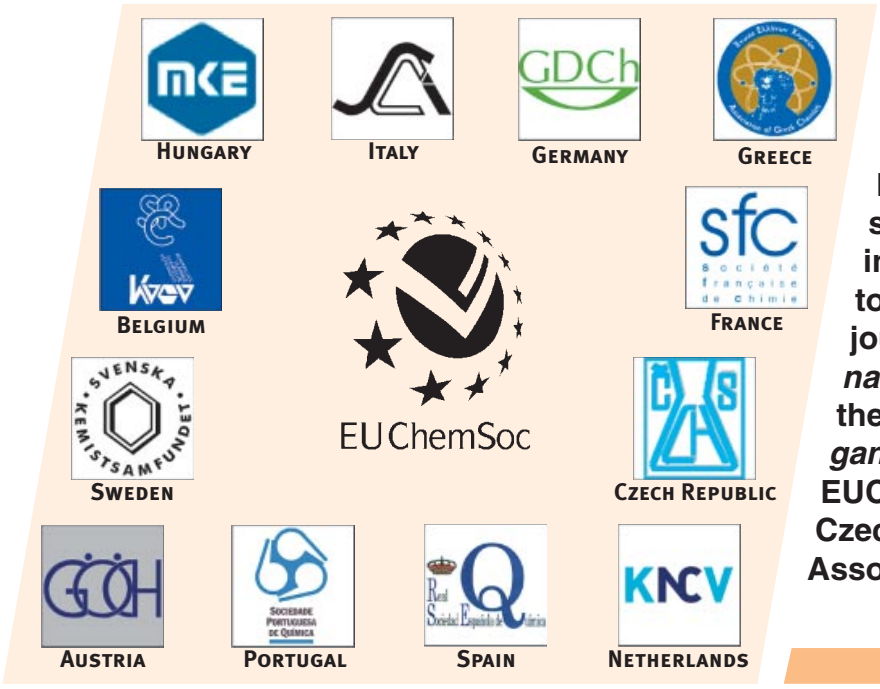
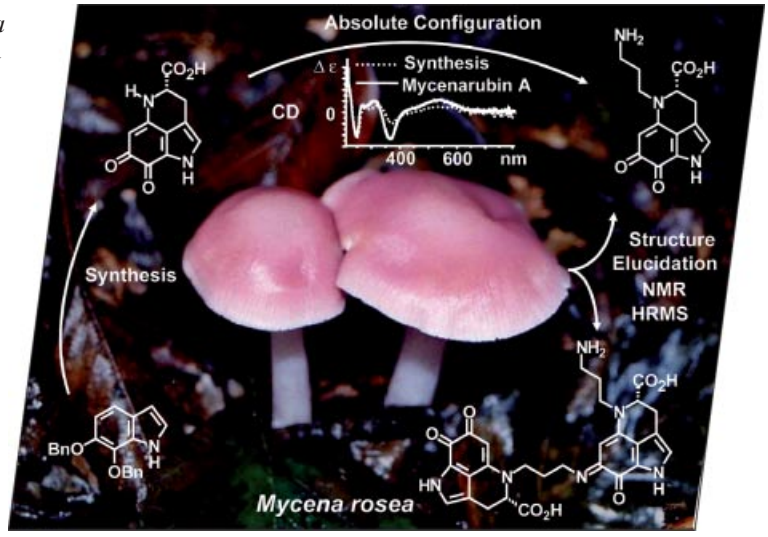


The EUChemSoc Societies have taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry.* Three further EUChemSoc Societies (Austria, Czech Republic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

COVER PICTURE

The cover picture shows the mushroom *Mycena rosea* whose fruiting bodies contain two new red pyrroloquinoline alkaloids named mycenarubin A and B. So far, pyrroloquinoline alkaloids are mainly known from marine sources. The new secondary metabolites have been detected by means of a comparative HPLC profiling of the fruiting bodies and the mycelial cultures. The absolute configuration of the mycenarubins was established by a stereoselective synthesis of the model compound (*S*)-4-carboxydamirone C and comparison of its CD spectrum with the CD spectra of the mycenarubins. Details are discussed in the article by S. Peters and P. Spiteller on p. 1571 ff.



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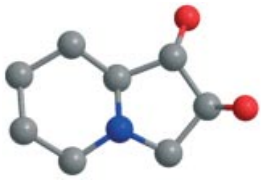
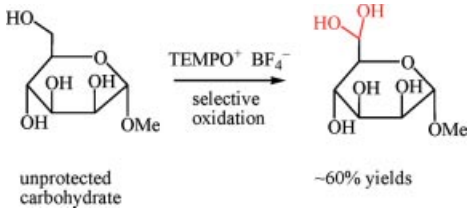
MICROREVIEW



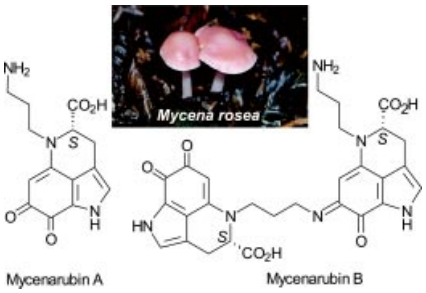
(+)-Lentiginosine is a selective and potent inhibitor of amyloglucosidase. This Microreview focuses on the isolation, the biological assays, the total syntheses and the molecular dynamic studies of this alkaloid, which allowed the assignment of its absolute configuration.

SHORT COMMUNICATION



The selective transformation of the primary 6-hydroxy function of carbohydrates to the corresponding aldehyde provides a useful intermediate for numerous applications, but in all cases selective protection/deprotection of all the remaining positions is devised and employed to selectively introduce the modification at the 6-position. We describe herein the only selective oxidation of the primary 6-hydroxy function to the corresponding aldehyde in anomerically methylated carbohydrates.

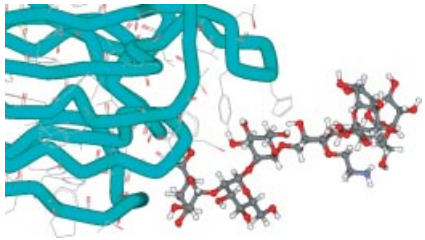
FULL PAPERS



Mycenarubins A and B, two new red pyrroloquinoline alkaloids, have been detected by comparative HPLC profiling in the fruiting bodies of the mushroom *Mycena rosea*. Unlike all pyrroloquinoline alkaloids known so far, the mycenarubins each possess a carboxylic group at C-4, supporting the hypothetised biosynthetic origin of pyrroloquinoline alkaloids from L-tryptophan.

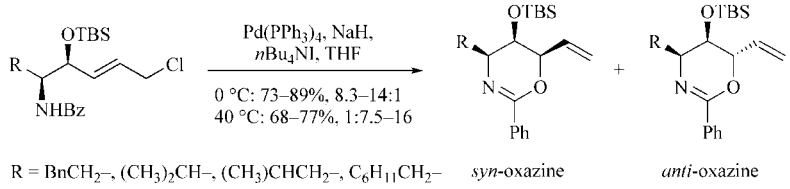
Mannose Oligosaccharides

NMR experiments show that mannose oligosaccharides are recognized by banana lectin through a conformational selection process.



Keywords: Mannose oligosaccharides / NMR spectroscopy / Molecular dynamics / Banana lectin / Molecular recognition

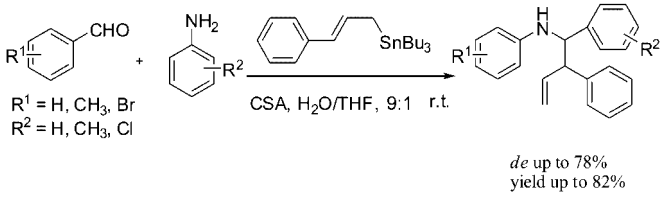
Palladium-Catalyzed Oxazine Formation



An efficient procedure for synthesizing oxazines was developed by the palladium(0)-catalyzed intramolecular cyclization of a benzamide through a π-allylpalladium(II) complex. Unlike other palladium-catalyzed reactions, the temperature was found to be a key factor in determining the stereochemistry of the oxazine.

Keywords: Stereoselective synthesis / Chiral oxazine / Catalysis / Amino alcohol / Palladium / Synthetic methods

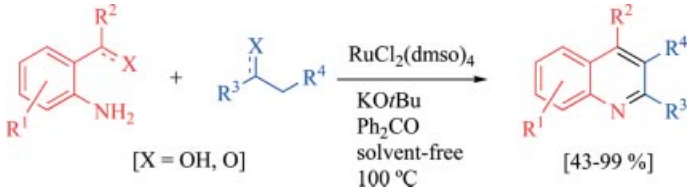
Three Component Syntheses



Three component allylation reactions of aldehydes, amines, and allyltributylstannanes to afford homoallylic amines in good yield and stereoselectivity were achieved in aqueous media catalyzed by Brønsted acids.

Keywords: Aqueous media / Allylation / Multicomponent reactions / Amines

Synthetic Methods



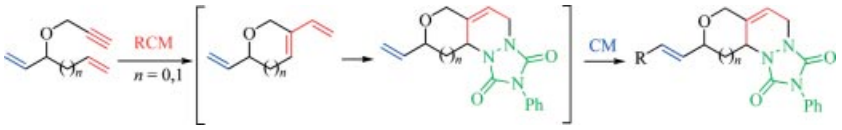
The synthesis of polysubstituted quinoline derivatives without the use of ketones is easily accomplished with $RuCl_2(dmso)_4$ as a catalyst. The high yields obtained in this new procedure could favor its use in many other quinoline syntheses.

Keywords: Annulation / Homogeneous catalysis / Hydrogen transfer / Ruthenium / Synthetic methods

CONTENTS

Enyne Metathesis

Keywords: Ring-closing metathesis / Cycloaddition / Tandem reaction / Cross-metathesis / Enynes



A new three-component reaction has been devised that combines the formation of a 1,3-diene by ring-closing metathesis, a Diels–Alder process and finally a cross-metathesis reaction between a vinyl group generated during the first step and an alkene introduced in the middle.

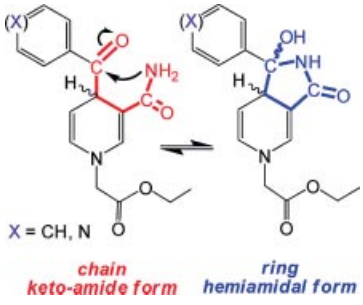
1,1′-Biaryl Synthesis

Keywords: Axial chirality / Biaryl compounds / Binaphthyl compounds / Silicon / Phosphorus

A succinct route to monomethyl 1,1′-binaphthyl and biphenyl species **1** is presented together with their directed lithiation and reaction with subsequent electrophiles.

Ring–Chain Tautomerism

Keywords: Tautomerism / Hemiamidal / Computer chemistry / Isoniazid / Tuberculosis



Isoniazid–NAD(P) adducts are potent inhibitors of key reductases that are involved in *Mycobacterium tuberculosis* cell wall biosynthesis. Analogues of these adducts were prepared and the observed tautomeric ring–chain equilibrium was experimentally and theoretically studied in sight of further design and syntheses of antituberculosis drugs.

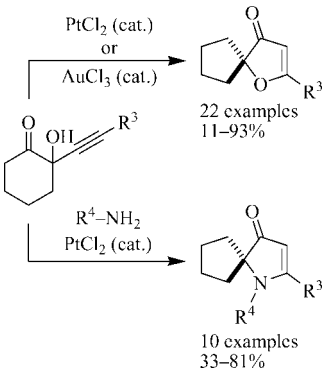
Mushroom Pigments

Keywords: Natural products / Meroterpenoids / Mushrooms / Quinones / Furans

The structure of albatrellin suggests its biosynthesis from the monomeric meroterpenoids grifolin and cristatic acid, a sequence, which could also be performed in vitro.

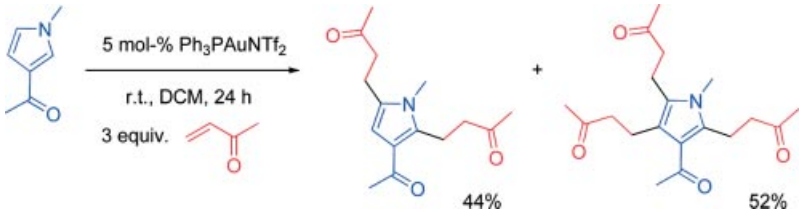
Synthesis of Heterocycles

In a convenient noble-metal-catalyzed process, 2-alkynyl-2-hydroxy carbonyl compounds are effectively converted into spirocyclic 3(2*H*)-furanones and 3-pyrrolones. The cascade reactions likely proceed through a 5-*endo*-*dig* heterocyclization, followed by a 1,2-migration. The scope and limitations of the novel reactions are shown in the preparation of 22 3(2*H*)-furanones and 10 3-pyrrolones.



Keywords: Platinum / Gold / Domino reactions / Cyclizations / Heterocycles

Gold-Catalyzed Hydroarylation

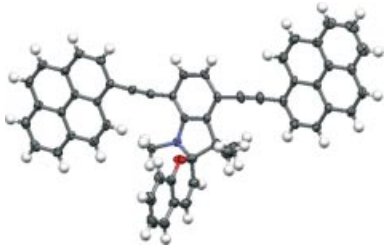


Reactions of pyrrole derivatives with methyl vinyl ketone in the presence of gold(III) and gold(I) catalysts do not give selective hydroarylation products. Instead, highly substituted pyrrole derivatives are obtained.

Keywords: Alkynes / Gold / Homogeneous catalysis / Hydroarylation / Pyrroles

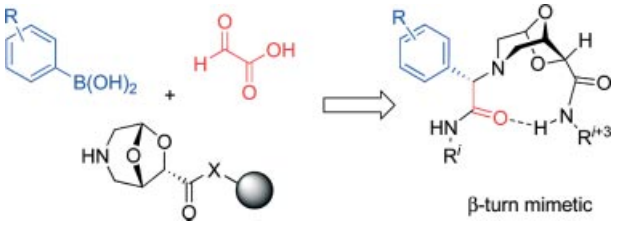
Photochromics

Structural solid-phase and solution-phase properties of two pyrene-spiropyran molecular dyads are described. Each dyad comprises a 1,1′-[indole-4,6-diylbis(ethyne-2,1-diyl)]bis(pyrene) backbone, with the bis(pyrene) and spiropyran units adopting a T-shaped arrangement.



Keywords: Pyrene / Spiropyran / Isomerization

β-Turn Mimetics



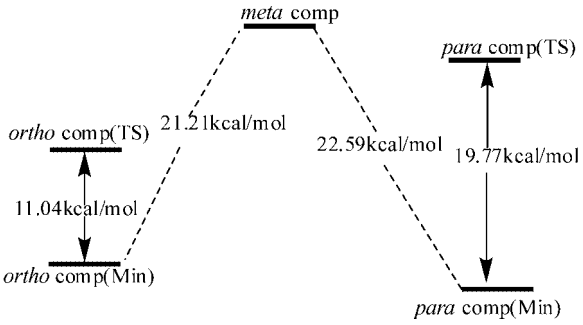
A new set of β-turn mimetics incorporating a bicyclic turn inducer was achieved by utilisation of stereoselective solid-phase multicomponent Petasis reactions. Use of arylboronic acids provided chemical diversity at position *i* + 1, whilst additional variety was introduced at the cleavage stage, thus providing a tool for the generation of libraries of β-turn mimetics as privileged structures in combinatorial chemistry.

Keywords: Peptidomimetics / Scaffold / Amino acids / Solid-phase synthesis

CONTENTS

Aromatic Planarity

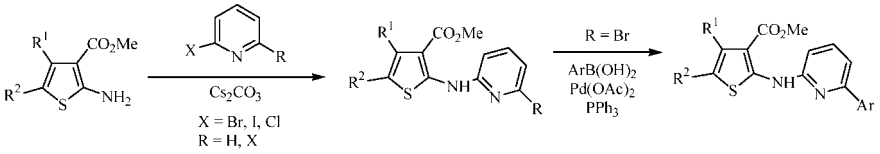
Keywords: Aromaticity / Planarity / Phosphanyl ketone/ Phosphorus heterocycles



The structural and electronic properties of the tautomers of phosphanyl ketones were investigated. ELF has been successfully employed to determine the electronic structure of these molecules. NICS analysis reveals that their planar conformations are aromatic.

Palladium Catalysis

Keywords: Cross-coupling / Nitrogen heterocycles / Sulfur heterocycles / Amines / Suzuki coupling



The palladium-catalyzed Buchwald–Hartwig coupling of deactivated aminothiophenecarboxylates with differently substituted halopyridines was performed for the first time by using $Pd(OAc)_2$, Xantphos as the ligand, and Cs_2CO_3 as the base. Some bromo monoaminated pyridine derivatives, obtained by Buchwald–Hartwig coupling, were further used in the Suzuki coupling of aryl boronic acids bearing electron-withdrawing or electron-donating groups.

If not otherwise indicated in the article, papers in issue 9 were published online on March 2, 2007

