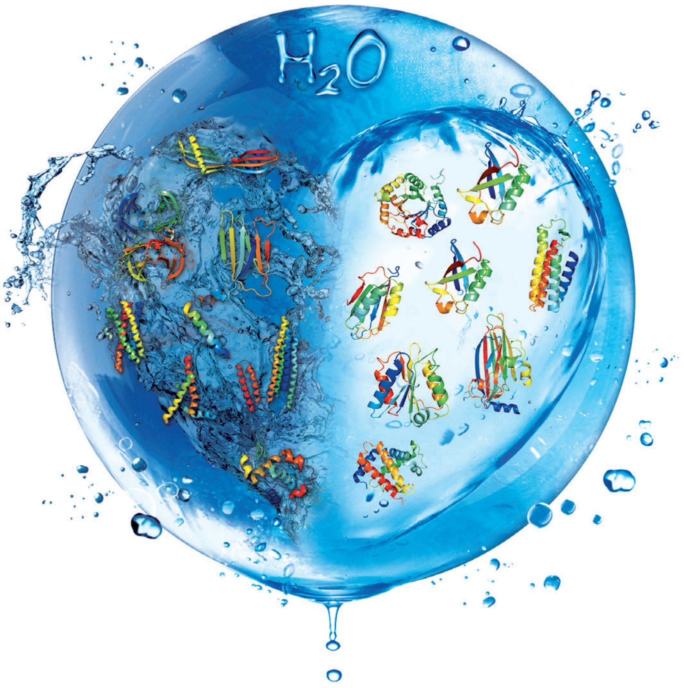
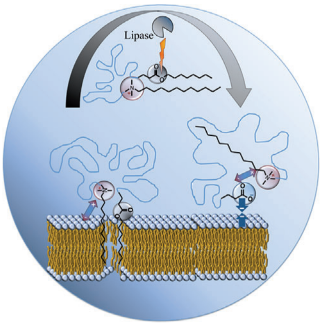
Interaction with the surrounding water …

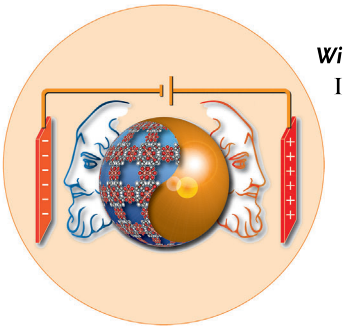


… was shown to play a crucial role in determining the aggregation propensity of proteins. In their Communication on page 3961 ff., S.-H. Chong and S. Ham shown that the overall protein hydrophobicity, defined by the hydration free energy of the protein, is the predominant determinant of protein aggregation propensity in aqueous solutions. This result paves the way for the design of aggregation-resistant proteins as biotherapeutics.



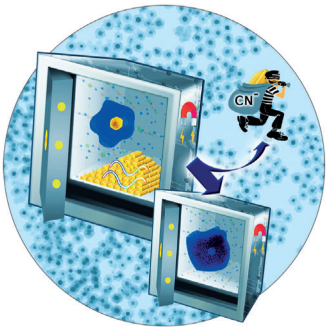
Antimicrobial Polymers

The antibacterial activity of a polymer can be controlled by a bio-cleavable satellite group. In their Communication on page 3830 ff. J. C. Tiller et al., report that a antimicrobial polymer can be deactivated by a lipase-catalyzed hydrolysis of an ester group.



Wireless Electrodeposition

In their Communication on page 4001 ff., A. Kuhn, D. Bradshaw, et al. describe a high-spatial-control synthesis of Janus metal–organic frameworks without the need for a physical connection between the modified object and the electrode.



Prussian Blue Nanoparticles

A new method for the synthesis of core–shell gold@Prussian blue analogue nanoparticles that exhibit plasmonic and magnetic properties is described by Y. Guari and co-workers in their Communication on page 3872 ff.

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Editorial

"... The impressive investment by the country's founding members led to the remarkable outcomes that we admire today, to what is often referred to as 'The Start-up Nation' with its impressive numbers of recent chemistry Nobel Laureates ...
Nevertheless, despite this history and notable recent accomplishments, the esteem for the science of chemistry has diminished to an alarming degree in the eyes of the Israeli public ..."
Read more in the Editorial by Ilan Marek.

Service

Author Profile

"My favorite saying is 'Where there's a will, there's a way'. My favorite drink is green tea. ..."
This and more about Wen-Jing Xiao can be found on page 3774.

Books

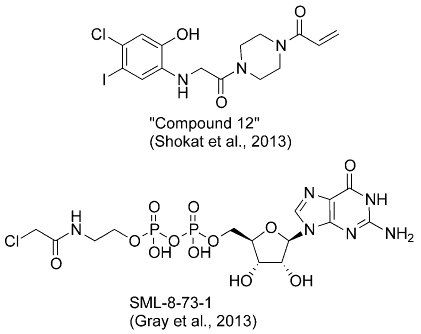
Highlights

Ras Inhibitors

J. Rudolph,* D. Stokoe ______ **3777 – 3779**

Selective Inhibition of Mutant Ras Protein through Covalent Binding

One of the first oncogenes to be discovered and one of the most prevalently mutated tumor genes is *Ras*. Shokat et al. and Gray et al. have succeeded in discovering allosteric inhibitors and inhibitory nucleotide analogues, respectively, of K-Ras proteins (see scheme) that covalently and selectively bind G12C-mutant K-Ras. These strategies of specifically targeting a mutant form of Ras may offer an opportunity for cancer-selective therapies that spare normal tissue.



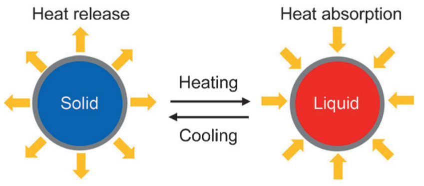
Reviews

Phase-Change Materials

D. C. Hyun, N. S. Levinson, U. Jeong, Y. Xia* ______ **3780 – 3795**

Emerging Applications of Phase-Change Materials (PCMs): Teaching an Old Dog New Tricks

PCMs on the rise: As a result of their sharp melting points and large heats of fusion during phase transition, phase-change materials (PCMs) have already found commercial use in thermal management. The vast potential of this class of fascinating materials has recently been tapped in a diverse array of high-tech applications such as controlled release, information storage, sensing/detection, and barcoding.

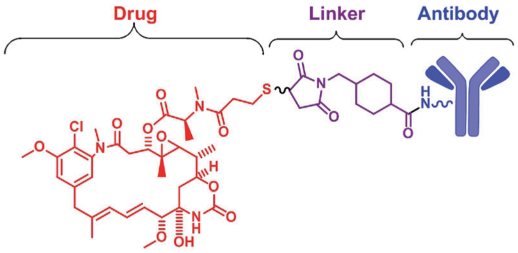


Phase change of PCM

Targeted Cancer Therapy

R. V. J. Chari,* M. L. Miller, W. C. Widdison ______ **3796 – 3827**

Antibody–Drug Conjugates: An Emerging Concept in Cancer Therapy



Fight together: Antibody–drug conjugates (ADCs) are an emerging new class of targeted cancer therapeutics, with validation provided by the recent marketing approvals of the ADCs brentuximab vedotin and ado-trastuzumab emtansine. Key considerations in the design of ADCs, pre-clinical and clinical data of various ADCs in development, along with the current status and emerging advances are reviewed.

For the USA and Canada:
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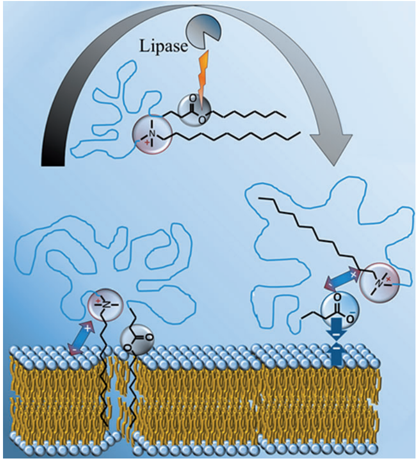
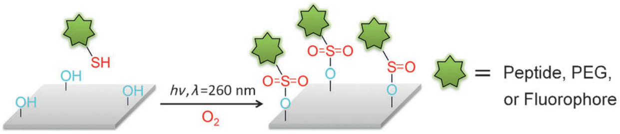
Communications



Biocides are widely used for preventing the spread of microbial infections and the fouling of materials. Since their application can build up microbial resistance and cause unpredictable long-term environmental problems, new biocidal agents are required. In a novel approach an antimicrobial polymer is deactivated by hydrolysis of an ester group through the action of a lipase. The crucial feature is the mutual interaction of the two endgroups of the polymer.

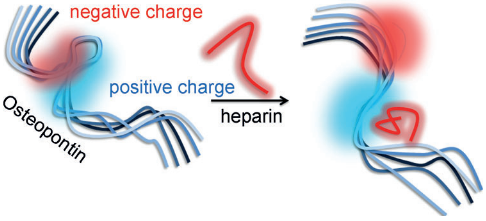
Antimicrobial Polymers

Frontispiece



When thiols meet alcohols: A method based on thiol–alcohol chemistry is used for the direct photochemical modification and patterning of hydroxy-functionalized surfaces with different thiol-containing functional molecules (see picture).

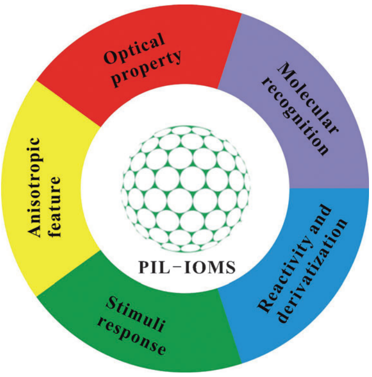
Photopatterning



Well-balanced: The binding of heparin to the intrinsically disordered protein (IDP) osteopontin was studied by a combination of NMR and EPR spectroscopy. The results offer insight into the interplay between structure and thermodynamics which results in low energy barriers and facilitates rapid substrate-binding and -release events in IDP interaction networks.

Intrinsically Disordered Proteins

Broad spectrum: Based on the combination of the unique features of both polyionic liquids and spherical colloidal crystals, a new class of optical spheres with a series of distinct properties was fabricated. Such photonic spheres could not only be used as stimuli-responsive photonic microgels, but also serve as functional microspheres that mimic the main characteristics of small molecules, including intrinsic optical properties, specific molecular recognition, reactivity and derivatization, and anisotropy.



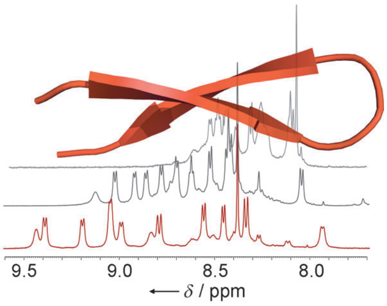
Functional Microspheres

Bioactive Peptides

S. Fischer, A. Geyer* ______ **3849 – 3853**

Filaggrin Peptides with β-Hairpin Structure Bind Rheumatoid Arthritis Antibodies

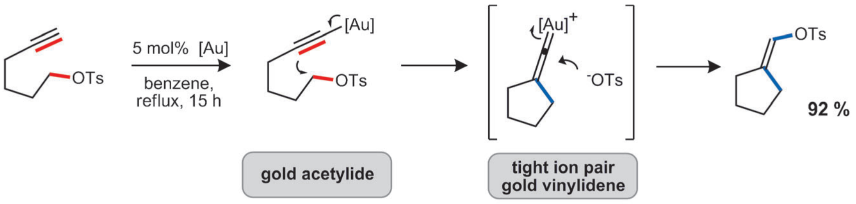
Form follows function: A filaggrin peptide in a constrained β-hairpin conformation binds autoantibodies against rheumatoid arthritis. The binding affinity of these peptides is comparable to those of the flexible filaggrin peptides in ELISA tests. NMR spectroscopy identifies the homogeneity of peptide folding and supports the proposed antibody-bound conformation of the epitope.



Gold Catalysis

J. Bucher, T. Wurm, K. S. Nalivela,
M. Rudolph, F. Rominger,
A. S. K. Hashmi* ______ **3854 – 3858**

Cyclization of Gold Acetylides: Synthesis of Vinyl Sulfonates via Gold Vinylidene Complexes

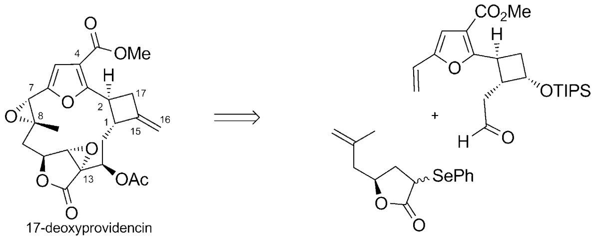


Gold vinylidene intermediates are generated by the cyclization of gold acetylides that carry a sulfonate leaving group. This result demonstrates for the first time that the formation of these species is not restricted to a dual activation mode. The cyclization products obtained herein contain a vinyl sulfonate moiety, which makes them useful building blocks for cross-coupling reactions.

Total Synthesis

N. Toelle, H. Weinstabl, T. Gaich,
J. Mulzer* ______ **3859 – 3862**

Light-Mediated Total Synthesis of 17-Deoxyprovidencin



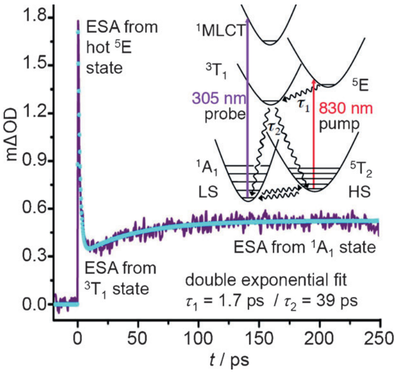
17-deoxyprovidencin

Photochemistry is the key: An asymmetric synthesis of the diterpenoid 17-deoxyprovidencin is described. Key steps include an aldol addition, a base-catalyzed Wipf-type furan formation, a *Z*-selective ring-closing metathesis for macrocyclization, a photoinduced *Z*/*E* isomerization to a highly strained conformationally restricted ring system, and the stereoselective formation of two epoxides on the macrocycle.

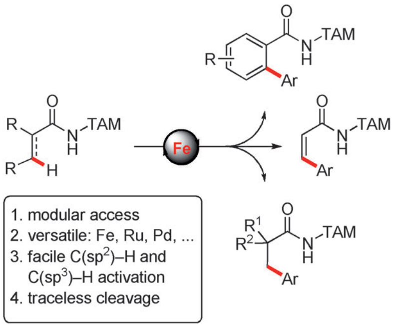
Ligand-Field States

A. Marino, P. Chakraborty, M. Servol,
M. Lorenc, E. Collet,
A. Hauser* ______ **3863 – 3867**

The Role of Ligand-Field States in the Ultrafast Photophysical Cycle of the Prototypical Iron(II) Spin-Crossover Compound [Fe(ptz)$_6$](BF$_4$)$_2$



The path of LIESST resistance: Ultrafast transient absorption with an infrared pump and a UV probe allows for a detailed elucidation of the sequence of events on irradiation into the spin-allowed ligand-field transition of the high-spin species of a prototypical iron(II) spin-crossover complex, thereby identifying the lowest-energy triplet state as a short-lived intermediate state with a lifetime of 39 ps in the passage from the excited quintet to the singlet ground state.



With a little help: A versatile iron catalyst allows the arylation of C(sp^2)–H and C(sp^3)–H bonds in the presence of a modular and removable triazolyldimethylmethyl (TAM) auxiliary, whose structure can be varied through 1,3-dipolar azide–alkyne cycloadditions.

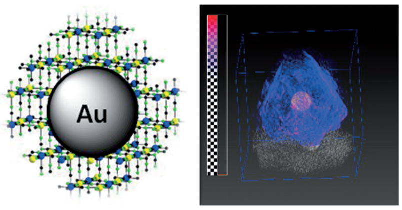
C–H Activation

Q. Gu, H. H. Al Mamari, K. Graczyk,
E. Diers, L. Ackermann* ___ 3868 – 3871

Iron-Catalyzed C(sp^2)–H and C(sp^3)–H Arylation by Triazole Assistance

---

Prussian gold: A method for the synthesis of single- and double-layer core–shell heterostructures that are based on a well-defined gold core and shells of Prussian blue analogues has been developed. These materials feature magneto-optical properties and may be considered as multifunctional nanoobjects.

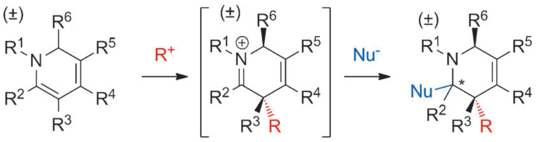


Prussian Blue Nanoparticles

G. Maurin-Pasturel, J. Long, Y. Guari,*
F. Godiard, M.-G. Willinger, C. Guerin,
J. Larionova ___ 3872 – 3876

Nanosized Heterostructures of Au@Prussian Blue Analogues: Towards Multifunctionality at the Nanoscale

Back Cover



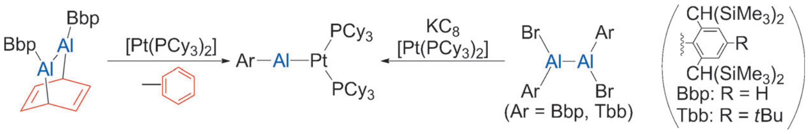
Pipe up: Alkylation of readily prepared 1,2-dihydropyridines with alkyl triflates and Michael acceptors introduces quaternary carbon centers with high regio- and diastereoselectivity. Hydride or carbon nucleophile addition to the resultant iminium ion also proceeds with high diastereoselectivity. For carbon nucleophile addition, an unprecedented level of substitution is achieved to provide piperidine rings with contiguous tetrasubstituted carbon atoms.

Synthetic Methods

S. Duttwyler, S. Chen, C. Lu,
B. Q. Mercado, R. G. Bergman,
J. A. Ellman* ___ 3877 – 3880

Regio- and Stereoselective 1,2-Dihydropyridine Alkylation/Addition Sequence for the Synthesis of Piperidines with Quaternary Centers

---



Quite a character: A terminal arylalumylene complex of platinum was obtained by the reaction of a dialumene–benzene adduct and [Pt(PCy_3)$_2$]. Reduction of 1,2-dibromodialumanes in the presence of [Pt(PCy_3)$_2$] also afforded the terminal arylalumylene complexes. DFT calculations suggest that the Al–Pt bonds in the arylalumylene complexes have a significantly high electrostatic character.

Main-Group Ligands

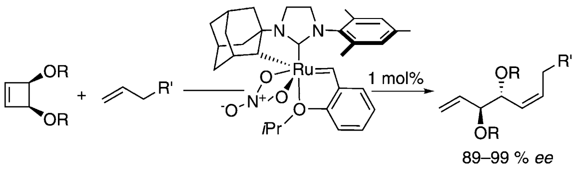
K. Nagata, T. Agou,
N. Tokitoh* ___ 3881 – 3884

Syntheses and Structures of Terminal Arylalumylene Complexes

Asymmetric Catalysis

J. Hartung, R. H. Grubbs* **3885 – 3888**

Catalytic, Enantioselective Synthesis of 1,2-*anti*-Diols by Asymmetric Ring-Opening/Cross-Metathesis

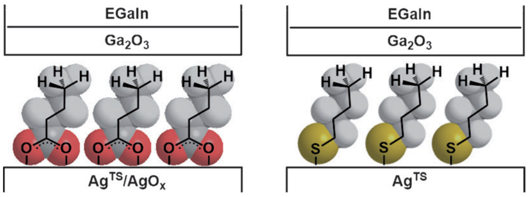


Rather fetching: Chiral vicinal diols are found in natural products and ligands used for asymmetric catalysis. The enantioselective ring-opening/cross-metathesis of disubstituted cyclobutenes has been carried out with an enantiopure ruthenium metathesis catalyst to afford 1,2-*anti*-diols with high enantiopurity. The synthetic versatility of the products was demonstrated in the synthesis of insect pheromone (+)-*endo*-brevicomin and a monosaccharide ribose.

Molecular Electronics

K.-C. Liao, H. J. Yoon, C. M. Bowers, F. C. Simeone, G. M. Whitesides* **3889 – 3893**

Replacing $Ag^{TS}SCH_2$-R with $Ag^{TS}O_2C$-R in EGaIn-Based Tunneling Junctions Does Not Significantly Change Rates of Charge Transport

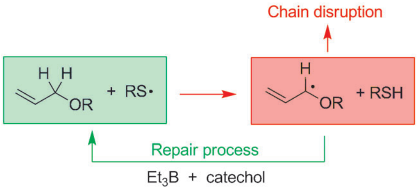


Either way: For junctions comprising thiolate- and carboxylate-anchored self-assembled monolayers (SAMs) the role of the metal–SAM interface in charge transport by tunneling was investigated and the charge-transport rates were measured. The data suggest that Ag–SAM interfaces having either a thiolate or carboxylate anchoring group may be directly comparable.

Radical Reactions

G. Povie, A.-T. Tran, D. Bonnaffé,* J. Habegger, Z. Hu, C. Le Narvor, P. Renaud* **3894 – 3898**

Repairing the Thiol-Ene Coupling Reaction

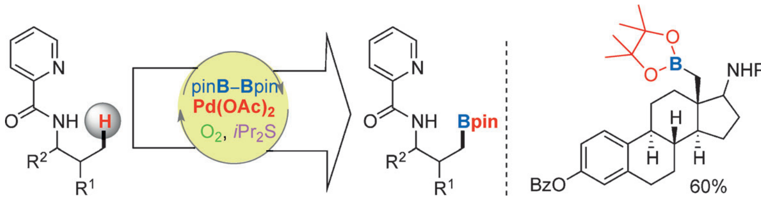


In good repair: Undesired hydrogen-atom transfers are responsible for the lack of efficiency in thiol-ene coupling reactions involving allyl glycosides. This competing reaction cannot be prevented but can be very efficiently repaired by carrying out the reaction in the presence of triethylborane and catechol.

C–H Borylation

L.-S. Zhang, G. Chen, X. Wang, Q.-Y. Guo, X.-S. Zhang, F. Pan, K. Chen, Z.-J. Shi* **3899 – 3903**

Direct Borylation of Primary C–H Bonds in Functionalized Molecules by Palladium Catalysis

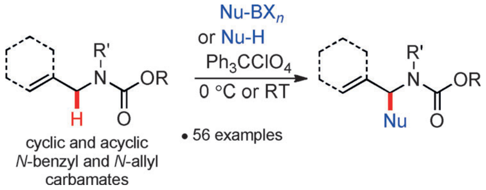


Crucial additives: A simple palladium-based system catalyzes the conversion of primary C(sp^3)–H bonds in complex organic molecules into alkyl boronate esters. Amino acids, amino alcohols, alkyl amines, and a series of bioactive molecules that are modified with readily available directing groups are functionalized in the presence of commercially available additives, simple ligands, and oxygen as the terminal oxidant.

Synthetic Methods

Z. Xie, L. Liu,* W. Chen, H. Zheng, Q. Xu, H. Yuan, H. Lou* ——— **3904 – 3908**

Practical Metal-Free C(sp^3)–H Functionalization: Construction of Structurally Diverse α-Substituted *N*-Benzyl and *N*-Allyl Carbamates

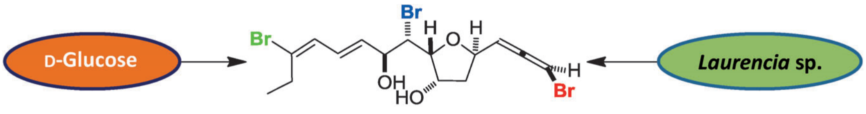


Strategic play: A direct functionalization of the title carbamates with a wide range of nucleophiles has been developed. The reaction proceeds efficiently at low temperature using Ph$_3$CClO$_4$ as an oxidant. Sensitive functional groups are tolerated, thus allowing applications in natural product synthesis, the construction of chemical libraries, and the discovery of potential anticancer targets.

Natural Products

T. Umezawa, Y. Oguri, H. Matsuura, S. Yamazaki, M. Suzuki, E. Yoshimura, T. Furuta, Y. Nogata, Y. Serisawa, K. Matsuyama-Serisawa, T. Abe, F. Matsuda,* M. Suzuki, T. Okino* ——— **3909 – 3912**

Omaezallene from Red Alga *Laurencia* sp.: Structure Elucidation, Total Synthesis, and Antifouling Activity



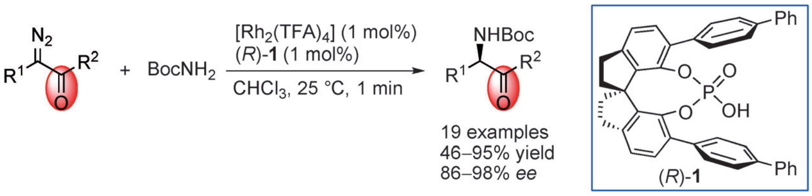
Omaezallene

Omaezallene, a new brominated antifouling natural product isolated from the red alga *Laurencia* sp., was synthesized and its structure elucidated through NMR experiments. The antifouling activities of omaezallene and its isomers against the cypris larvae of the barnacle *Amphibalanus amphitrite* were also evaluated.

Asymmetric Catalysis

B. Xu, S.-F. Zhu,* X.-D. Zuo, Z.-C. Zhang, Q.-L. Zhou* ——— **3913 – 3916**

Enantioselective N–H Insertion Reaction of α-Aryl α-Diazoketones: An Efficient Route to Chiral α-Aminoketones

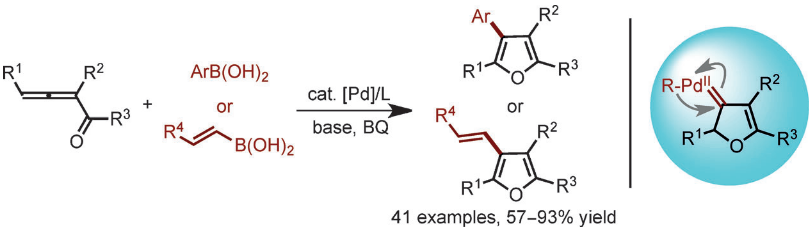


Spiro inspiration: A highly enantioselective N–H insertion reaction of α-diazoketones was developed by using cooperative catalysis by dirhodium(II) carboxylates and chiral spiro phosphoric acids. The insertion reaction provides a new access route to diverse chiral α-aminoketones, which are versatile building blocks in the organic synthesis, with fast reaction rates, good yields and high enantioselectivity under mild and neutral conditions.

Synthetic Methods

Y. Xia, Y. Xia, R. Ge, Z. Liu, Q. Xiao, Y. Zhang, J. Wang* ——— **3917 – 3921**

Oxidative Cross-Coupling of Allenyl Ketones and Organoboronic Acids: Expeditious Synthesis of Highly Substituted Furans

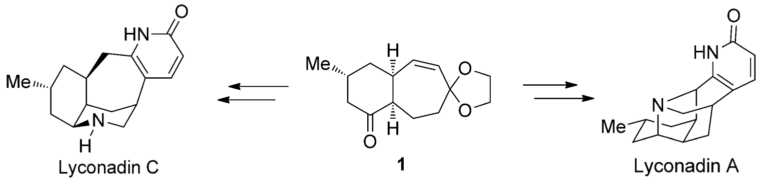


Migration patterns: Allenyl ketones are employed as a coupling partner in a palladium-catalyzed oxidative cross-coupling reaction with organoboronic acids. This reaction constitutes an efficient methodology for the synthesis of highly substituted furan derivatives. Palladium-carbene migratory insertion is proposed as the key step in this transformation. BQ = 1,4-benzoquinone.

Natural Products Synthesis

Y. Yang, C. W. Haskins, W. Zhang,
P. L. Low, M. Dai* ________ **3922 – 3925**

Divergent Total Syntheses of Lyconadins A and C



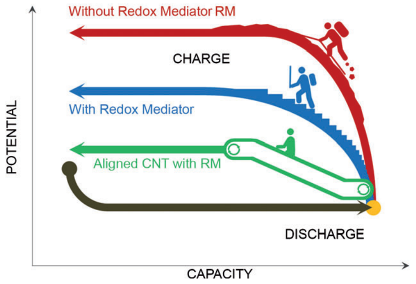
Like-a-podium: Divergent total syntheses of the two *Lycopodium* alkaloids lyconadins A and C were developed from the intermediate **1**. The synthesis of lyconadin A features a highly efficient ketal removal/formal aza-[4+2] cyclization to form the core structure. A ketal removal/Mannich reaction was used to construct the core structure of lyconadin C. The concise and flexible synthetic route offers a platform for the development of anti-neurodegenerative agents.

Lithium–Oxygen Battery

H.-D. Lim, H. Song, J. Kim, H. Gwon,
Y. Bae, K.-Y. Park, J. Hong, H. Kim, T. Kim,
Y. H. Kim, X. Lepró, R. Ovalle-Robles,
R. H. Baughman, K. Kang* **3926 – 3931**

Superior Rechargeability and Efficiency of Lithium–Oxygen Batteries: Hierarchical Air Electrode Architecture Combined with a Soluble Catalyst

Outstanding storage performance: A lithium–oxygen battery that uses a soluble catalyst combined with a hierarchical nanoporous air electrode shows high reversibility and good energy efficiency. Through the porous three-dimensional network of the air electrode, not only lithium ions and oxygen but also soluble catalysts can be rapidly transported, enabling significantly enhanced catalytic activity (CNT = carbon nanotube).

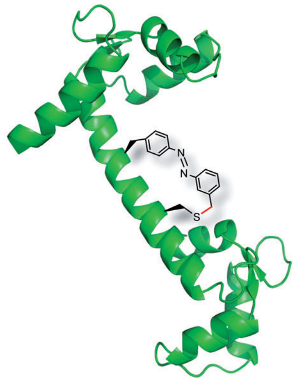


Protein Engineering

C. Hoppmann, V. K. Lacey, G. V. Louie,
J. Wei, J. P. Noel, L. Wang* **3932 – 3936**

Genetically Encoding Photoswitchable Click Amino Acids in *Escherichia coli* and Mammalian Cells

Click and switch: Photoswitchable click amino acids (PSCaas) contain a photoisomerizable azobenzene and an additional click functional group. After being incorporated into proteins, the PSCaa spontaneously generates a protein bridge with a nearby cysteine residue through proximity-enabled bioreactivity. The bridge isomerizes in response to light, thereby altering protein conformation. These PSCaas may enable optogenetic control of proteins in situ.

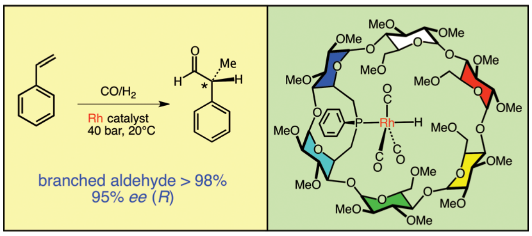


Homogeneous Catalysis

M. Jouffroy, R. Gramage-Doria,
D. Armspach,* D. Sémeril,
W. Oberhauser, D. Matt,*
L. Toupet ________ **3937 – 3940**

Confining Phosphanes Derived from Cyclodextrins for Efficient Regio- and Enantioselective Hydroformylation

Inside Cover



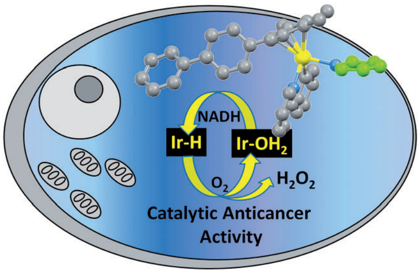
Rhodium in confinement: α- and β-cyclodextrin derivatives bearing introverted P^{III} donor atoms readily form monophosphane complexes in which the cyclodextrin cavity tightly wraps around the metal center. When used as ligands in the rhodium-catalyzed hydroformylation of styrene, they lead to both high isoselectivity and enantioselectivity.

Iridium Anticancer Drugs

VIP

Z. Liu, I. Romero-Canelón, B. Qamar,
J. M. Hearn, A. Habtemariam,
N. P. E. Barry, A. M. Pizarro,
G. J. Clarkson, P. J. Sadler* **3941 – 3946**

The Potent Oxidant Anticancer Activity of Organoiridium Catalysts

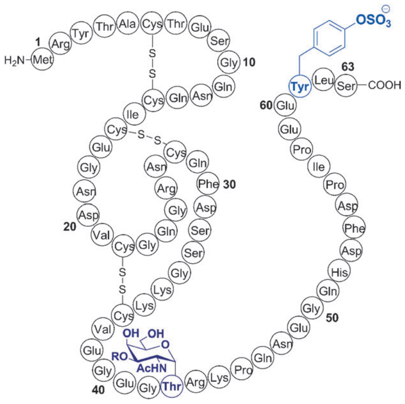


Protective pyridine: A novel half-sandwich organoiridium(III) complex with a pyridine ligand is more potent than both its chloride analogue and cisplatin towards a wide range of cancer cells. The pyridine ligand protects the iridium complex from rapid reactions with glutathione, and its potency correlates with a substantial increase in the amount of reactive oxygen species in the cancer cells.

Protein Synthesis

Y. S. Y. Hsieh, L. C. Wijeyewickrema,
B. L. Wilkinson, R. N. Pike,
R. J. Payne* **3947 – 3951**

Total Synthesis of Homogeneous Variants of Hirudin P6: A Post-Translationally Modified Anti-Thrombotic Leech-Derived Protein

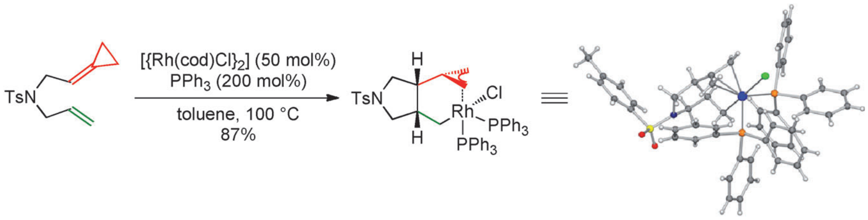


Modifications matter: Hirudin P6 is a leech-derived anti-thrombotic protein that is natively *O*-glycosylated and sulfated on tyrosine. Ligation chemistry was employed to assemble a library of homogeneously modified hirudin P6 proteins with variation in glycosylation at Thr-43 and sulfation at Tyr-61. The type of post-translational modification present was shown to have a dramatic effect on inhibitory activity against both the fibrinogenolytic and amidolytic activities of thrombin.

Metallacycles

P. A. Inglesby, J. Bacsa, D. E. Negru,
P. A. Evans* **3952 – 3956**

The Isolation and Characterization of a Rhodacycle Intermediate Implicated in Metal-Catalyzed Reactions of Alkylidenecyclopropanes

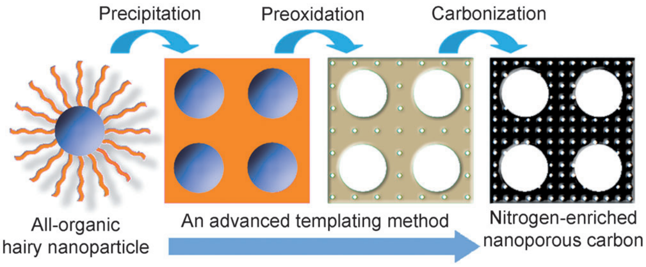


A rhodacycle intermediate implicated in rhodium-catalyzed reactions of alkylidenecyclopropanes (ACPs) was isolated and characterized. The structure of the metallacycle, which was unambiguously determined by X-ray crystallography, is catalytically competent in the rhodium-catalyzed carbocyclization and ene-cycloisomerization reactions of ACPs.

Porous Materials

D. Wu,* Z. Li, M. J. Zhong,
T. Kowalewski,*
K. Matyjaszewski* **3957 – 3960**

Templated Synthesis of Nitrogen-Enriched Nanoporous Carbon Materials from Porogenic Organic Precursors Prepared by ATRP

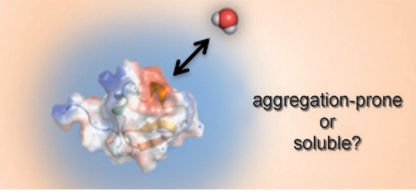


Nanocarbons from all-organic hairy nanoparticles: A versatile ATRP-based templating method has been developed to prepare nitrogen-enriched nanoporous carbon materials using all-organic hairy *x*PMMA-*g*-PAN nanoparticles as covalently fixed building blocks. Such materials are characterized by well-defined templated mesoporosity, high surface area, and an abundance of nitrogen-containing functional groups.

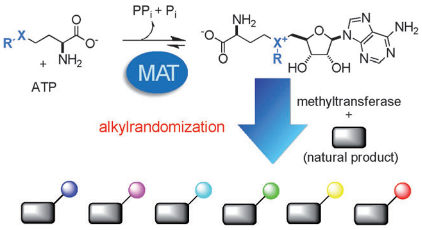
Protein Aggregation

Front Cover

Water, water, everywhere: Understanding the causes of protein aggregation is a central issue for understanding and preventing protein-aggregation diseases. Most studies to date have focused on the protein sequences without fully addressing the role of the surrounding water molecules. In fact, the interaction of a protein with the water surrounding it was found to play a pivotal role in determining its hydrophobicity and thus its aggregation propensity.

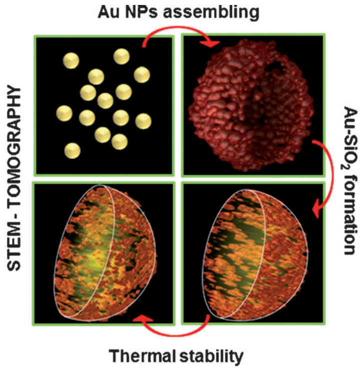


Biocatalysis



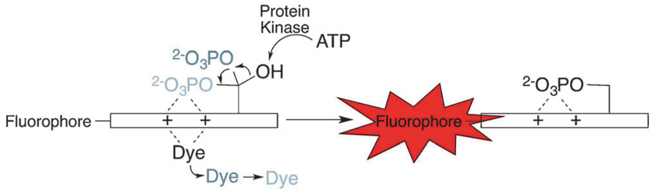
Mix and MATch: Methionine adenosyltransferase (MAT) was used to synthesize *S*-adenosylmethionine (SAM) analogues in a method directly compatible with downstream SAM-utilizing enzymes. As a proof of concept for the feasibility of natural product “alkylrandomization” by using this method, a coupled strategy in which MAT was applied in conjunction with the methyltransferase RebM was used to generate a small set of indolocarbazole analogues.

Hybrid Materials

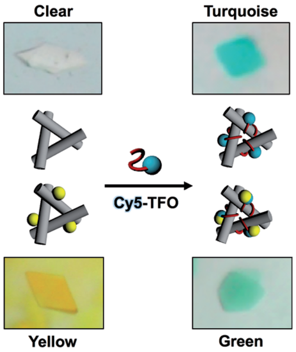


A simple approach to synthesize gold nanoparticles (AuNPs) decorated on SiO_2 spheres is demonstrated and a rationale is discussed for the formation mechanism. Electron tomography is used to understand the morphology of and changes upon heating the hybrid (see picture). The hybrid nanoparticles show excellent thermal stability appropriate for several applications.

Fluorescent Probes



Searching far and near: Fluorescent reporters for protein kinase activity were developed. The probing wavelength is preprogrammed by using readily available fluorophores, thereby enabling detection within the optical window of tissue, specifically in the far-red and near-IR region. These agents were used to monitor endogenous cAMP-dependent protein kinase activity 1) in erythrocyte lysates and 2) in intact erythrocytes when using a light-activatable reporter.



Not so crystal clear: A macroscopic DNA crystal is presented based on the 3-fold symmetrical tensegrity triangle that has been functionalized with a triplex-forming oligonucleotide at each of its double-helical edges. Attachment of a fluorescent dye to the oligonucleotide led to its incorporation within the asymmetric unit cell of the crystal and yielded colored DNA crystals.

DNA Objects

D. A. Rusling,* A. R. Chandrasekaran, Y. P. Ohayon, T. Brown, K. R. Fox, R. Sha, C. Mao, N. C. Seeman* ____ **3979 – 3982**

Functionalizing Designer DNA Crystals with a Triple-Helical Veneer

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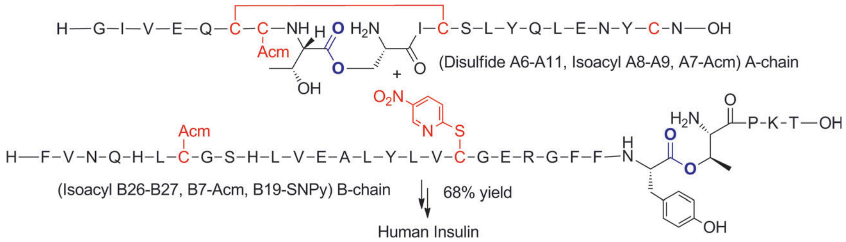


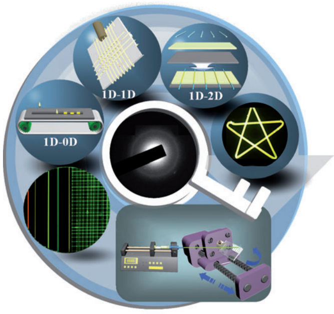
Chain of command: A longstanding challenge in the chemical synthesis of human insulin has been solved by incorporating isoacyl dipeptide segments into the A and B chains to address the hydrophobicity-associated issues. This route affords human insulin with a yield of 68 % based on the starting A chain and represents the most efficient chemical insulin synthesis reported to date.

Protein Synthesis

F. Liu,* E. Y. Luo, D. B. Flora, A. R. Mezo ____ **3983 – 3987**

A Synthetic Route to Human Insulin Using Isoacyl Peptides

At a critical juncture: Well-defined fluorescent microarrays with various patterns were fabricated in a controlled manner by a rapid and straightforward microfluidic spinning technique. By the use of appropriately doped components, the intersections of the multidimensional microarrays served as microreactors for environmentally friendly chemical reactions to form fluorescent nanocrystals.



Microreactor Arrays

L. L. Xu, C. F. Wang, S. Chen* ____ **3988 – 3992**

Microarrays Formed by Microfluidic Spinning as Multidimensional Microreactors

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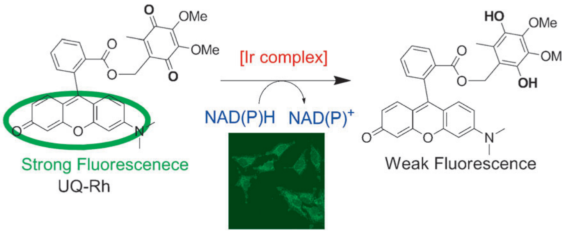


Active detection: NADH and NADPH are critical components of cellular energy metabolism and operate as electron carriers. A novel fluorescent ubiquinone-rhodol derivative (UQ-Rh) was developed as a probe for NAD(P)H. By using the artificial promoter $[(\eta^5\text{-}C_5Me_5)Ir(phen)(H_2O)]^{2+}$, intracellular activation and imaging of NAD(P)H were successfully demonstrated.

Imaging Agents

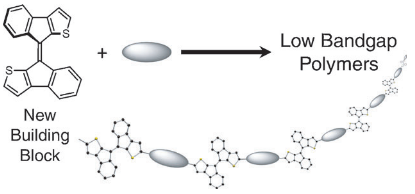
H. Komatsu,* Y. Shindo, K. Oka, J. P. Hill, K. Ariga* ____ **3993 – 3995**

Ubiquinone-Rhodol (UQ-Rh) for Fluorescence Imaging of NAD(P)H through Intracellular Activation

Organic Solar Cells

C.-Y. Chiu, H. Wang, F. G. Brunetti,
F. Wudl, C. J. Hawker* —— **3996 – 4000**

Twisted but Conjugated: Building Blocks for Low Bandgap Polymers



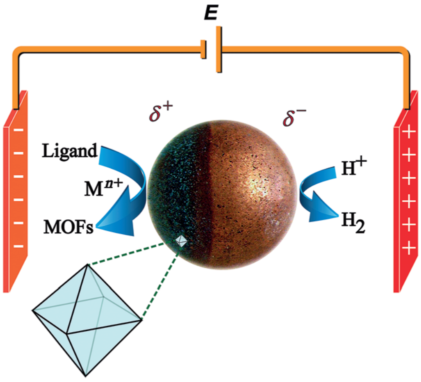
A simplified synthetic approach provided novel building blocks for conjugated polymers featuring a non-planar repeat unit and a distorted double bond. The resulting copolymers are characterized by a broad absorption profile and show promising results in solar cells.

Wireless Electrodeposition

S. Yadnum, J. Roche, E. Lebraud,
P. Négrier, P. Garrigue, D. Bradshaw,*
C. Warakulwit, J. Limtrakul,
A. Kuhn* —————— **4001 – 4005**

Site-Selective Synthesis of Janus-type Metal-Organic Framework Composites

Two-faced MOF: The site-selective in situ synthesis of metal–organic framework (MOF) structures can be accomplished through bipolar electrochemistry, allowing the deposit to be confined to a defined area of a substrate without using masks or templates. This method can generate hybrid particles that have different combined functionalities on the same particle.



Inside Back Cover

Supporting information is available on www.angewandte.org (see article for access details).

A video clip is available as Supporting Information on www.angewandte.org (see article for access details).

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The Hot Papers are articles that the Editors have chosen on the basis of the referee reports to be of particular importance for an intensely studied area of research.

Angewandte Corrigendum

Synthetic Studies on Chartelline C: Stereoselective Construction of the Core Skeleton

K. Iwasaki, R. Kanno, T. Morimoto,
T. Yamashita, S. Yokoshima,
T. Fukuyama* ———— **9160–9163**

Angew. Chem. Int. Ed. **2012**, *51*

DOI: 10.1002/anie.201204726

Some of the NMR spectra shown in the Supporting Information of this manuscript have not been properly processed. Copies of the correct spectra are available as Supporting Information for this Corrigendum.