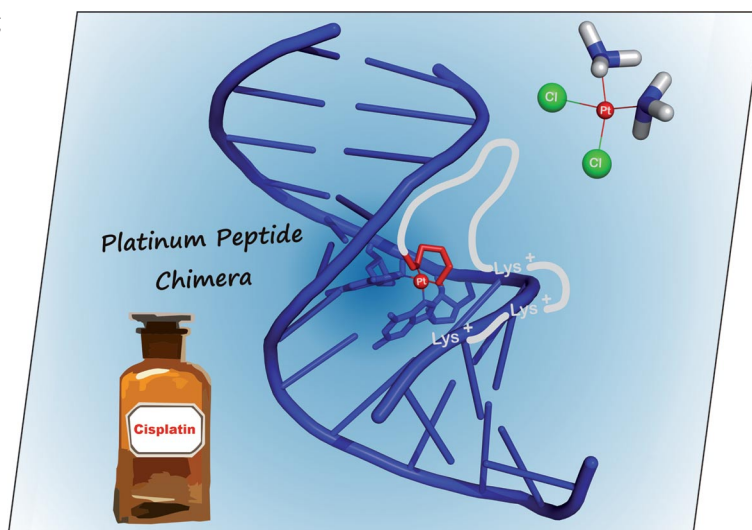


EurJOC is a journal of ChemPubSoc Europe, a union of 16 European chemical societies formed for the purpose of publishing high-quality science. All owners merged their national journals to form two leading chemistry journals, the *European Journal of Organic Chemistry* and the *European Journal of Inorganic Chemistry*.

Other ChemPubSoc Europe journals are *Chemistry – A European Journal*, *ChemBioChem*, *ChemPhysChem*, *ChemMedChem*, *ChemSusChem* and *ChemCatChem*.

COVER PICTURE

The cover picture shows the covalent DNA binding of cisplatin-like complexes. These molecules were designed as hybrids between the platinum coordination site and positively charged peptides, which involves the covalent binding of one or two nucleobases by cisplatin-analogous platinum complexes and the bending of double-stranded DNA initiated by the peptide chain. An optimization of cisplatin-like anticancer drugs is intended. Binding of cisplatin analogs is facilitated by simultaneous DNA bending. Details are discussed in the article by U. Diederichsen et al. on p. 6161ff.



CONTENTS

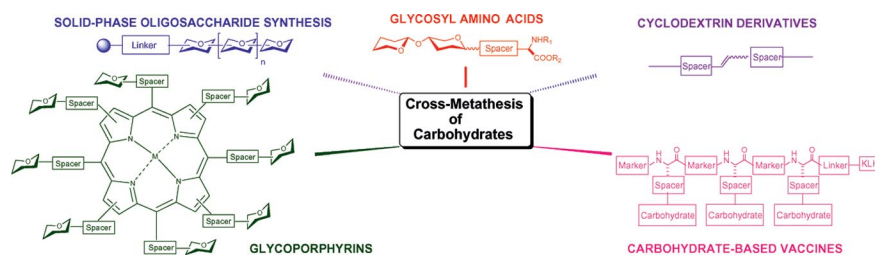
MICROREVIEW

Cross-Metathesis of Carbohydrates

A. Aljarilla, J. C. López,*
J. Plumet* 6123–6143

Metathesis Reactions of Carbohydrates:
Recent Highlights in Cross-Metathesis

Keywords: Cross metathesis / Carbo-
hydrates / Cyclodextrins / Porphyrins / Gly-
coconjugates



Cross-metathesis processes have been suc-
cessfully applied to carbohydrate substrates
during the last decade to give rise to a vari-
ety of glycoconjugates, including glycosyl

amino acids, cyclodextrin derivatives,
carbohydrate-based vaccines, oligosacchar-
ides, and glycoporphyrins

SHORT COMMUNICATIONS

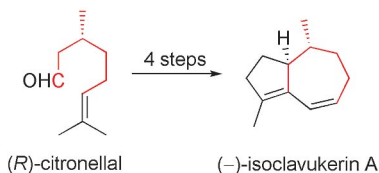
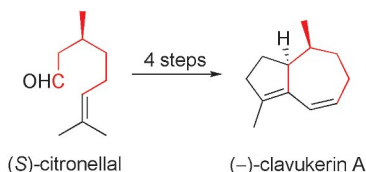
Hydroazulene Synthesis

S. Knüppel, V. O. Rogachev,
P. Metz* 6145–6148



A Concise Catalytic Route to the Marine
Sesquiterpenoids (–)-Clavukerin A and
(–)-Isoclavukerin A

Keywords: Domino reactions / Metathesis /
Michael addition / Organocatalysis /
Ruthenium / Terpenoids



A combination of an organocatalytic
Michael addition and a ruthenium-cata-
lyzed diene metathesis allowed efficient
access to the enantiopure title hydroazu-
lenes from (S)- and (R)-citronellal, respec-
tively, in only four steps.

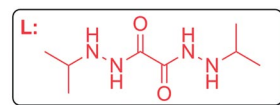
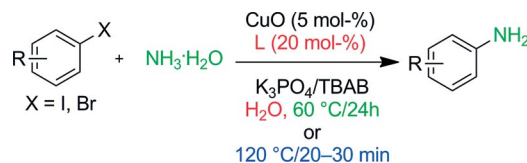
Aqueous Chemistry

F. Meng, X. Zhu, Y. Li, J. Xie, B. Wang,
J. Yao, Y. Wan* 6149–6152



Efficient Copper-Catalyzed Direct Amina-
tion of Aryl Halides Using Aqueous Am-
monia in Water

Keywords: Amination / Copper / Amines /
Cross-coupling / Water chemistry

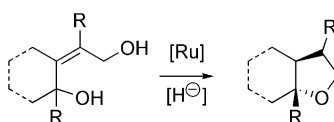


A highly efficient $N^2,N^{2'}$ -diisopropylalohy-
drazide/CuO system was developed for
the direct amination of aryl halides with
aqueous ammonia in water at 60 °C for


24 h or at 120 °C for 20–30 min. The re-
sulting aromatic primary amines were ob-
tained in good to excellent yields.

Ru-Catalyzed Isomerization

Only 0.5 mol-% of Chaudret's Ru catalyst is sufficient for the rapid and stereoselective isomerization of enediols of the type shown. This allows ready access to *trans*-tetrahydrofurans.

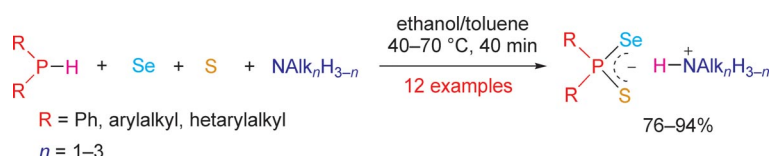


C. Fehr,* I. Magpantay, L. Saudan, H. Sommer 6153–6156

trans-Tetrahydrofurans by OH-Assisted Ru-Catalyzed Isomerization of 2-Butene-1,4-diols 

Keywords: Isomerization / Lactols / Alcohols / Ruthenium / Oxygen heterocycles


Multicomponent Reactions



A family of hitherto unknown mono-, di-, and trialkylammonium thioselenophosphinates has been synthesized in high yields under mild conditions through a novel

multicomponent atom-economic reaction between secondary phosphanes, elemental sulfur, selenium, and primary, secondary, or tertiary amines.

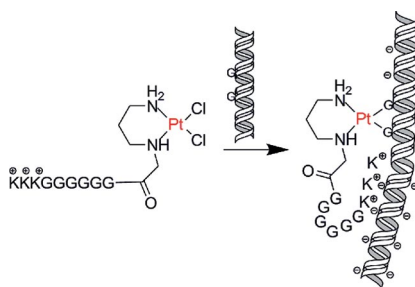
A. V. Artem'ev, N. K. Gusarova, S. F. Malysheva, V. I. Mamatyuk, Yu. V. Gatilov, I. A. Ushakov, B. A. Trofimov* 6157–6160

One-Pot Atom-Economic Synthesis of Thioselenophosphinates via a New Multicomponent Reaction of Secondary Phosphanes with Elemental Sulfur, Selenium, and Amines 


Keywords: Phosphanes / Sulfur / Selenium / Amines / Multicomponent reactions

FULL PAPERS

Cisplatin analogs based on cationic peptide/metal binding hybrids and differing in the number of peptide charges and the platinum coordination sites were prepared. Their cooperativity was investigated with respect to covalent DNA modification considering the influence of DNA conformational change by charge-charge interaction and the significance of platinum ligation.



M. S. Damian, H. K. Hedman, S. K. C. Elmroth, U. Diederichsen* 6161–6170


Synthesis and DNA Interaction of Platinum Complex/Peptide Chimera as Potential Drug Candidates 

Keywords: Cisplatin / Platinum / Peptides / Antitumor agents / DNA structures / DNA damage

A multi ring-fused 2-pyridone-based fluorescent scaffold with good quantum yields of fluorescence and ability to stain HeLa-cells is reported.



M. Sellstedt, A. Nyberg, E. Rosenbaum, P. Engström, M. Wickström, J. Gullbo, S. Bergström, L. B.-Å. Johansson, F. Almqvist* 6171–6178

Synthesis and Characterization of a Multi Ring-Fused 2-Pyridone-Based Fluorescent Scaffold 

Keywords: Medicinal chemistry / Heterocycles / Luminescence / Fluorescent probes

CONTENTS

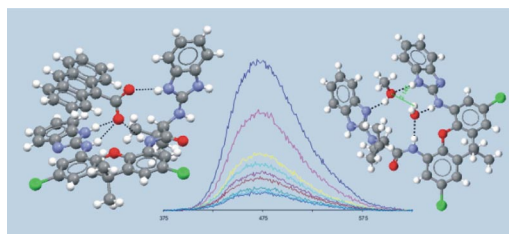
Sensing Carboxylic Acids

F. M. Muñoz, V. Alcázar, F. Sanz,
L. Simón, Á. L. Fuentes de Arriba,
C. Raposo, J. R. Morán* 6179–6185



A Xanthene–Benzimidazole Receptor with Multiple H-Bond Donors for Carboxylic Acids

Keywords: Host-guest systems / Carboxylic acids / Hydrogen bonds / Receptors



Molecular recognition of neutral compounds is carried out by mimicking “oxy-anion holes” able to complex specific guests. The use of a precomplex with well-

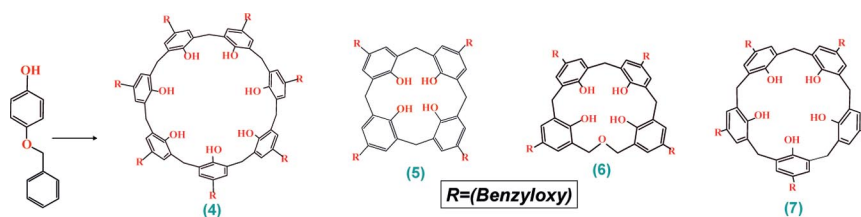
known optical properties allows us to detect different carboxylic acids or anions like chloride.

Calixarenes

V. Huc,* E. Npetgat, V. Guérineau,
S. Bourcier, A. Dos Santos, R. Guillot,
J.-P. Baltaze, C. Martini 6186–6192



p-(Benzyloxy)calix[8]arene Synthesis Revisited: *p*-(Benzyloxy)calix[4]-, *p*-(Benzyloxy)calix[5]-, *p*-(Benzyloxy)calix[7]-, and *p*-(Benzyloxy)bis(homooxa)calix[4]arenes



Keywords: Calixarenes / Alkylation / Functionalization / Supramolecular chemistry

During the course of the synthesis of *p*-(benzyloxy)calix[8]arene, compounds 4–7 are easily recovered as byproducts on a pre-

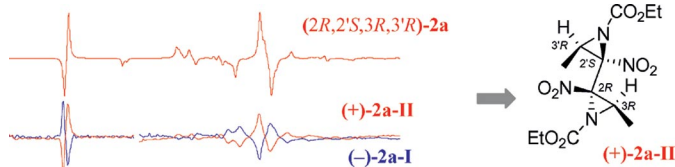
parative scale. Alkylation of these new calixarenes leads to the first functionalized derivatives.

Vibrational Circular Dichroism

S. Abbate,* A. Ciogli, S. Fioravanti,
F. Gasparrini, G. Longhi,* L. Pellacani,
E. Rizzato, D. Spinelli,
P. A. Tardella 6193–6199



Solving the Puzzling Absolute Configuration Determination of a Flexible Molecule by Vibrational and Electronic Circular Dichroism Spectroscopies and DFT Calculations: The Case Study of a Chiral 2,2'-Dinitro-2,2'-biaziridine



Keywords: Configuration determination / Circular dichroism / Density functional calculations / Conformation analysis / Biaziridines

A 2,2'-dinitro-2,2'-biaziridine containing four “stable” chiral centers at carbon atoms furnishes just one pair of enantiomers among the 2⁴ possible stereoisomers. Vibrational circular dichroism spectra and a

conformational search allowed us to determine the absolute configuration (see figure). Also the configuration of the nitrogen atoms of the aziridine rings has been established.

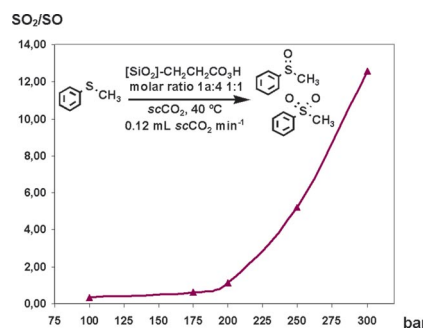
Supercritical Carbon Dioxide

R. Mello, A. Olmos, A. Alcalde-Aragonés,
A. Díaz-Rodríguez,
M. E. González Núñez,*
G. Asensio 6200–6206

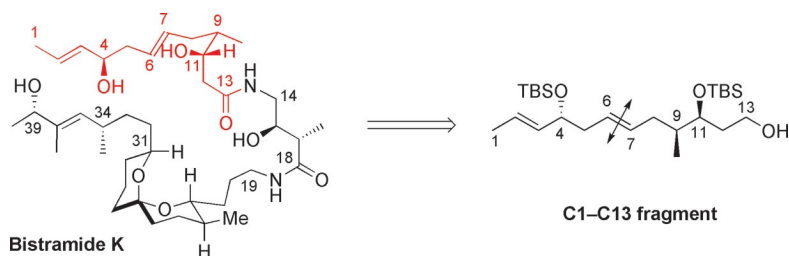


Oxidation of Sulfides with a Silica-Supported Peracid in Supercritical Carbon Dioxide under Flow Conditions: Tuning Chemoselectivity with Pressure

Keywords: Supercritical CO₂ / Oxidation / Surface diffusion / Supported catalysts / Adsorption



The oxidation of sulfides 1 with hydrated [2-percarboxyethyl]-functionalized silica (4) in scCO₂ under flow conditions can be tuned to give either sulfoxides 2 or sulfones 3 by adjusting the pressure.



A synthesis of the C1–C13 fragment of the natural bistramide K is described.

C. Bauder* 6207–6216

Asymmetric Synthesis of the C1–C13 Fragment of the Marine Metabolite Bistramide K

Keywords: Asymmetric synthesis / Chiral auxiliary / Diastereoselectivity / Natural products / Olefination

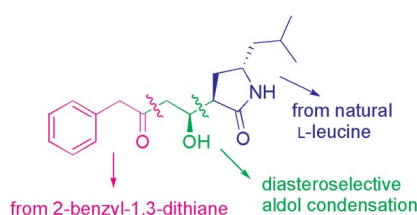
Diastereoselective Aldol Reactions

N. S. Chakor,* S. Dallavalle, L. Scaglioni, L. Merlini 6217–6223

Total Synthesis of Berkeleyamide A and its 10-*epi* Isomer

Keywords: Natural products / Total synthesis / Diastereoselectivity / Aldol reactions

A stereoselective total synthesis of the Caspase 1 inhibitor (–)-berkeleyamide A is described, starting from commercially available L-leucinol

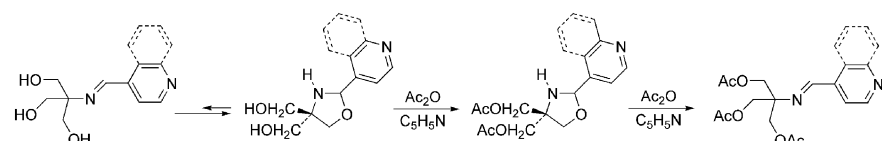


Regioselective Ring-Opening

R. F. Martínez,* M. Ávalos, R. Babiano, P. Cintas, J. L. Jiménez, M. E. Light, J. C. Palacios, E. M. S. Pérez 6224–6232

Schiff Bases from TRIS and Formylpyridines: Structure and Mechanistic Rationale Aided by DFT Calculations

Keywords: Regioselectivity / Acylation / Schiff bases / Density functional calculations / Heterocycles



1,3-Oxazolidines derived from formylpyridines or -quinolines have been converted into imines under acetylating conditions.

DFT calculations point to the intermediacy of an iminium ion as the most plausible mechanism.

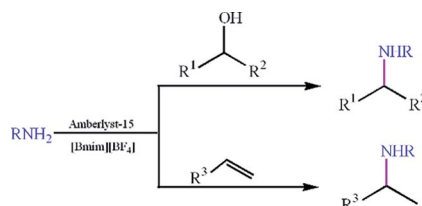
Reactions in Ionic Liquids

Z. S. Qureshi, K. M. Deshmukh, P. J. Tambade, K. P. Dhake, B. M. Bhanage* 6233–6238

Amberlyst-15 in Ionic Liquid: An Efficient and Recyclable Reagent for Nucleophilic Substitution of Alcohols and Hydroamination of Alkenes

Keywords: Hydroamination / Heterogeneous catalysis / Ionic liquids / Nucleophilic substitution / Amidation

A facile protocol involving Amberlyst-15 in the ionic liquid [Bmim][BF₄] (= 1-butyl-3-methylimidazolium tetrafluoroborate) has been developed for nucleophilic substitution of alcohols and hydroamination of alkenes.



CONTENTS

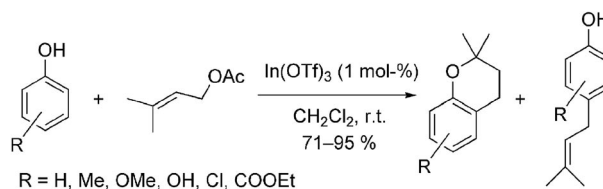
Indium Triflate Catalysis

V. Vece, J. Ricci, S. Poulain-Martini,
P. Nava, Y. Carissan, S. Humbel,
E. Duñach* 6239–6248



In^{III}-Catalysed Tandem C–C and C–O
Bond Formation between Phenols and Al-
lylic Acetates

Keywords: Indium / Lewis acids / Al-
lylation / Oxygen heterocycles / Tandem re-
actions



Tandem allylation–intramolecular hydroa-
lkoxylation carried out in the presence of
an indium catalyst (1 mol-%) under mild
conditions provides the dihydrobenzopyran

ring system in good yields. Kinetic, mech-
anistic and theoretical studies are pre-
sented.

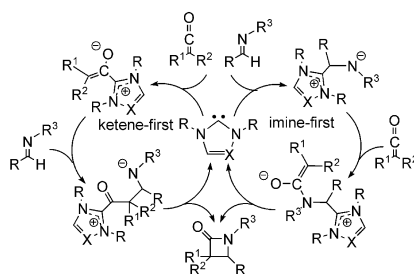
Staudinger Reaction

K. Tang, J. Wang, X. Cheng, Q. Hou,
Y. Liu* 6249–6255



Theoretical Investigations towards the
Staudinger Reaction Catalyzed by N-
Heterocyclic Carbene: Mechanism and
Stereoselectivity

Keywords: Heterocycles / Carbenes / Reac-
tion mechanisms / Stereoselectivity / Den-
sity functional calculations



Theoretical investigation by employing
density functional theory reveals that the
energy barrier of the “imine-first” mech-
anism is dramatically higher than that of the
“ketene-first” mechanism and only the lat-
ter is actually feasible for the N-heterocyclic
carbene (NHC)-catalyzed Staudinger
reaction.

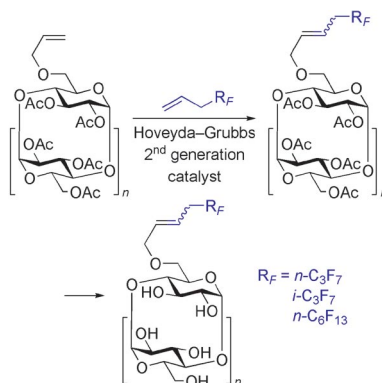
Perfluoroalkylated Cyclodextrins

M. Řezanka, B. Eignerová, J. Jindřich,*
M. Kotora* 6256–6262



Synthesis of Mono(perfluoroalkyl) Cyclo-
dextrins via Cross Metathesis

Keywords: Metathesis / Cyclodextrins /
Fluorine / Alkylation / Amphiphiles



Mono(perfluoroalkyl)cyclodextrin deriva-
tives were prepared by cross metathesis
with perfluoroalkylpropenes. After removal
of the acetyl groups, aggregation properties
in water were studied.

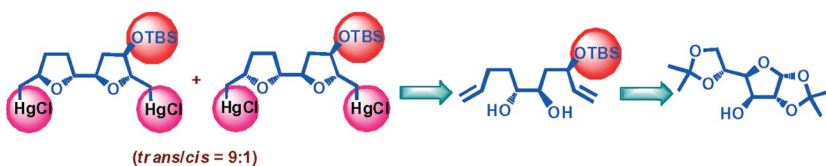
Double Oxymercuration

D. K. Mohapatra,* P. R. Naidu,
D. S. Reddy, S. Nayak,
S. Mohapatra 6263–6268



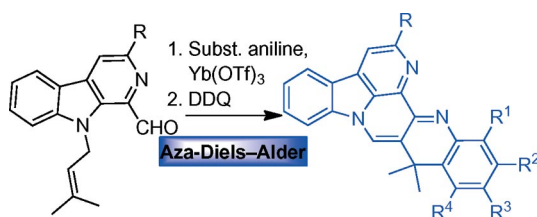
One-Pot Stereoselective Double Intramo-
lecular Oxymercuration: Synthesis of Four
Isomers of an Unsymmetrical Bis-Tetra-
hydrofuran Ring System

Keywords: Natural products / Stereoselec-
tivity / Toxicity / Mercury / Oxygen hetero-
cycles



An efficient preparation of a mono-hy-
droxylated bis-tetrahydrofuran ring system
present in asimitrin and salzmanolin, two
naturally occurring biologically active non-


classical acetogenins, has been achieved by
a one-pot stereoselective double intramo-
lecular oxymercuration as the key reaction.



The synthesis of new canthines either by aza-Diels–Alder or carbonyl–ene reaction

from *N*-prenylated 1-formyl-9*H*-β-carbolines has been accomplished.

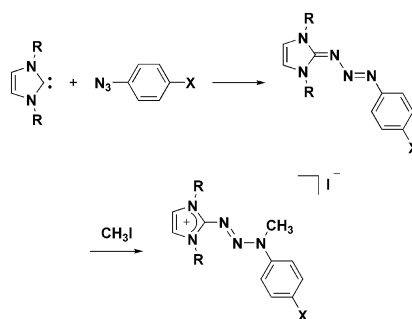
S. Hutait, V. Singh,
S. Batra* 6269–6276

Facile Synthesis of Dihydroquinoline-Fused Canthines by Intramolecular Aza-Diels–Alder Reaction 


Keywords: Cyclization / Aza-Diels–Alder reactions / Fused-ring systems / Lewis acids / Ytterbium

Ylidene-Triazene Reactivity

Coupling of 1,3-dimesitylimidazolylidene (**1**) with a phenyl azide (**2**) afforded an ylidene-triazene **3**, which was methylated with CH₃I to yield the corresponding salt **4**. Crystallographic, ¹H and NOESY 1D NMR, as well as UV/Vis analyses provided insight into the structural and electronic features of **4**. Subsequent computational studies revealed that **3** should engage in dipolar cycloadditions, and the absence thereof may arise from kinetic factors.



A. G. Tennyson, E. J. Moorhead,
B. L. Madison, J. A. V. Er, V. M. Lynch,
C. W. Bielawski* 6277–6282

Methylation of Ylidene-Triazenes: Insight and Guidance for 1,3-Dipolar Cycloaddition Reactions 

Keywords: Nitrogen heterocycles / Dipolar cycloaddition / Click chemistry / *N*-Heterocyclic carbenes / Azides / Triazenes

* Author to whom correspondence should be addressed.

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

If not otherwise indicated in the article, papers in issue 31 were published online on October 19, 2010