic carbamates. Calculations enabled us to rationalize the observed stereoselectivity.

α-Cyclodextrin Complexes

S. Rodríquez-Llamazares, N. Yutronic,* P. Jara, U. Englert,* M. Noyong, U. Simon 4298–4300

The Structure of the First Supramolecular α-Cyclodextrin Complex with an Aliphatic Monofunctional Carboxylic Acid

Keywords: Cyclodextrins / Inclusion compounds / Pseudochannel structure / X-ray diffraction



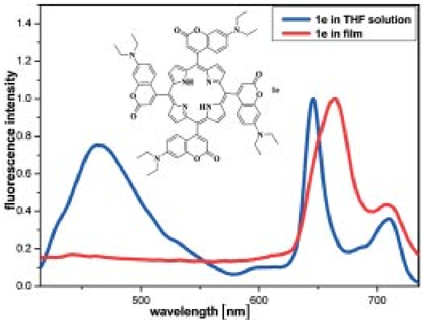
Like pearls on a string: The aliphatic chain of decanoic acid is threaded through a head-to-head dimer of two cyclodextrin residues, resulting in a 1:2 stoichiometry. Head-to-head orientation is also observed between neighboring complexes. Both this channel-type arrangement and the intercolumn structure are stabilized by hydrogen bonds.

Coumarin-Conjugated Porphyrins

W. Lin,* L. Long, J. Feng, B. Wang, C. Guo 4301–4304

Synthesis of *meso*-Coumarin-Conjugated Porphyrins and Investigation of Their Luminescence Properties

Keywords: Porphyrinoids / Coumarin derivatives / Energy transfer / Luminescence



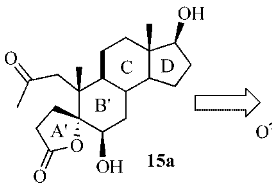
A series of *meso*-coumarin-conjugated porphyrins **1a**–**e** were synthesized. The luminescence spectra indicate that the energy transfer from the coumarin substituents to the porphyrin core for **1a**–**e** is more efficient in solid films than in solution, and the energy transfer for **1d** and **1e** is more efficient than that of **1a**, **1b**, and **1c** in solid films.

FULL PAPERS

Natural Product Hybrids

A. Chanu, I. Safir, R. Basak, A. Chiaroni, S. Arseniyadis* 4305–4312

Synthesis of a Norsesquiterpene Spirolactone/Steroidal Hybrid by Using an Environmentally Friendly Domino Reaction as a Key Step



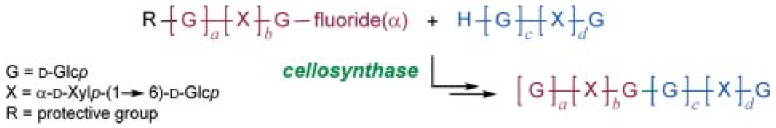
The synthetic scheme described herein represents the first synthesis of the hybrid testosterone/norsesquiterpene spirolactone unit. The key feature of the retrosynthetic strategy is an eco-friendly domino reaction, which affords the two adjacent quaternary centres with total selectivity.

Keywords: Hybrid molecules / Domino reactions / Iodobenzene diacetate / Lead tetraacetate / Natural products

Enzymatic Glycosylation

R. Fauré, D. Cavalier, K. Keegstra, S. Cottaz, H. Driguez* 4313–4319

Glycosynthase-Assisted Synthesis of Xylo-Gluco-Oligosaccharide Probes for α-Xylosyltransferases



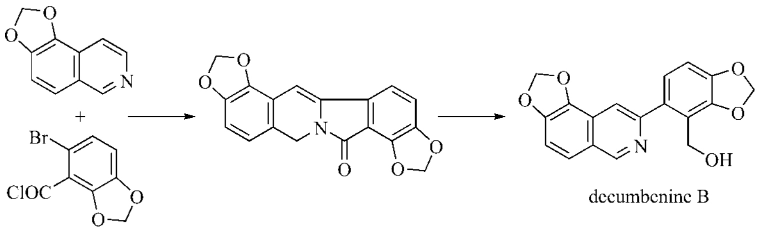
Xyloglucan oligosaccharides (XGOs) synthesized through glycosynthase technology combined with an enzymatic protection/deprotection concept are invaluable tools to study the substrate specificity of glycosyltransferases involved in xyloglucan biosynthesis, a major hemicellulose polysaccharide from plant cell wall.

Keywords: Carbohydrate / Enzyme catalysis / Glycosyltransferase / Xyloglucan / Oligosaccharide

Isoquinoline Alkaloids

Y. Wada, N. Nishida, N. Kurono, T. Ohkuma, K. Orito* 4320–4327

Synthesis of a 3-Arylisoquinoline Alkaloid, Decumbenine B



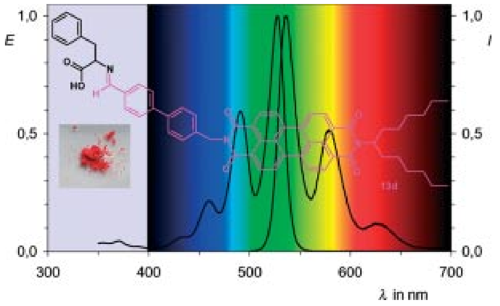
The synthesis of a 3-arylisoquinoline alkaloid, decumbenine B, was accomplished in a reaction sequence based on the formation of an indolizine ring {dibenz[*a*,*f*]indolizin-5(7*H*)-one} followed by its cleavage at the amide bond, starting with an interaction of 5,6-(methylenedioxy)isoquinoline with 2-bromo-5,6-(methylenedioxy)benzoyl chloride in the presence of Bu_3SnH.

Keywords: Decumbenine B / Isoquinoline alkaloid / Nitrogen heterocycles / Cyclization / Heck reaction

Fluorescence Labels

H. Langhals,* T. Becherer, J. Lindner, A. Obermeier 4328–4336

The Fluorescence Labelling of Primary Amines with Perylenetetracarboxdiimides



The perylenetetracarboxdiimide chromophore has been attached to a solubilizing group and to benzaldehyde and biphenylcarbaldehyde to become a highly fluorescent and light-fast label for primary amines by their formation of Schiff bases. Amino acids and the peptide catalase have also been labelled in this manner.

Keywords: UV/Vis spectroscopy / Fluorescent probes / Amines / Dyes / Pigments / Schiff bases

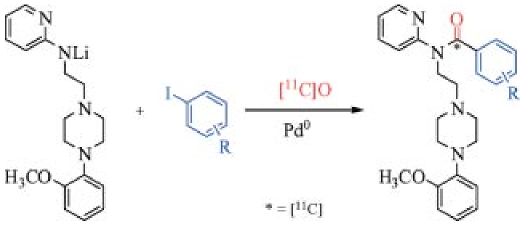
CONTENTS

Isotopic Carbonylations

O. Itsenko, E. Blom, B. Långström, T. Kihlberg* .... 4337−4342

The Use of Lithium Amides in the Palladium-Mediated Synthesis of [*Carbonyl*-^{11}C]Amides

Keywords: Carbon monoxide / Carbonylation / Palladium / Lithium / Amides



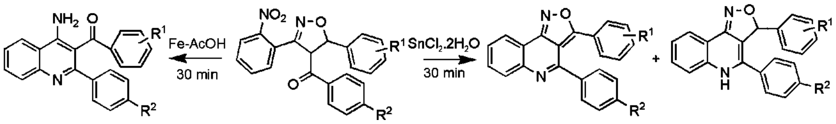
A palladium−acyl complex, prepared from [^{11}C]O, was reacted with lithium alkylamides at atmospheric pressure to afford ^{11}C-labelled amides by a carbonylation reaction. Eleven [*carbonyl*-^{11}C]-labelled amides, nine of which are analogues of WAY-100635, were prepared in up to 90 % decay-corrected radiochemical yields.

Intramolecular Heterocyclization

S. Madapa, D. Sridhar, G. P. Yadav, P. R. Maulik, S. Batra* .... 4343−4351

A General Approach to the Synthesis of Substituted Isoxazolo[4,3-*c*]quinolines via Chalcones

Keywords: Isoxazolo[4,3-*c*]quinolines / 3-Benzoylquinolin-4-ylamines / Reduction / Heterocyclization



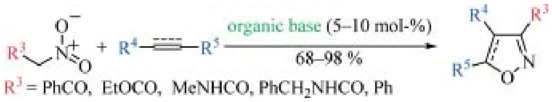
A general and practical approach to the synthesis of substituted isoxazolo[4,3-*c*]quinolines from the substituted isoxazolines obtained by 1,3-dipolar cycloadditions between 2-nitrobenzonitrile oxide and chalcones is described. SnCl$_2$·2H$_2$O-mediated reduction of the nitro group, followed by intramolecular cyclization involving the amino and the keto group in these substrates, furnished mixtures of isoxazolo[4,3-*c*]quinolines and 3,5-dihydroisoxazolo[4,3-*c*]quinolines. In contrast, the reduction of these substrates with Fe/AcOH unexpectedly yielded 3-benzoylquinolin-4-ylamine derivatives.

Organocatalysis

F. Machetti,* L. Cecchi, E. Trogu, F. De Sarlo* .... 4352−4359

Isoxazoles and Isoxazolines by 1,3-Dipolar Cycloaddition: Base-Catalysed Condensation of Primary Nitro Compounds with Dipolarophiles

Keywords: Nitro compounds / Cycloaddition / Condensation / Catalysis / Nitrogen heterocycles



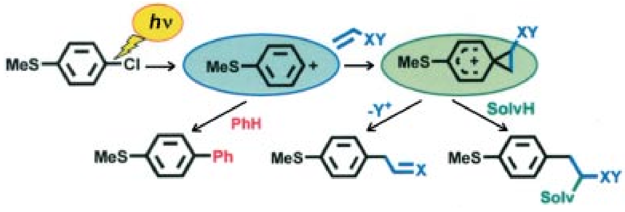
Selected N-bases cause activated nitro compounds to condense with alkenes/alkynes to yield isoxazole derivatives in good to excellent yields, even when the amount of base is reduced to catalytic quantities (5−10 mol-%). The adduct formed between the nitronate and the dipolarophile, hydrogen-bonded to the protonated base, is assumed to be the key intermediate in the proposed catalytic cycle.

Photochemical Arylation

S. Lazzaroni, D. Dondi, M. Fagnoni, A. Albini* .... 4360−4365

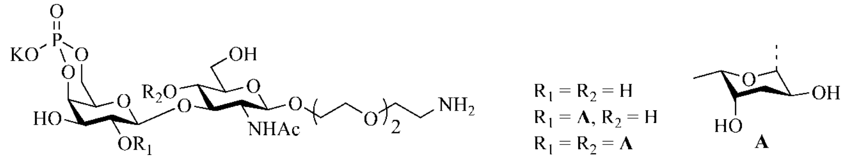
Photochemical Arylation Reactions by 4-Chlorothioanisole

Keywords: Arylation / Cations / Photochemistry / Nucleophilic substitution / Sulfur



Irradiation of 4-chlorothioanisole offers a way to arylate benzene and alkenes via phenylium ion (and, with alkenes, phenonium ion) intermediates.

Oligosaccharide Synthesis



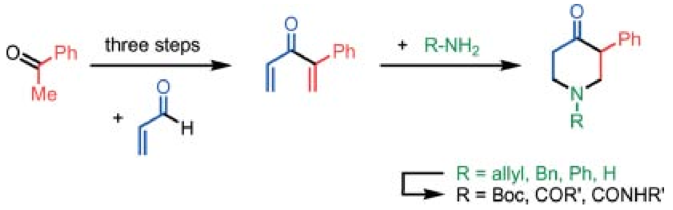
Key steps were regioselective 4,6-*O*-phosphorylation of a β-D-Gal-(1→3)-GlcNAc tetraol, glycosylation of the resulting β-D-Gal-(1→3)-GlcNAc diol with a colitose donor under halide-assisted conditions, and one-step global deprotection of the fully protected di-, tri- and tetrasaccharides.

**B. Ruttens, R. Saksena,
P. Kováč* 4366–4375**

Synthesis of Phosphorylated, Conjugation-Ready Di-, Tri- and Tetrasaccharide Fragments of the O-Specific Polysaccharide of *V. cholerae* O139

Keywords: Carbohydrates / Regioselective phosphorylation / Glycosylation / Oligosaccharides / Conjugate vaccine

Nitrogen Heterocycles



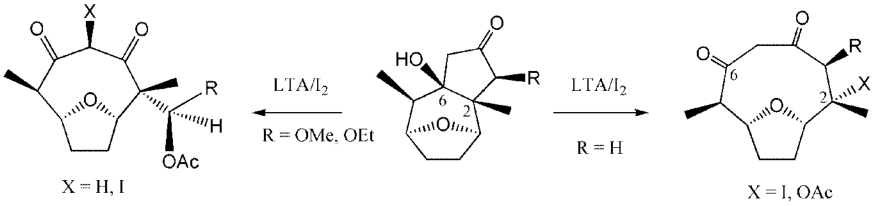
3-Aryl-substituted 4-piperidones are accessed in only four steps from readily available acetophenones. Shapiro and aza-Michael reactions are the key steps in this sequence.

**A. Rosiak, C. Hoenke,
J. Christoffers* 4376–4382**

Synthesis of 3-Phenyl-4-piperidones from Acetophenone by Shapiro and Aza-Michael Reactions and Their Further Derivatization

Keywords: Piperidines / Heterocycles / Ketones / Protecting groups / Shapiro reaction / Hydrazones

Hypoiodite Reaction



C-3 derivatives of 6-hydroxy-2,7-dimethyl-11-oxatricyclo[6.2.1.$0^{2,6}$]undecan-4-one reacted with lead tetraacetate and iodine to afford 1,7-epoxycyclononanes. The reaction of precursors (not functionalized on C-3) produced a β-fragmentation without any structural rearrangement, affording a 1,8-epoxycyclodecane system.

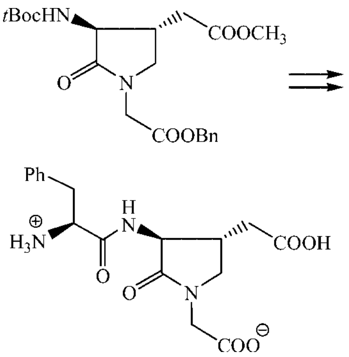
**Á. M. Montaña,* S. Ponzano,
G. Kociok-Köhn, M. Font-Bardia,
X. Solans 4383–4401**

Versatile Methodology to Synthesize Oxygen-Bridged Nine- and Ten-Membered Cycloalkanes by the Hypoiodite Reaction

Keywords: β-Fragmentation / Hypoiodite reaction / Ring contraction / Cycloaddition / 1,7-Epoxycyclononane / 1,8-Epoxycyclodecane

Peptidomimetics

The preparation of a conformationally constrained analogue of dipeptide EG is described, which was employed to give a mimetic of tripeptide FEG, and the conformational behaviour of the mimetic was determined by MD simulations.



**R. Galeazzi, G. Martelli, E. Marcucci,
G. Mobbili, D. Natali, M. Orena,*
S. Rinaldi 4402–4407**

A New Conformationally Restricted Mimetic of Dipeptide EG – Synthesis of an Analogue of FEG

Keywords: Peptides / Mimetics / Conformational restriction / Molecular modeling / Active conformation / Conformation analysis

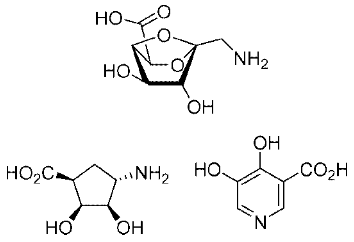
CONTENTS

Glycosidase Inhibitors

M. Rommel, A. Ernst,
U. Koert* 4408–4430

Synthetic Routes to Three Novel Scaffolds for Potential Glycosidase Inhibitors

Keywords: Synthesis / Ketalisation / Hydroxypyridine / Cyclopentane / Glycosidase inhibitor



Efficient syntheses of three novel scaffolds which are useful for the development of potent glycosidase inhibitors are reported.

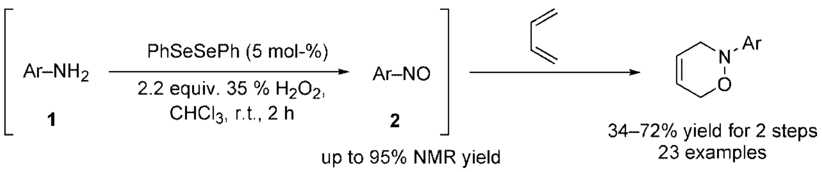
Nitroso Chemistry

D. Zhao, M. Johansson,
J.-E. Bäckvall* 4431–4436

In Situ Generation of Nitroso Compounds from Catalytic Hydrogen Peroxide Oxidation of Primary Aromatic Amines and Their One-Pot Use in Hetero-Diels–Alder Reactions

Keywords: Tandem reaction / Nitroso compounds / Selenium / Aniline oxidation / Aqueous hydrogen peroxide

One-pot procedure based on in situ generation of nitroso compounds **2**



A method for in situ generation of nitroso compounds from organoselenium-catalyzed oxidation of anilines by hydrogen peroxide was developed. The generated nitroso compounds were subsequently used in hetero-Diels–Alder reactions. A variety of oxazines were synthesized in reasonable to good yields by this one-pot procedure using primary aromatic amines with different substituents and various dienes. This strategy might facilitate the current methodologies for nitroso chemistry because no isolation or purification of nitroso compounds is required.