



The following Communications have been judged by at least two referees to be “very important papers” and will be published online at www.angewandte.org soon:

S. Arita, T. Koike, Y. Kayaki, T. Ikariya*

Aerobic Oxidative Kinetic Resolution of Racemic Secondary Alcohols with Chiral Bifunctional Amido Complexes

T. Z. Forbes, J. G. McAlpin, R. Murphy, P. C. Burns*

Metal–Oxygen Isopolyhedra Assembled into Fullerene Topologies

T. A. Rokob, A. Hamza, A. Stirling, T. Soós,* I. Pápai*

Turning Frustration into Bond Activation: A Theoretical Mechanistic Study on Heterolytic Hydrogen Splitting by Frustrated Lewis Pairs

E. Stavitski, M. H. Kox, I. Swart, F. M. de Groot, B. M. Weckhuysen*

In Situ Synchrotron-Based IR Microspectroscopy To Study Catalytic Reactions in Zeolite Crystals

C. Ruspic, J. R. Moss, M. Schürmann, S. Harder*

Remarkable Stability of Metallocenes with Superbulky Ligands: Spontaneous Reduction of Sm^{III} to Sm^{II}

L. M. Fidalgo, G. Whyte, D. Bratton, C. F. Kaminski, C. Abell, W. T. S. Huck*

From Microdroplets to Microfluidics: Selective Emulsion Separation in Microfluidic Devices

News

Organometallic Chemistry:

Oro Honored _____ 1546

Biological Chemistry:

Mapp Awarded _____ 1546

Organic Chemistry:

Prize for Goofsen _____ 1546

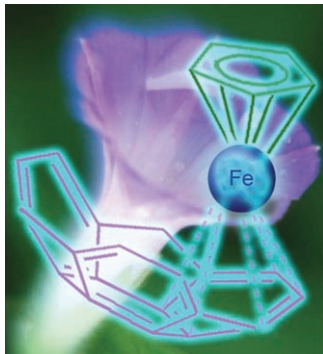
Books

Catalysis from A to Z

Boy Cornils, Wolfgang A. Herrmann,
Martin Muhler, Chi-Huey Wong

reviewed by G. Centi _____ 1547

Bowled over with success: The first π coordination to a concave surface of a buckyball has been achieved in the binding of a {CpFe}⁺ unit (Cp = cyclopentadienyl) to sumanene (see picture). This was accomplished by a solid-state approach and represents an important step toward inclusion complexes of buckyballs, fullerenes, and nanotubes.

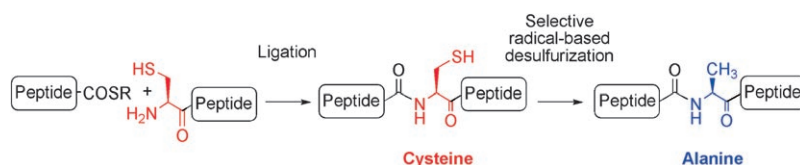


Highlights

Coordination Modes

M. A. Petrukhina* _____ 1550–1552

Coordination of Buckyballs: The First Concave-Bound Metal Complex



The two bottlenecks for native chemical ligation are the limitations of thioester syntheses and a lack of suitable coupling sites in peptide sequences. This Highlight

describes current advances that are capable of extending the scope of these methods, such as radical desulfurization (see scheme).

Native Chemical Ligation

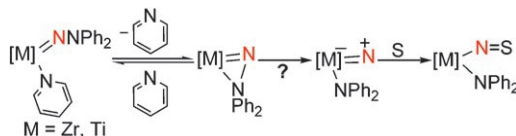
C. Haase, O. Seitz* _____ 1553–1556

Extending the Scope of Native Chemical Peptide Coupling

Metal–Nitrogen Multiple Bonds

D. J. Mindiola* — 1557 – 1559

Early Transition-Metal Hydrazido
Complexes: Masked Metallanitrenes from
N–N Bond Scission



Early birds catching the worms: Early transition-metal hydrazides can now be considered to be masked metallanitrenes that are unmasked by an N–N bond activation step. Recent progress includes

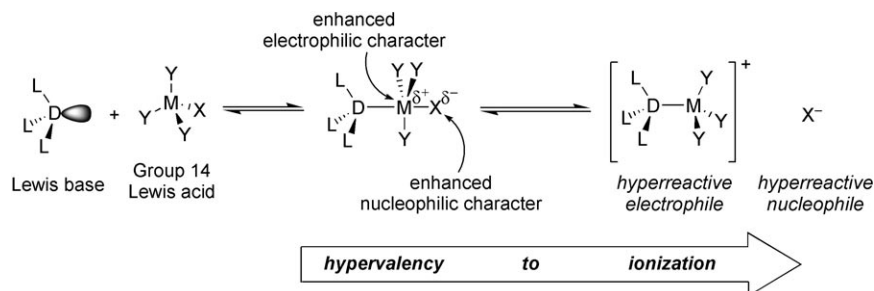
isolation of complexes in which migration of the group masking the metallanitrene nitrogen atom is coupled with take-up of a new substrate S (see scheme).

Reviews

Reaction Mechanisms

S. E. Denmark,*
G. L. Beutner — 1560 – 1638

Lewis Base Catalysis in Organic Synthesis



The concept of the electron pair bond by G. N. Lewis is the basis of our understanding of chemical structure and reactivity. The consequences of donor–acceptor interactions between bases and acids are manifest in the spectacular diversity of chemical transformations. A systematic

analysis of the origins of these phenomena provides a unified picture of how electron-pair donors (Lewis bases) can influence chemical reactions by enhancing either (or both) electrophilic or nucleophilic character.

Communications

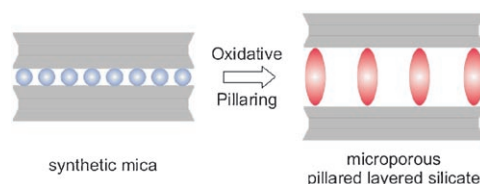


Microporous Materials

A. Baumgartner, K. Sattler, J. Thun,
J. Breu* — 1640 – 1644



A Route to Microporous Materials
through Oxidative Pillaring of Micas



Oxidative pillaring: The intercalation of a molecular pillar ($\text{Me}_2\text{DABCO}^{2+}$) into synthetic Cs-tainiolite, which shows sufficient intracrystalline reactivity by an oxidative cation-exchange mechanism, yields a material with microporosity that resem-

bles zeolites in both narrow pore size distribution and total pore volume. Owing to the high structural Fe content, this pillared clay provides a size-selective, shape-selective, and electronically conducting framework.

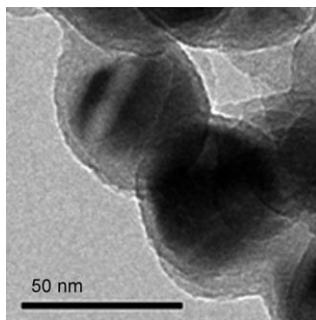
For the USA and Canada:

ANGEWANDTE CHEMIE International Edition (ISSN 1433-7851) is published weekly by Wiley-VCH, PO Box 191161, 69451 Weinheim, Germany. Air freight and mailing in the USA by Publications Expediting Inc., 200

Meacham Ave., Elmont, NY 11003. Periodicals postage paid at Jamaica, NY 11431. US POSTMASTER: send address changes to *Angewandte Chemie*, Wiley-VCH, 111 River Street, Hoboken, NJ 07030. Annual subscription price for institutions: US\$ 7225/6568 (valid for print and

electronic / print or electronic delivery); for individuals who are personal members of a national chemical society prices are available on request. Postage and handling charges included. All prices are subject to local VAT/sales tax.

Full charge ahead: Hydrothermal carbonization of glucose in the presence of Si nanoparticles yields a Si@SiO_x/C nanocomposite that has high reversible lithium-storage capacity, excellent cycling performance, and high rate capability. This material shows promise as an anode material in lithium-ion batteries.



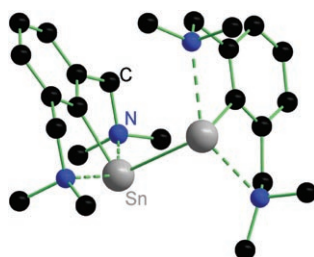
Nanostructured Electrodes

Y.-S. Hu,* R. Demir-Cakan, M.-M. Titirici,*
J.-O. Müller, R. Schlögl, M. Antonietti,
J. Maier* _____ **1645–1649**

Superior Storage Performance of a
Si@SiO_x/C Nanocomposite as Anode
Material for Lithium-Ion Batteries



Not only steric protection by bulky substituents but also intramolecular N→Sn coordination makes possible the isolation and characterization of dimeric organotin(II) compounds such as [{2,6-(Me₂NCH₂)₂C₆H₃}Sn]₂ (see structure), which according to a crystallographic study exhibits a Sn–Sn bond length of 2.9712(12) Å.



Sn–Sn Bonding

R. Jambor,* B. Kašná, K. N. Kirschner,*
M. Schürmann,
K. Jurkschat* _____ **1650–1653**

[{2,6-(Me₂NCH₂)₂C₆H₃}Sn]₂: An
Intramolecularly Coordinated
Diorganodistannylene

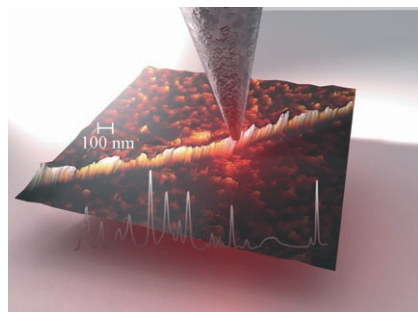


A crystal from the China sea: The asymmetric total synthesis of (+)-vigulariol (see picture: red O, blue C, white H) has been accomplished in eight linear steps starting from (*R*)-cryptone, which is readily available from eucalyptus oil. Key steps involve an asymmetric homoaldol reaction of chiral allyl carbamates and THF cyclocondensation. Ring-closing metathesis led to the tricyclic framework of the cladiellin diterpenes.

Diterpenes

J. Becker, K. Bergander, R. Fröhlich,
D. Hoppe* _____ **1654–1657**

Asymmetric Total Synthesis and X-Ray
Crystal Structure of the Cytotoxic Marine
Diterpene (+)-Vigulariol



Walking the strand: Tip-enhanced Raman scattering (TERS) with precision probe positioning has been used to obtain high-quality Raman spectra of the nucleobases in a single RNA strand (see picture: foreground Raman spectrum, background atomic-force microscope tip positioned over the RNA strand). This procedure represents the first step towards direct and label-free single-biomolecule sequencing.

Surface Analysis

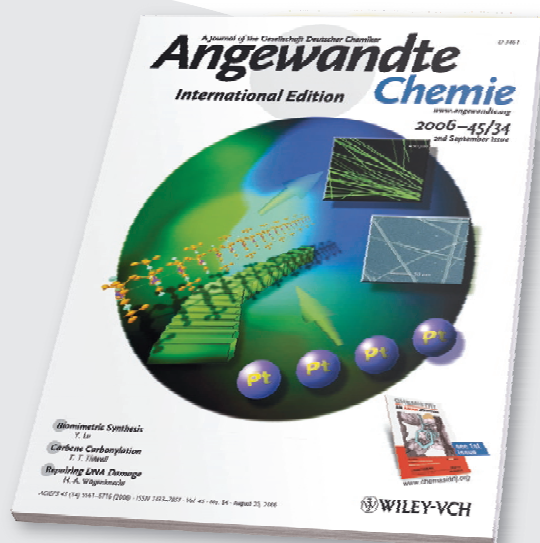
E. Bailo, V. Deckert* _____ **1658–1661**

Tip-Enhanced Raman Spectroscopy of
Single RNA Strands: Towards a Novel
Direct-Sequencing Method

Incredibly international!



386409711_st



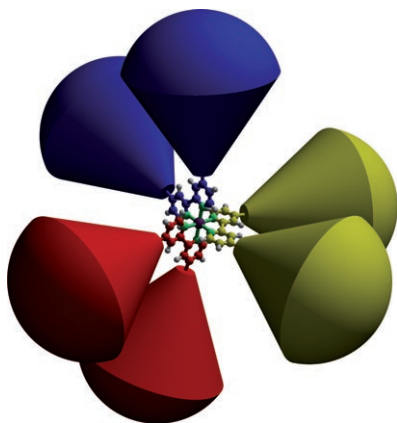
Although *Angewandte Chemie* is owned by the German Chemical Society (Gesellschaft Deutscher Chemiker, GDCh) and is published by Wiley-VCH in a charming small town in southwest Germany, it is international in every other respect. Authors and referees from around the globe contribute to its success. Most of the articles are submitted from China (20%), USA (16%), and Japan (13%) - only then comes Germany (12%). Most of the referee reports come from Germany and the USA, but Japan and Western Europe are also well represented.

service@wiley-vch.de
www.angewandte.org



GESELLSCHAFT
DEUTSCHER CHEMIKER



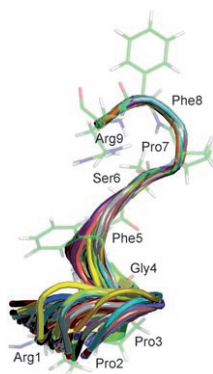


Cores for thought: Dendrimers based on an octahedral symmetry and with a central positively charged transition-metal complex have been prepared up to the third generation (see schematic representation). The shape-persistent dendrimers with a high density of aromatic rings are accessible by either a partly convergent synthesis or a divergent strategy in which the metal complex proved to be stable to high-temperature Diels–Alder reactions.

Dendrimers

M. C. Haberecht, J. M. Schnorr, E. V. Andreitchenko, C. G. Clark, Jr., M. Wagner, K. Müllen* — 1662–1667

Tris(2,2'-bipyridyl)ruthenium(II) with Branched Polyphenylene Shells: A Family of Charged Shape-Persistent Nanoparticles

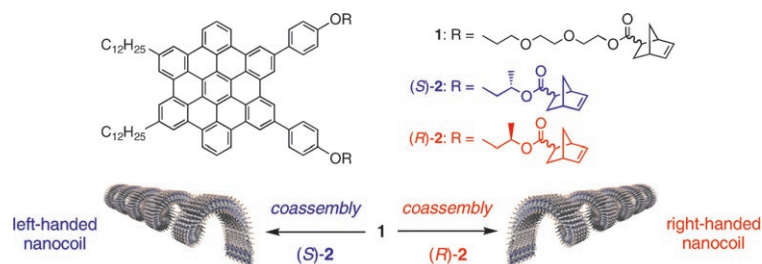


Triggering the signal: The backbone structure of the nine amino acid neuropeptide bradykinin (see picture) bound to the human G-protein coupled bradykinin subtype 2 receptor has been determined by solid-state NMR spectroscopy. Torsion-angle constraints based on ^{13}C chemical shifts were used for structure calculation, which revealed an elongated conformation with an α -helical turn at the N-terminus and a β turn at the C-terminus.

Protein Structures

J. J. Lopez, A. K. Shukla, C. Reinhart, H. Schwalbe, H. Michel, C. Glaubitz* — 1668–1671

The Structure of the Neuropeptide Bradykinin Bound to the Human G-Protein Coupled Receptor Bradykinin B2 as Determined by Solid-State NMR Spectroscopy



One-handed military discipline: The hexabenzocoronene (HBC) derivative **1** can coassemble with the chiral HBCs (*S*)- or (*R*)-**2** to yield graphitic nanocoils (see picture). Self-assembly of **2** alone gives noncoiled fibrous assemblies. A sergeants-and-soldiers effect leads to the

formation of one-handed nanocoils. These can be covalently stabilized by post-surface ROMP of the pendant norbornene groups to give a uniform cast film. Upon doping with I_2 , this film becomes electroconductive without any detectable morphological disruption.

Helical Nanocoils

T. Yamamoto, T. Fukushima,* A. Kosaka, W. Jin, Y. Yamamoto, N. Ishii, T. Aida* — 1672–1675

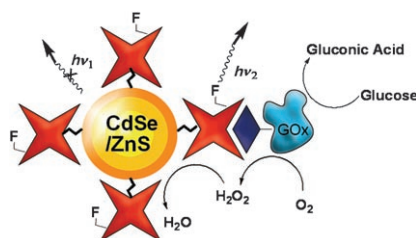
Conductive One-Handed Nanocoils by Coassembly of Hexabenzocoronenes: Control of Morphology and Helical Chirality



Quantum Dots

R. Gill, L. Bahshi, R. Freeman,
I. Willner* 1676–1679

Optical Detection of Glucose and
Acetylcholine Esterase Inhibitors by H_2O_2 -
Sensitive CdSe/ZnS Quantum Dots



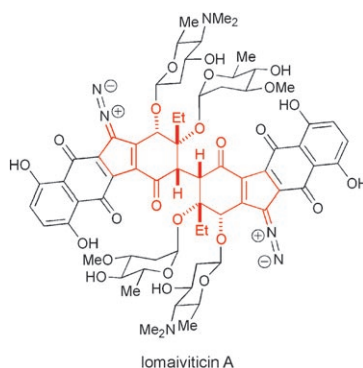
The coupling of oxidases with fluoro-
phore-labeled CdSe/ZnS quantum dots
enables the ratiometric fluorescence ana-
lysis of enzyme activities and their sub-
strates by the interaction between the
biocatalytically generated H_2O_2 and the
quantum dots. The method has been
applied to the analysis of glucose and the
inhibition of acetylcholine esterase.

Natural Product Synthesis

E. S. Krygowski, K. Murphy-Benenato,
M. D. Shair* 1680–1684



Enantioselective Synthesis of the Central
Ring System of Lomaiviticin A in the Form of
an Unusually Stable Cyclic Hydrate



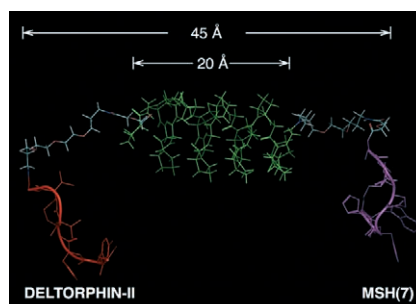
A model system representing a protected
form of the four central rings of the
antitumor compound lomaiviticin A has
been synthesized (outlined in red in the
picture). The approach features an intra-
molecular furan Diels–Alder reaction, a
stereoselective oxidative enolate coupling
to dimerize the “halves,” and a base-
initiated cascade reaction. The 1,4-di-
ketone of the central ring system exists as
a stable cyclic hydrate.

Multivalent Ligands

J. Vagner, L. Xu, H. L. Handl, J. S. Josan,
D. L. Morse, E. A. Mash, R. J. Gillies,
V. J. Hruby* 1685–1688



Heterobivalent Ligands Crosslink Multiple
Cell-Surface Receptors: The Human
Melanocortin-4 and δ -Opioid Receptors



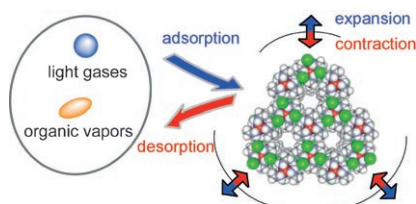
Together we bind: A series of synthetic
heterobivalent ligands containing a frag-
ment of melanocyte stimulating hormone
analogue MSH(7) and the δ -opioid ligand
deltorphin-II has been prepared. These
ligands bind with higher affinity and with
apparent cooperativity to cells expressing
both hMC4R and δ -opioid receptors.
Binding affinities were evaluated using a
lanthanide-based in-cyto time-resolved
fluorescence binding assay.

Ionic Crystals

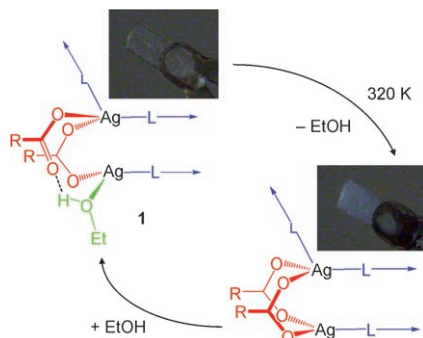
S. Takamizawa,* T. Akatsuka,
T. Ueda 1689–1692



Gas-Conforming Transformability of an
Ionic Single-Crystal Host Consisting of
Discrete Charged Components



Dynamic accommodation: The racemic
crystal of $(\pm)\text{-}[\text{Co}(\text{en})_3]\text{Cl}_3$ (en = ethylene-
diamine; see space-filling model of lat-
tice: Co red, N blue, Cl green, C gray)
includes H_2O molecules within the one-
dimensional channels when hydrated.
Upon removal of the H_2O molecules by
vacuum drying, the crystal exhibits
dynamic behavior as a host to a variety of
light gases or organic vapors within its
channels by expansion/contraction of the
lattice while single-crystal properties are
maintained.



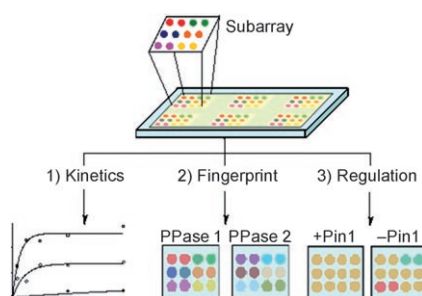
How does it fit? The one-dimensional coordination polymer $[\text{Ag}_4\text{L}_3\{\text{O}_2\text{C}-(\text{CF}_2)_3\text{CF}_3\}_4(\text{EtOH})_2]_n$ (**1**; L = tetramethylpyrazine, see scheme) eliminates coordinated ethanol in an intramolecular substitution reaction. The reaction occurs in a single-crystal-to-single-crystal transformation and leads to extrusion of ethanol from the nonporous crystals. The reverse reaction involving uptake of ethanol vapor has been verified using X-ray powder diffraction.

Solid-Gas Reactions

S. Libri, M. Mahler, G. Mínguez Espallargas, D. C. N. G. Singh, J. Soleimannejad, H. Adams, M. D. Burgard, N. P. Rath, M. Brunelli, L. Brammer* — **1693–1697**

Ligand Substitution within Nonporous Crystals of a Coordination Polymer: Elimination from and Insertion into Ag–O Bonds by Alcohol Molecules in a Solid–Vapor Reaction

Identifying phosphatase substrates: A peptide microarray has been developed for the high-throughput study of Ser/Thr phosphatases. Putative peptide substrates, upon immobilization onto a glass slide, could be used to obtain kinetic information and identify the substrate preferences of a Ser/Thr phosphatase (see schematic representation); with this information, new biology of the enzyme could be discovered.

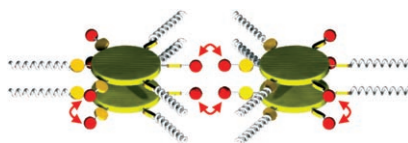


Substrate Fingerprinting

H. Sun, C. H. S. Lu, M. Uttamchandani, Y. Xia, Y. Liou, S. Q. Yao* — **1698–1702**

Peptide Microarray for High-Throughput Determination of Phosphatase Specificity and Biology

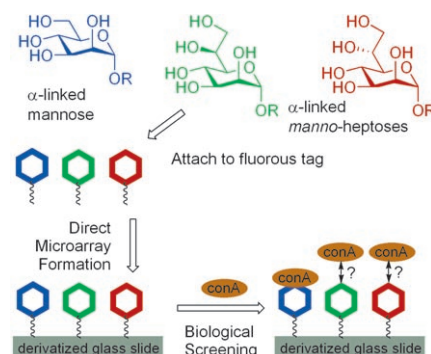
Every second counts: Enhanced control over the self-organization of discotic compounds has been obtained by introducing alternating arrays of apolar (alkyl) and polar (ester) substituents on to C_3 -symmetric hexa-*peri*-hexabenzocoronenes. The local dipole moments and the nanophase separation between the polar and apolar sites significantly influence the self-assembly in solution and in the solid state (see schematic representation).



Supramolecular Chemistry

X. Feng, W. Pisula, L. Zhi, M. Takase, K. Müllen* — **1703–1706**

Controlling the Columnar Orientation of C_3 -Symmetric “Superbenzenes” through Alternating Polar/Apolar Substituents



Fooling conA? Fluorous microarrays allow not only qualitative, but also quantitative assessment of binding to show that conA can accept modifications to its usual mannose ligand at the C-6 position and bind to bacterial seven-carbon mannose analogues.

Carbohydrate Microarrays

F. A. Jaipuri, B. Y. M. Collet, N. L. Pohl* — **1707–1710**

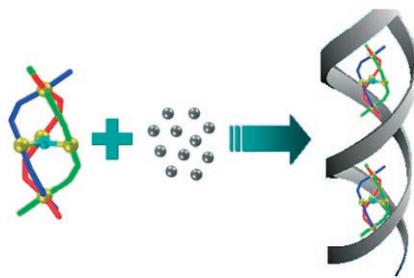
Synthesis and Quantitative Evaluation of Glycerol-D-manno-heptose Binding to Concanavalin A by Fluorous-Tag Assistance

Helical Coordination Polymers

J.-Z. Hou, M. Li, Z. Li, S.-Z. Zhan,
X.-C. Huang, D. Li* 1711–1714



Supramolecular Helix-to-Helix Induction:
A 3D Anionic Framework Containing
Double-Helical Strands Templated by
Cationic Triple-Stranded Cluster Helicates



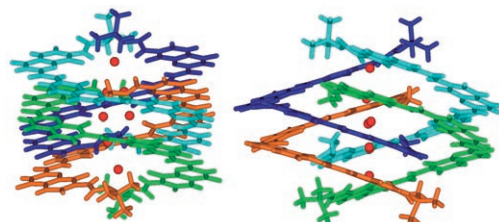
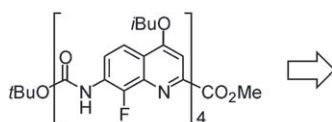
All wrapped up: Supramolecular polymeric helices were fabricated by using cluster helicates as templates. The helicity of the template (see picture; gold spheres: Ni or Zn; blue spheres: O), upon hydrothermal treatment with CuSCN (gray spheres), is transferred to the strands of the resulting copper-based coordination polymer, which is wrapped around the helicate units in the final product.

Helical Structures

Q. Gan, C. Bao, B. Kauffmann, A. Grélard,
J. Xiang, S. Liu, I. Huc,*
H. Jiang* 1715–1718



Quadruple and Double Helices of
8-Fluoroquinoline Oligoamides



Winding and rewinding: How many times can helical aromatic oligomers wind around one another? At least four, as judged by the aggregation behavior of oligoamides based on 8-fluoroquinoline

(see scheme depicting the formation of a quadruple helix; red spheres: sites in the hollow space partially occupied by water molecules).

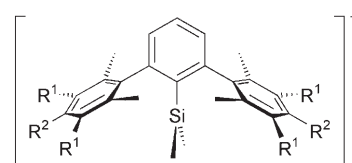
Silyl Lewis Acids

S. Duttwyler, Q.-Q. Do, A. Linden,
K. K. Baldrige,*
J. S. Siegel* 1719–1722



Synthesis of 2,6-Diarylphenyldimethylsilyl
Cations: Polar- π Distribution of Cation
Character

Cationic Lewis acidic silicon species constitute a class of reactive intermediates that when “bottled” serve as useful synthetic reagents. A general way to tune the steric environment and Lewis acidic character in such species is presented.



	R ¹	R ²
1a	H	H
1b	H	CH ₃
1c	CH ₃	H
1d	CH ₃	CH ₃

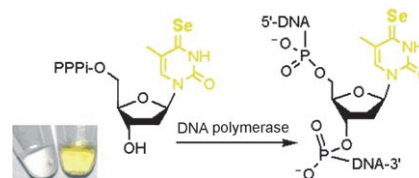
DNA Modification

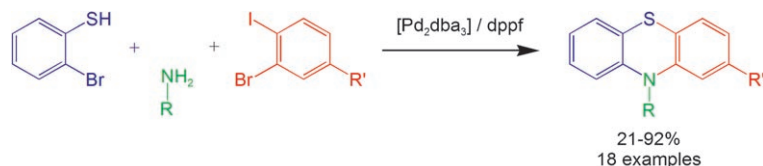
J. Caton-Williams,
Z. Huang* 1723–1725



Synthesis and DNA-Polymerase
Incorporation of Colored 4-Seleno-
thymidine Triphosphate for Polymerase
Recognition and DNA Visualization

Highlighting changes in yellow: The replacement of a single oxygen atom in thymidine triphosphate with a selenium atom gave yellow 4-selenothymidine 5'-triphosphate (^{Se}TTP; see solutions of colorless natural TTP (left) and ^{Se}TTP (right)). ^{Se}TTP is recognized by DNA polymerase. Its incorporation into DNA (see scheme) yields colored DNA and occurs with the same level of efficiency as the incorporation of natural TTP.





Zip it up! The use of a Pd/dppf catalyst gives access to the tricyclic phenothiazine scaffold starting from 1-bromo-2-iodobenzenes, aliphatic or aromatic amines, and 2-bromothiophenols in a single reaction flask (see scheme; dppf = 1,1'-bis(di-

phenylphosphanyl)ferrocene; dba = dibenzylideneacetone). This transformation involves thioether formation and subsequent intermolecular and intramolecular aryl amination reactions. The reaction occurs in good overall yield and selectivity.

Promazine Synthesis

T. Dahl, C. W. Tornøe, B. Bang-Andersen, P. Nielsen, M. Jørgensen* — 1726–1728

Palladium-Catalyzed Three-Component Approach to Promazine with Formation of One Carbon–Sulfur and Two Carbon–Nitrogen Bonds

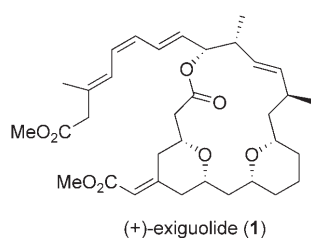


More decorative than wallpaper: Silica biomineralization in diatoms leads to intricate structures in the cell wall (see SEM image) and depends on structure-directing templates formed by the electrostatically driven assembly of positively charged polyamine derivatives and polyanions. The title peptides are a family of biologically relevant polyanions present in diatom biosilica and composed mainly of serine phosphate and acidic amino acid residues.

Biomineralization

S. Wenzl, R. Hett, P. Richthammer, M. Sumper* — 1729–1732

Silacidins: Highly Acidic Phosphopeptides from Diatom Shells Assist in Silica Precipitation In Vitro

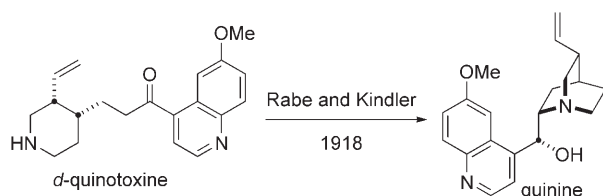


The unique 16-membered macrolide (+)-exiguolide (1) was the target of a total synthesis featuring radical and Prins cyclizations of β -alkoxyacrylates, along with ring-closing olefin metathesis. The structure incorporates two *cis*-2,6-disubstituted oxane rings where one of the rings has an exocyclic enoate group. The successful synthesis of **1**, isolated from a marine sponge, led to the unambiguous determination of its absolute stereochemistry.

Natural Product Synthesis

M. S. Kwon, S. K. Woo, S. W. Na, E. Lee* — 1733–1735

Total Synthesis of (+)-Exiguolide



Put to rest: The three-step conversion of *d*-quinotoxine into quinine, as originally reported by Rabe and Kindler in 1918, has been experimentally verified. This conver-

sion serves to reaffirm the formal total synthesis of quinine reported by Woodward and Doering in 1944.

Quinine: Controversy in Synthesis

A. C. Smith, R. M. Williams* — 1736–1740

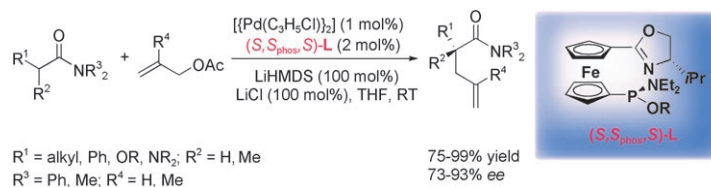
Rabe Rest in Peace: Confirmation of the Rabe–Kindler Conversion of *d*-Quinotoxine Into Quinine: Experimental Affirmation of the Woodward–Doering Formal Total Synthesis of Quinine

Asymmetric Catalysis

K. Zhang, Q. Peng, X.-L. Hou,*
Y.-D. Wu 1741 – 1744



Highly Enantioselective Palladium-Catalyzed Alkylation of Acyclic Amides



Even acyclic amides are suitable nucleophile substrates for asymmetric allylic alkylations. The allylation products are formed in high yields in the presence of a palladium catalyst with a 1,1'-P,N ferro-

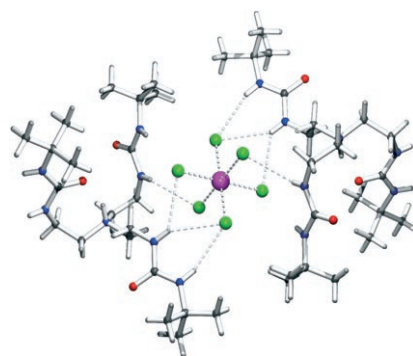
cene ligand (see scheme; $R = (S)-1,1'$ -bi-2-naphthol). The nature of the substituents on the nitrogen atom of the amide has a critical effect on the efficiency and selectivity of the reaction.

Solvent Extraction

K. J. Bell, A. N. Westra, R. J. Warr,
J. Chartres, R. Ellis, C. C. Tong, A. J. Blake,
P. A. Tasker,* M. Schröder* 1745 – 1748



Outer-Sphere Coordination Chemistry: Selective Extraction and Transport of the $[\text{PtCl}_6]^{2-}$ Anion



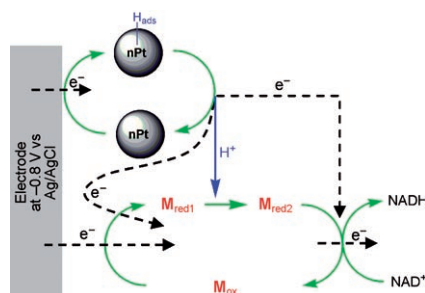
What's on the outside? Selective extraction and transport of $[\text{PtCl}_6]^{2-}$ from aqueous acidic solutions in the presence of excess chloride has been demonstrated through outer-sphere coordination of the metalloanion by tripodal polyamide and polyurea receptors (see picture; Pt purple, N blue, O red, Cl green). Loading and stripping of the organic phase can be controlled by variation of the pH value of the aqueous solution.

Nanoparticles

H.-K. Song, S. H. Lee, K. Won, J. H. Park,
J. K. Kim, H. Lee, S.-J. Moon, D. K. Kim,
C. B. Park* 1749 – 1752



Electrochemical Regeneration of NADH Enhanced by Platinum Nanoparticles



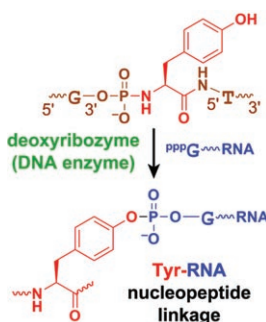
Wireless communication: Platinum nanoparticles (nPt) in an electrolyte enhance electron transfer from the electrode to NAD^+ during the indirect electrochemical regeneration of NADH (see picture). The intermediate $\text{nPt-H}_{\text{ads}}$, formed at negative potential, helps the turnover of the primary mediator M by donating a proton and an electron in a kinetically favorable way.

Catalytic DNA

P. I. Pradeepkumar, C. Höbartner,
D. A. Baum,
S. K. Silverman* 1753 – 1757

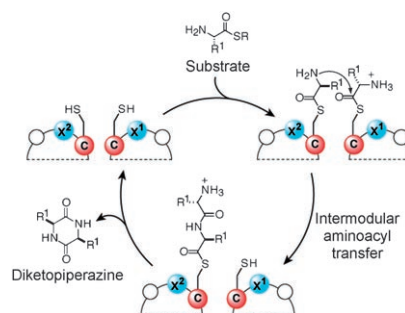


DNA-Catalyzed Formation of Nucleopeptide Linkages



Joining amino acids and nucleotides: A deoxyribozyme catalyzes the nucleophilic attack of a tyrosine (Tyr) side chain on a 5'-triphosphate RNA, efficiently forming a Tyr-RNA nucleopeptide linkage (see picture). Thus, the scope of known DNA catalysis is further expanded beyond reactions of oligonucleotide functional groups.

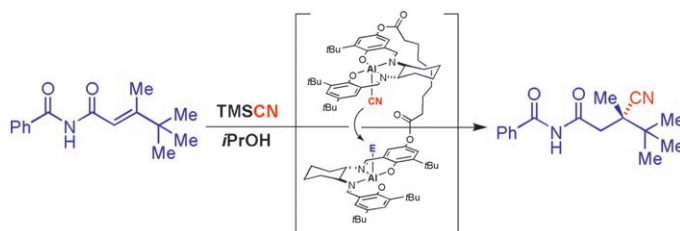
Modular supramolecular catalysts with a coiled-coil peptide scaffold, designed to mimic nonribosomal peptide synthetases, catalyze the formation of diketopiperazines and linear dipeptides for several aminoacyl substrates (see scheme). The nature of the active-site residues in the peptide catalysts can be used to effect directed intermolecular aminoacyl transfer processes and govern the relative yields of diketopiperazine, linear dipeptide, and hydrolyzed substrate.



Peptidic Catalysts

Z.-Z. Huang, L. J. Leman,
M. R. Ghadiri* — 1758–1761

Biomimetic Catalysis of Diketopiperazine
and Dipeptide Syntheses



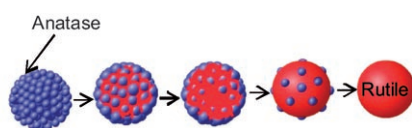
Al together: Covalently linked dinuclear {(salen)Al} complexes catalyze the conjugate cyanation of α,β -unsaturated imides with several orders of magnitude greater reactivity over the mononuclear analogue, and with comparable enantio-

selectivity. Imides that were completely unreactive with homo- and heterobimetallic combinations of mononuclear catalysts can now be converted into the corresponding cyanation products with high enantiomeric excess.

Cyanation Catalysis

C. Mazet, E. N. Jacobsen* — 1762–1765

Dinuclear {(salen)Al} Complexes Display
Expanded Scope in the Conjugate
Cyanation of α,β -Unsaturated Imides



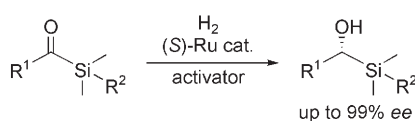
The junction boosts the function: With a combination of surface-sensitive techniques, the photocatalytic activity of TiO_2 was found to be directly related to the surface-phase structure, and can be

greatly enhanced when anatase TiO_2 nanoparticles are highly dispersed on the surface of rutile TiO_2 to form anatase–rutile surface-phase junctions (see picture for calcination progression).

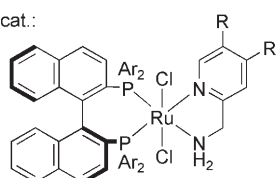
Surface-Phase Junctions

J. Zhang, Q. Xu, Z. Feng, M. Li,
C. Li* — 1766–1769

Importance of the Relationship between
Surface Phases and Photocatalytic Activity
of TiO_2



(S)-Ru cat.:



A catalytic system of Ru^{II} complex (see scheme; $\text{Ar} = 4\text{-CH}_3\text{C}_6\text{H}_4$; $\text{R} = \text{H}$, $t\text{-C}_4\text{H}_9$) and $t\text{-C}_4\text{H}_9\text{OK}$ or NaBH_4 activator has been used in the hydrogenation of aromatic and aliphatic acyl silanes to give α -hydroxysilanes with high enantioselectivity ($\text{R}^1 = \text{aryl}$, alkyl, alkenyl; $\text{R}^2 = t\text{-C}_4\text{H}_9$, C_6H_5). Optically active allylic α -hydroxysilanes are obtained in the 1,2-reduction of α,β -unsaturated acyl silanes. These chiral α -hydroxysilanes are converted into 4-substituted 2-cyclopentenones without loss of enantioselectivity.

Asymmetric Hydrogenation

N. Arai, K. Suzuki, S. Sugizaki,
H. Sorimachi, T. Ohkuma* — 1770–1773

Asymmetric Hydrogenation of Aromatic,
Aliphatic, and α,β -Unsaturated Acyl
Silanes Catalyzed by Tol-binap/Pica
Ruthenium(II) Complexes: Practical
Synthesis of Optically Active
 α -Hydroxysilanes



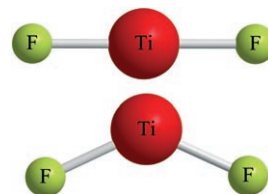
Transition-Metal Halides

A. V. Wilson, A. J. Roberts,
N. A. Young* 1774–1776



TiF₂: Linear or Bent?

Calling nonlinearity into question: When Ti atoms are isolated in fluorine-doped argon matrices, TiF₄, TiF₃, TiF₂, and TiF are identified by their IR spectra. The Ti isotope pattern observed for the ν_3 mode of TiF₂ is indistinguishable from that of a linear geometry. Therefore, there is now no reliable evidence for the nonlinearity of any 3d transition-metal difluorides or dichlorides.

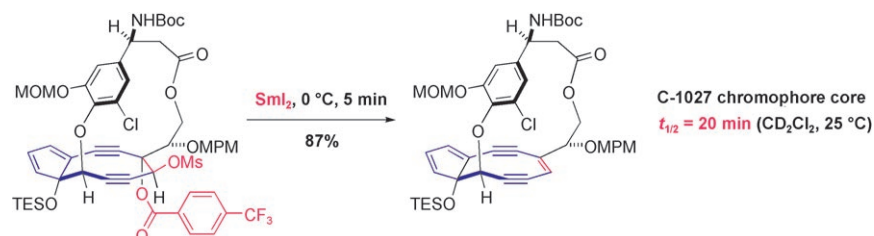


Natural Product Synthesis

M. Inoue,* I. Ohashi, T. Kawaguchi,
M. Hiramata* 1777–1779



Total Synthesis of the C-1027
Chromophore Core: Extremely Facile
Enediyne Formation through Sml₂-
Mediated 1,2-Elimination



The spontaneous aromatization of the enediyne chromophore of the potent antitumor agent C-1027 generates a *p*-benzyne biradical, which cleaves double-stranded DNA. The title reaction was developed for the construction of nine-

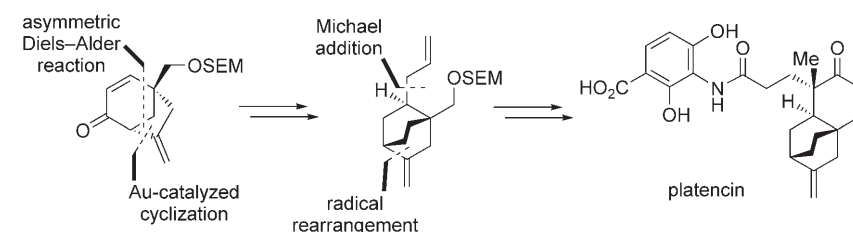
membered-ring enediynes and applied as the final step in the synthesis of the exceptionally unstable core structure of the C-1027 chromophore (see scheme; Boc, MOM, MPM, and TES are protecting groups; Ms = methanesulfonyl).

Natural Product Synthesis

K. C. Nicolaou,* G. S. Tria,
D. J. Edmonds 1780–1783



Total Synthesis of Platencin



The asymmetric total synthesis of the newly discovered and potent antibiotic platencin has been achieved. The approach makes use of an asymmetric Diels–Alder reaction, a gold(I)-catalyzed

cyclization, and a homoallyl radical rearrangement to forge the polycyclic architecture of this intriguing target (see scheme, SEM = 2-(trimethylsilyl)ethoxymethyl).



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



A video clip is available as Supporting Information
on the WWW (see article for access details).

Looking for outstanding employees?

Do you need another expert for your excellent team?

... Chemists, PhD Students, Managers, Professors, Sales Representatives...

Place an advert in the printed version and have it made available online for 1 month, free of charge!

Angewandte Chemie International Edition

Advertising Sales Department: Marion Schulz

Phone: 0 62 01 - 60 65 65

Fax: 0 62 01 - 60 65 50

E-Mail: MSchulz@wiley-vch.de

Service

Spotlights Angewandte's

Sister Journals _____ 1542 – 1543

Keywords _____ 1785

Authors _____ 1786

Preview _____ 1787

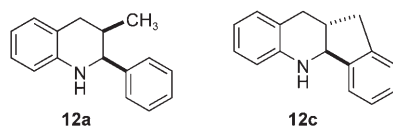
Corrigendum

In Table 3 of this Communication, the chemical structures of the substituents of products **8q** and **8r** were inadvertently switched. The correct entries are shown here.

Table 3: Catalytic asymmetric hydrogenation of quinoline derivatives.^[a]

Entry	R	Product	Yield [%]	ee [%]	Config
17		8q	> 99 ^[c]	90	R
18		8r	> 99 ^[c]	95	R

In Table 4, the structures of the major isomers **12a** and **12c** were printed incorrectly. The correct structures are shown here.



The editorial office apologizes for these oversights.

The Development of Double Axially Chiral Phosphoric Acids and Their Catalytic Transfer Hydrogenation of Quinolines

Q.-S. Guo, D.-M. Du,* J. Xu — **759–762**

Angew. Chem. Int. Ed. **2008**, 47

DOI 10.1002/anie.200703925



For more information on
Chemistry—An Asian Journal see
www.chemasianj.org