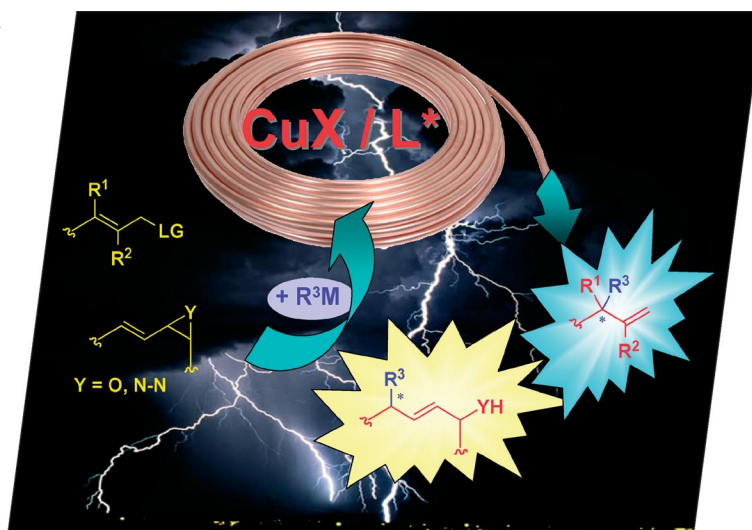


The EUChemSoc Societies have taken the significant step into the future by merging their traditional journals, to form two leading chemistry journals, the *European Journal of Inorganic Chemistry* and the *European Journal of Organic Chemistry*. Three further EUChemSoc Societies (Austria, Czech Republic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

COVER PICTURE

The cover picture shows a figurative illustration of the copper-catalytic cycle for the asymmetric allylic alkylation and its powerful stereoselective control over the regio-, chemo- and enantioselective allylic ring opening of oxiranes or S_N2' displacement of leaving groups. This Microreview by C. A. Falciola and A. Alexakis on p. 3765ff. covers the field from the early stages of diastereoselective procedures to the more recent highly efficient catalytic protocols.



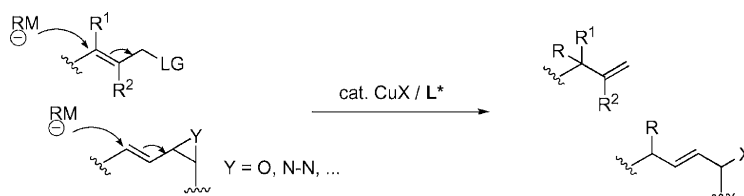
MICROREVIEW

Asymmetric Catalysis

C. A. Falcioni, A. Alexakis* ... 3765–3780

Copper-Catalyzed Asymmetric Allylic Alkylation

Keywords: Copper / Allylic compounds / Asymmetric catalysis



This review covers the main asymmetric allylic alkylation and ring-opening reactions enabled by copper reagents. This past decade has mostly focused on catalytic procedures giving access to a large diversity of allylic chiral adducts. With the increasing

number of publications on the subject, the scope of the methodologies has broadened to highly substituted substrate patterns, more functional substrates and a larger range of nucleophilic sources.

SHORT COMMUNICATION

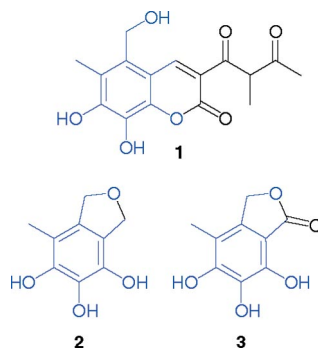
Natural Products

H. V. Kemami Wangun, K. Ishida, C. Hertweck* 3781–3784



Epicoccalone, a Coumarin-Type Chymotrypsin Inhibitor, and Isobenzofuran Congeners from an *Epicoccum* sp. Associated with a Tree Fungus

Keywords: Coumarins / Fungi / Natural products / Polyketides / Protease inhibitors



A new inhibitor of the serine protease α -chymotrypsin, epicoccalone (**1**), was isolated from an *Epicoccum* sp. associated with the tree fungus *Pholiota squarrosa*. The isolation and structural elucidation of two co-metabolites (**2**, **3**) suggest that the unusual coumarin (**1**) and the isobenzofuranes (**2**, **3**) share an orsellinic acid derived polyketide biosynthetic pathway.

FULL PAPERS

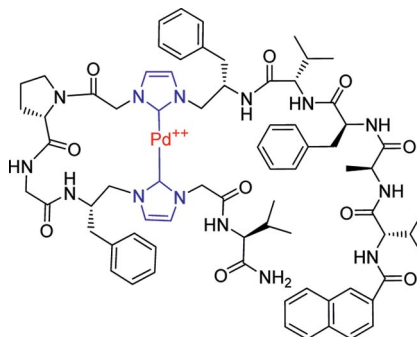
Peptido-Carbene Complexes

J. F. Jensen, K. Worm-Leonhard, M. Meldal* 3785–3797

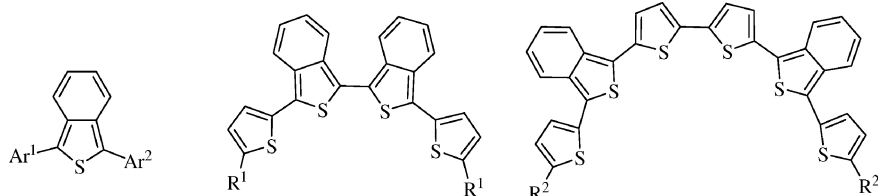


Optically Active (Peptido-carbene)palladium Complexes: Towards True Solid-Phase Combinatorial Libraries of Transition Metal Catalysts

Keywords: Palladium catalysts / Solid phases / Combinatorial chemistry / Chiral catalysts / Carbenes



Peptido-carbenes and their Pd complexes were synthesised on solid support and characterised by NMR and MS data. Solid-phase reactions of peptides containing imidazolium ions in the backbone with BEMP and PdCl_2COD or $\text{Pd}(\text{OAc})_2$ afforded mono- or didentate (carbene)palladium complexes on solid support. These methods are suitable for solid-support combinatorial synthesis of chiral palladium catalysts.



A ring opening of lactones with Grignard reagents followed by thionation with Lawesson's reagent led to the synthesis of several benzannelated thienyl oligomers.

Results from the optical and electrochemical studies of benzo[c]thiophenes are also presented.

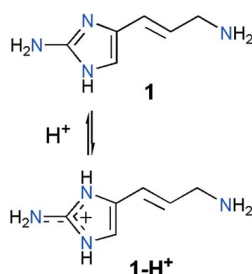
**P. Amaladass, J. A. Clement,
A. K. Mohanakrishnan*** 3798–3810

Synthesis and Characterization of Benzannelated Thienyl Oligomers

Keywords: Lactones / Lawesson's reagent / Benzothienophene / Oligomers / Cyclic voltammetry / Thiophenes

Tautomeric Equilibria

Relative stabilities of various tautomers of compound **1** were investigated in both the gas phase and in water by a series of DFT and ab initio calculations. In addition, the basicity of **1** in aqueous solution was estimated.

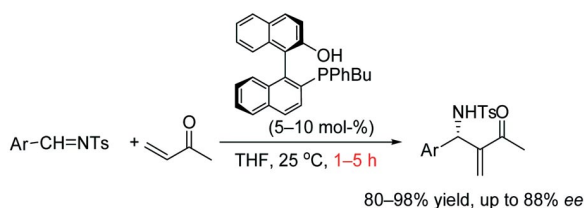


Y. Wei, H. Zipse* 3811–3816

Tautomeric Equilibria in 3-Amino-1-(2-aminoimidazol-4-yl)prop-1-ene, a Central Building Block of Marine Alkaloids

Keywords: 2-Aminoimidazole / Tautomeric equilibria / ab initio calculations

Aza-Morita–Baylis–Hillman Reaction



The use of bifunctional chiral phosphane Lewis bases in catalytic asymmetric aza-Morita–Baylis–Hillman reactions of *N*-sulfonated imines with methyl vinyl ketone

affords the corresponding adducts in good-to-excellent yields and moderate-to-good enantioselectivities within a few hours at room temperature.

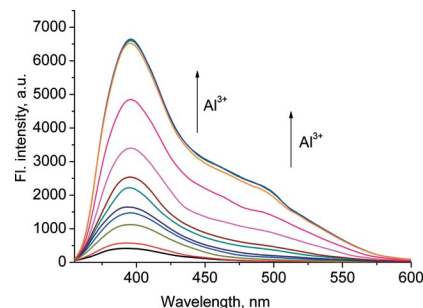
**Z.-Y. Lei, G.-N. Ma,
M. Shi*** 3817–3820

A Fast Catalytic Asymmetric Aza-Morita–Baylis–Hillman Reaction of *N*-Sulfonated Imines with Methyl Vinyl Ketone in the Presence of Chiral Bifunctional Phosphane Lewis Bases

Keywords: Asymmetric catalysis / Aza-Morita–Baylis–Hillman reaction / Ketones / Lewis bases

Al³⁺ Fluorescent Sensor

Sensor **1** was developed as a fluorescence-enhanced Al³⁺ sensor with unique dual-channel emissions. The addition of Al³⁺ to **1** elicits a large fluorescence enhancement by inhibition of a PET channel and also a fluorescence enhancement due to promotion of an emissive excimer channel. The dual-channel fluorescence-enhanced response of the sensor contributes to its high sensitivity and selectivity.



W. Lin,* L. Yuan, J. Feng 3821–3825

A Dual-Channel Fluorescence-Enhanced Sensor for Aluminum Ions Based on Photoinduced Electron Transfer and Excimer Formation

Keywords: Sensors / Aluminum / Fluorescence / Coumarins

CONTENTS

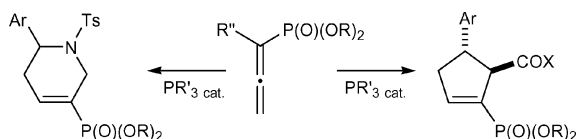
Phosphane Organocatalysts

A. Panossian, N. Fleury-Brégeot,
A. Marinetti* 3826–3833



Use of Allenylphosphonates as New Substrates for Phosphane-Catalyzed [3+2] and [4+2] Annulations

Keywords: Phosphanes / Organocatalysis / Phosphonates / Allenes / Asymmetric catalysis



Allenylphosphonates react with imines, α,β -unsaturated esters, and enones in Bu_3P - or $i\text{Bu}_3\text{P}$ -promoted reactions to afford pyrrolines, tetrahydropyridines, and cyclopentenones bearing phosphoryl functions.

Enantioselective variants of these cyclization reactions afforded enantiomeric excesses of up to 90% when a chiral phosphine was used as the catalyst.

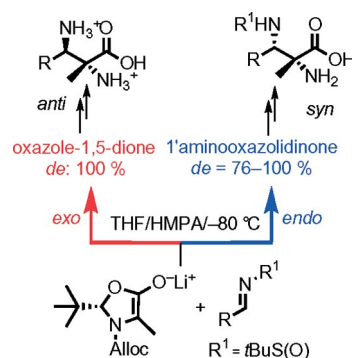
$\alpha^{2,2},\beta^3$ -Diamino Acids

A. Guerrini,* G. Varchi,* C. Samori,
A. Battaglia 3834–3844



Synthesis of $\alpha^{2,2},\beta^3$ -Diamino Acids by Double Stereodifferentiation Aldol Addition of Oxazolidinone Enolates to *N*-(*tert*-Butylsulfinyl) Imines

Keywords: Amino acids / Oxygen heterocycles / Nitrogen heterocycles / Diastereoselectivity / Antifungal agents / Peptidomimetics



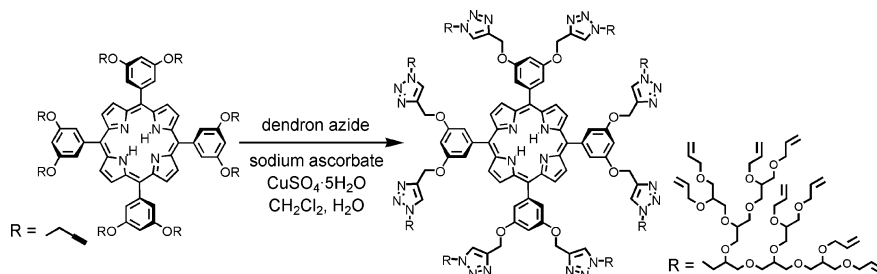
Chiral $\alpha^{2,2},\beta^3$ -diamino acids were synthesized by double stereodifferentiation reactions of chiral oxazolidinone enolates with *N*-sulfinyl aldimines. Among a variety of highly functionalized diamino acids, this highly diastereoselective protocol provides a synthetic route for yet unreported *C*-glycosyl and α -nucleoside diamino acids.

Dendrimers

S. L. Elmer, S. Man,
S. C. Zimmerman* 3845–3851

Synthesis of Polyglycerol, Porphyrin-Cored Dendrimers Using Click Chemistry

Keywords: Azide / Dendrimers / Click chemistry / Biocompatibility / 1,3-Dipolar cycloaddition



Clicking polyglycerol dendrons to a porphyrin core gives dendrimers with molecular weights of approximately 8000 and

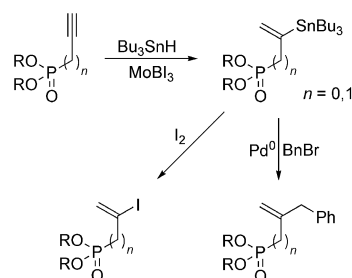
16000 and with 64 and 128 allyl ether groups on their periphery, respectively.

Hydrostannations

N. Jena, U. Kazmaier* 3852–3858

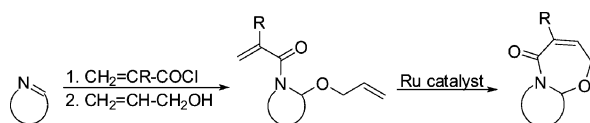
Synthesis of Stannylated Allyl- and Vinylphosphonates via Molybdenum-Catalyzed Hydrostannations

Keywords: Allylphosphonates / Cross couplings / Hydrostannations / Molybdenum / Vinylphosphonates



Syntheses of stannylated allyl and vinylphosphonates by molybdenum-catalyzed hydrostannation of the corresponding propargyl and alkynylphosphonate derivatives proceed with high regioselectivities. The stannylated phosphonates obtained are versatile building blocks for further modifications, such as iodinations or cross coupling reactions.

Ring-Closing Metathesis



A new class of α,β -unsaturated δ -oxacapro lactams was synthesized from imines as starting material. The synthetic procedure

is based on an acyl chloride addition in the first step, followed by a ring-closing metathesis using a ruthenium catalyst.

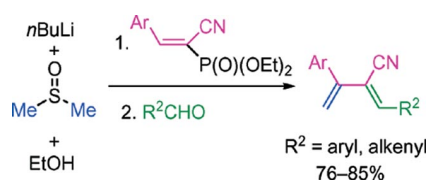
**M. Watzke, K. Schulz, K. Johannes,
P. Ullrich, J. Martens*** 3859–3867

First Synthesis of Bi- and Tricyclic α,β -Unsaturated δ -Oxacapro lactams from Cyclic Imines via Ring-Closing Metathesis

Keywords: Heterocyclic imines / Ring-closing metathesis / Unsaturated caprolactams / Acrylamides / Ruthenium catalysis

Densely Substituted Butadienes

An efficient and stereoselective synthesis of densely substituted 1,3-dienes has been achieved by a domino reaction of Li-dimsylate, an 2-(arylmethylidene)-2-phosphonoacetonitriles, an aldehyde and LiOEt involving Michael/Horner–Wadsworth–Emmons/elimination steps.



**R. Chowdhury,
S. K. Ghosh*** 3868–3874

Sequential Double Olefination of 2-(Arylmethylidene)-2-phosphonoacetonitrile with Dimsyl Lithium and Aldehydes: A Domino Route to Densely Substituted 1,3-Butadienes

Keywords: Domino reactions / Olefination / Michael addition / Elimination

CORRECTION

Keywords: Conducting materials / Annulenes / Polymers / Cyclic voltammetry / UV/Vis spectroscopy

Emerging Prospects for Unusual Aromaticity in Organic Electronic Materials: The Case for Methano[10]annulene

**P. A. Peart, L. M. Repka,
J. D. Tovar*** 3875

* Author to whom correspondence should be addressed.

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