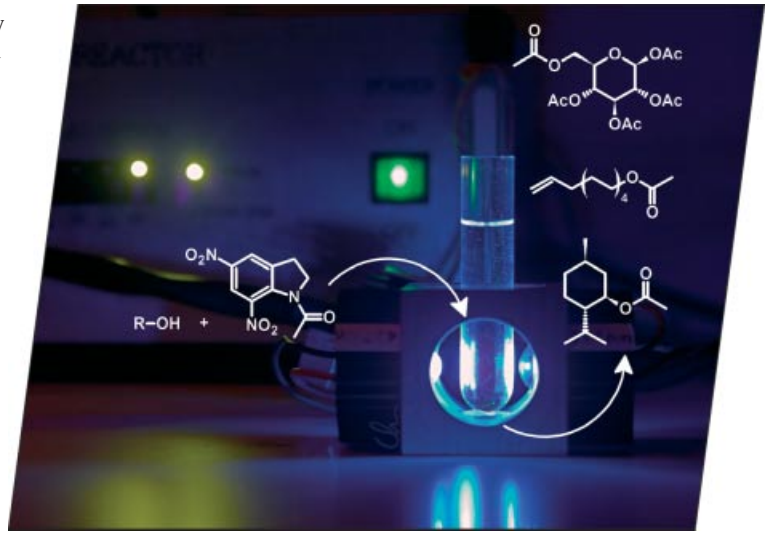
The EUChemSoc Societies have taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry.* Three further EUChemSoc Societies (Austria, Czech Republic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

COVER PICTURE

The cover picture shows the photochemically promoted acylation of alcohols under very mild conditions. The experimental protocol is extremely simple, thanks to the use of a benchtop photochemical reactor based on UV LEDs. The acyl transfer proceeds well for primary, secondary and even tertiary alcohols. The choice of a long wavelength (up to 420 nm) allows the presence of otherwise photosensitive groups, which can later be photolyzed at a higher energy. Details are discussed in the article by C. G. Bochet et al. on p. 2073 ff.



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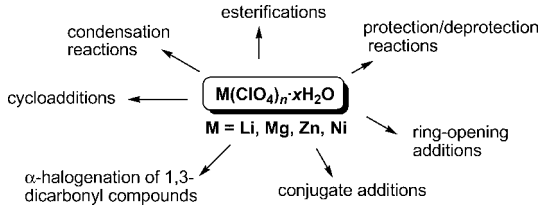
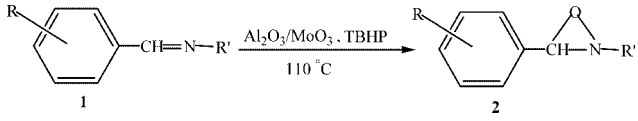
MICROREVIEW



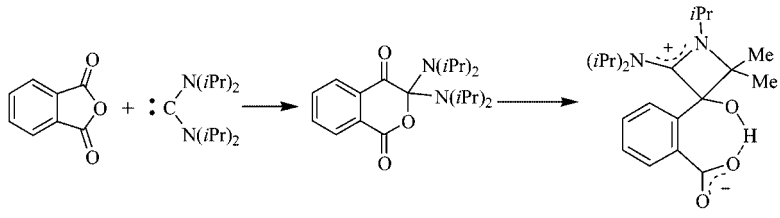
More than just rocket science: the most commonly employed metal perchlorates – among them being $LiClO_4$, $Mg(ClO_4)_2$, $Zn(ClO_4)_2 \cdot 6\,H_2O$, and $Ni(ClO_4)_2 \cdot 6\,H_2O$ – are efficient Lewis acids for modern and mild organic transformations. This microreview reports an overview of recent applications of these salts in organic synthesis.

SHORT COMMUNICATIONS



1 2

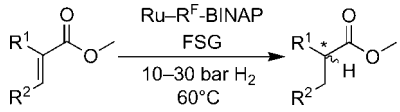
Alumina-supported MoO_3 was found to be an efficient heterogeneous recyclable catalyst for the oxygenation of imines to oxaziridines in excellent yields with the use of anhydrous TBHP as the oxidant under mild reaction conditions.



Bis(diisopropylamino)carbene easily reacts with phthalic anhydride to give quantitatively the isochromane derivative which undergoes unusual isomerization with the formation of a strained azetidine ring and a very short intramolecular hydrogen bond.

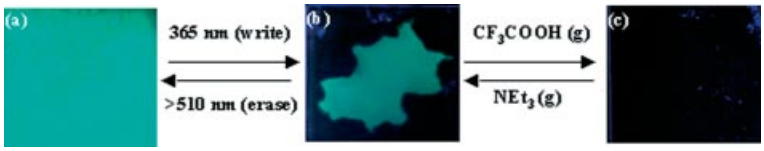
Fluorous Chemistry

A fluorous chiral BINAP–Ru complex was used in the asymmetric hydrogenation of olefins. Successful recovery and reuse of the complex was accomplished by means of noncovalent immobilisation on FSG. Additionally, the accelerating effect of porous silica gel on the asymmetric hydrogenations was investigated.



Keywords: Asymmetric catalysis / Biphasic catalysis / Supported catalysts / Green chemistry / Hydrogenation

Molecular Switches



A photo- and proton-dual-responsive fluorescence switch based on a bisthienylethene–naphthalimide dimer was described. On the basis of fluorescence with the use of light and proton sources, the overall write–conceal–display process of information in security data storage was successfully demonstrated.

Keywords: Fluorescence / Photochromism / Dual-responsive / Security data storage

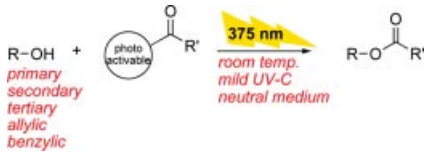
Asymmetric Catalysis

Catalysts generated from $B(OPh)_3$ and the vanol and vapol ligands are highly effective in the catalytic asymmetric aziridination of diazomethyl vinyl ketones with ethyl diazoacetate to give high asymmetric inductions and high diastereoselectivity for *cis*-aziridines.

Keywords: Aziridines / Asymmetric catalysis / Lewis acids

FULL PAPERS

Photoacylation



The efficient preparation of esters from alcohols by a photoacylation reaction is now possible. The reaction conditions, both chemical and photochemical, are very mild, thanks to the use of monochromatic LEDs.

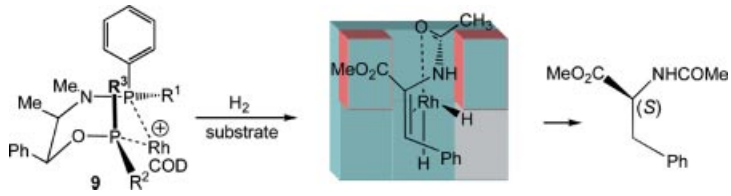
Keywords: Alcohols / Esters / Acylation / Protecting groups / Photochemistry

CONTENTS

Asymmetric Hydrogenation

Modular P-Chirogenic Aminophosphane-Phosphinite Ligands for Rh-Catalyzed Asymmetric Hydrogenation: A New Model for Prediction of Enantioselectivity

Keywords: Rhodium / P ligands / Aminophosphane-phosphinites / Hydrogenation / Asymmetric catalysis

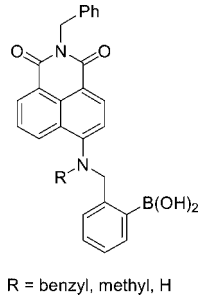


A series of P-chirogenic AMPP ligands has been synthesized from (+)-ephedrine by a versatile three-step methodology and tested in catalyzed hydrogenations of methyl α-acetamidocinnamate by Rh complexes. Variation of the substituent on a P-center of the ligand affords the phenylalanine derivatives with *ee* values ranging from 99 % (*S*) to 88 % (*R*). A new model for the enantioselectivity, taking into consideration the boat conformation in the AMPP-RhH_2 substrate complex, has been proposed.

Fluorescent Probes

Design and Synthesis of Long-Wavelength Fluorescent Boronic Acid Reporter Compounds

Keywords: Carbohydrates / Boronic acid / Fluorescence spectroscopy



Three new fluorescent probes based on the 4-amino-1,8-naphthalimide structure were synthesized, and their sugar binding properties were studied in 0.1 M phosphate buffer at pH 7.4.

Chiral Morpholines

Efficient One-Pot Synthesis of Enantiomerically Pure 2-(Hydroxymethyl)morpholines

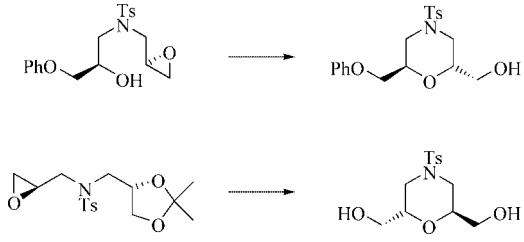
Keywords: Asymmetric synthesis / Nitrogen heterocycles / Cyclization / Morpholines / Epichlorohydrin

Convenience is the key! An efficient one-pot procedure for the stereoselective synthesis of 2-(hydroxymethyl)morpholines is presented. $LiClO_4$-induced ring opening of (*S*)- or (*R*)-epichlorohydrin with chiral β-amino alcohols and subsequent cyclization under basic conditions delivered the target molecules in good yields (57–77 %).

Morpholine Derivatives

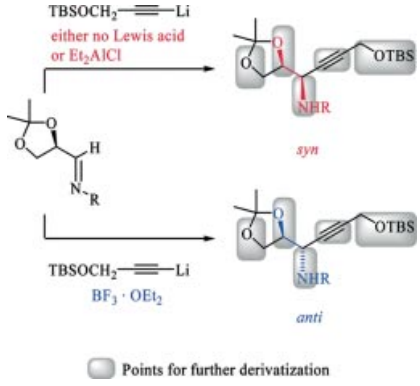
Concise Synthesis of 2,6-Disubstituted Morpholines by Cyclization of Epoxy Alcohols

Keywords: Phase-transfer catalysis / Cyclization / Sulfonamides / Epoxy alcohols / Morpholines



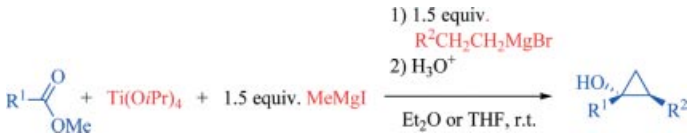
A novel, straightforward and high yielding synthesis of enantiomerically pure 2,6-disubstituted morpholines was developed by acid-catalyzed cyclization of epoxy alcohols.

Asymmetric Synthesis



Keywords: Amino alcohols / Asymmetric synthesis / Diastereoselectivity / Schiff bases / Nucleophilic addition

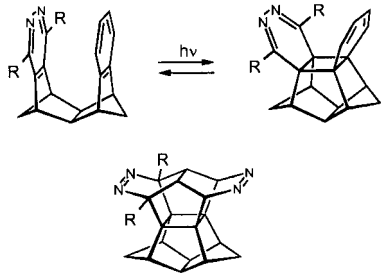
Cyclopropanation



An improved procedure for the preparation of *cis*-1,2-dialkylcyclopropanols, minimizing the formation of side products that are not readily separable, has been elaborated. Inhibitory action of carboxylic esters towards the reduction of titanium(IV) isopropoxide with alkylmagnesium halides and some other observations were explained in the context of the specified ate complex mechanism for the titanium-mediated cyclopropanation of carboxylic esters with Grignard reagents.

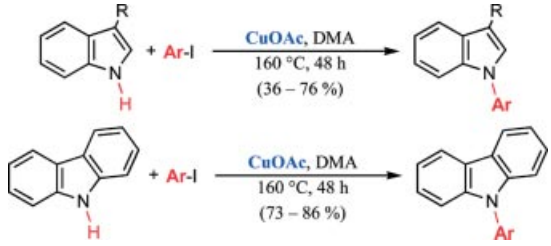
Keywords: Reaction mechanisms / Titanium / Cyclopropanols / Titanacyclopropanes / Carboxylic esters

Photochemical Transformations



Keywords: Photocycloadditions / Polycycles / Polyelectron cycloadditions / Heterocycles

Ullmann Reaction



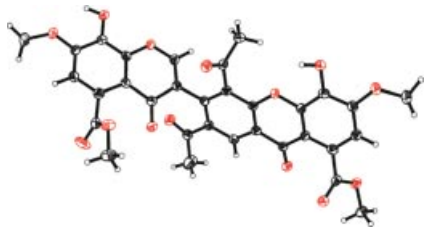
CuOAc-Mediated *N*-arylation of 1*H*-indoles and 1*H*-carbazole with aryl iodides under base-free and ligandless conditions provides a variety of *N*-arylazoles with complete *N*-selectivity and an unprecedented tolerance of functional groups in moderate to good yields.

Keywords: C–N coupling / Copper / Selectivity / Synthetic methods / Indoles / Carbazole

CONTENTS

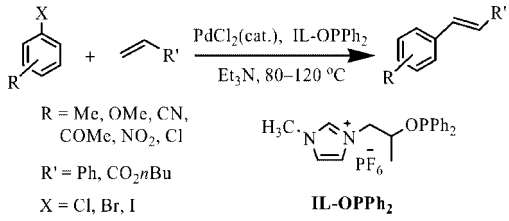
Natural Product Chemistry

Three new fungal polyketide metabolites, chaetocyclinone A (**1**) to C (**5**), were produced by cultures of *Chaetomium* sp. (strain Gö 100/2), which was isolated from marine algae. The structures of the novel compounds were established by detailed spectroscopic analysis. Additionally, an X-ray analysis of **5** was performed (red = O). The biosynthesis of **1** and **5** was studied by feeding ^{13}C-labelled acetate and the biological activity of all compounds is reported.



Keywords: Chaetocyclinone / Secondary metabolites / Polyketides / Biosynthesis / *Chaetomium* sp.

Reusable Reaction Medium



A new imidazolium-based phosphinite ionic liquid is reported as an effective reusable medium and suitable Pd^{II} ligand for C–C bond formation through Heck coupling reactions of aryl iodides, bromides and also chlorides with styrene and *n*-butyl acrylate. The ionic liquid, still containing its corresponding Pd^{II} complex, was easily recovered and reused in several runs without losing its efficiency.

Keywords: Ionic liquid / Heck reaction / Palladium / Aryl halide

CORRECTIONS

Keywords: Cycloaddition / Diastereoselectivity / Chiral auxiliaries / Oxyallyl cations

Keywords: Allylic alcohols / Cross-coupling / Conjugated dienes / Metallacycles / Titanium

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