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:

*T. Lewis, M. Faubel, B. Winter, J. C. Hemminger**
CO_2 Capture in an Aqueous Solution of an Amine: Role of the Solution Interface

*Y. H. Kim, S. Banta**
Complete Oxidation of Methanol in an Enzymatic Biofuel Cell by a Self-Assembling Hydrogel Created from Three Modified Dehydrogenases

R. M. Culik, A. L. Serrano, M. R. Bunagan, F. Gai**
Achieving Secondary Structural Resolution in Kinetic Measurements of Protein Folding: A Case Study of the Folding Mechanism of Trp-cage

*L. P. Hansen, Q. M. Ramasse, C. Kisielowski, M. Brorson, E. Johnson, H. Topsøe, S. Helveg**
Atomic-Scale Edge Structures on Industrial MoS_2 Nanocatalysts

*C. Pirez, M. Capron, H. Jobic, F. Dumeignil, L. Jalowiecki-Duhamel**
Highly Efficient and Stable $CeNiH_ZO_Y$ Nano-oxyhydride Catalyst for H_2 Production from Ethanol at Room Temperature

*X. Xin, M. He, W. Han, J. Jung, Z. Lin**
Low-Cost Counter Electrodes for High-Efficiency Dye-Sensitized Solar Cells

K. M. Harkness, A. Balinski, J. A. McLean, D. E. Cliffel**
Nanoscale Phase Segregation of Mixed Thiolates on Gold Nanoparticles

*S. J. Zuend, O. P. Lam, F. W. Heinemann, K. Meyer**
Insertion of Carbon Dioxide into Uranium-Activated Dicarbonyl Complexes

Y. Filinchuk, Bo Richter, T. R. Jensen,* V. Dmitriev, D. Chernyshov, H. Hagemann*
Porous and Dense $Mg(BH_4)_2$ Frameworks: Synthesis, Stability, and Reversible Absorption of Guest Species

Author Profile

"In my opinion, the word "scientist" means being honest. My biggest motivation is understanding nature …"
This and more about Jun Okuda can be found on page 9784.

News


G. Erker


K. Tatsumi


T. Ikariya

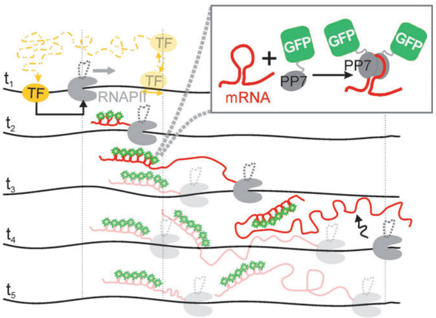

P. H. Seeberger

Books

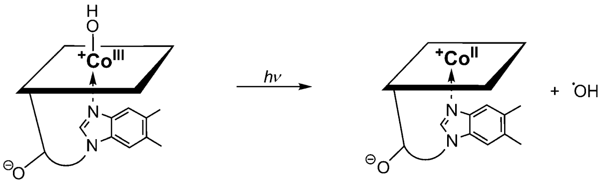
Highlights

Transcription

Rapid advances in live-cell imaging have now enabled direct observation of the transcription of single nascent mRNA molecules from an endogenous yeast gene. A novel quantitative fluctuation analysis of fluorescently labeled mRNA revealed the kinetics of transcription initiation and the dynamics of elongation and termination (see picture; GFP = green fluorescent protein, PP7 is a bacteriophage coat protein, RNAPII = RNA polymerase II, TF = transcription factor).



B_{12}-Radical Chemistry



B_{12} in a new light: The B_{12} derivative hydroxocobalamin can be used as an efficient catalyst for light-induced strand cleavage of DNA. The proposed radical process involves hydroxy radicals and is controlled by visible light (see scheme). Such light-controlled radical reactions promise to be particularly useful in intracellular applications.

Reviews

Synthetic Methods

Valuable synthetic intermediates can be obtained by quenching with various electrophiles highly functionalized aryl-, heteroaryl-, and alkenylmetal compounds prepared by direct C—H activation using lithium chloride solubilized 2,2,6,6-tetramethylpiperidide bases, such as TMPMgCl·LiCl, TMPZnCl·LiCl, or $TMP_2Zn·2\,LiCl$, which tolerate a wide range of functional groups. The scope and limitations are given for each LiCl-solubilized base.

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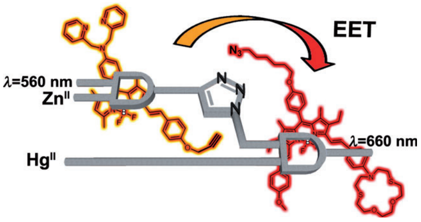
Communications

Chemical Logic Gates



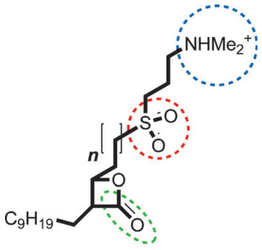
Integration by parts: Advanced information processing at the molecular level requires integrated logic gates, which has to date been possible only virtually. Now, two independently working AND molecular logic gates are brought together by "click" chemistry to form integrated logic gates which respond exactly as predicted from such an integration scheme (see picture, EET = excitation energy transfer).

R. Guliyev, S. Ozturk, Z. Kostereli,
E. U. Akkaya* ________ **9826 – 9831**

From Virtual to Physical: Integration of Chemical Logic Gates

Enzyme Inhibition

A matter of common sense: A common recognition motif consisting of a negatively charged group five to six bonds away (red) from the (thio)ester functionality (green) and a positively charged tail group ten to twelve bonds away (blue) was identified in two native acyl protein thioesterase 1 (APT1) substrates (see picture). This similarity led to the design of potent inhibitors of the Ras-depalmitoylating enzyme APT1.

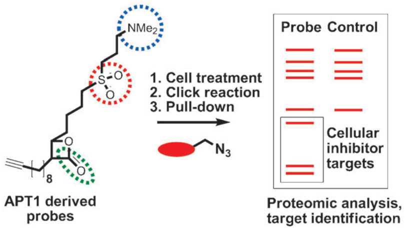


C. Hedberg, F. J. Dekker, M. Rusch,
S. Renner, S. Wetzel, N. Vartak,
C. Gerding-Reimers, R. S. Bon,
P. I. H. Bastiaens,
H. Waldmann* ________ **9832 – 9837**

Development of Highly Potent Inhibitors of the Ras-Targeting Human Acyl Protein Thioesterases Based on Substrate Similarity Design

Enzyme Inhibition

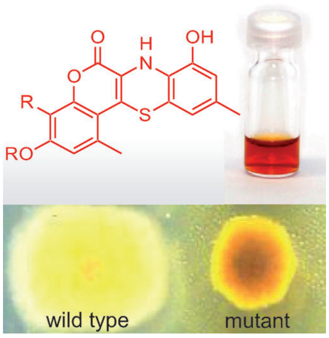
Finding the target: Activity-based proteomic profiling probes based on the depalmitoylation inhibitors palmostatin B and M (see picture) have been synthesized and were found to target acyl protein thioesterase 1 (APT1) and 2 (APT2) in cells.



M. Rusch, T. J. Zimmermann, M. Bürger,
F. J. Dekker, K. Görmer, G. Triola,
A. Brockmeyer, P. Janning, T. Böttcher,
S. A. Sieber, I. R. Vetter, C. Hedberg,*
H. Waldmann* ________ **9838 – 9842**

Identification of Acyl Protein Thioesterases 1 and 2 as the Cellular Targets of the Ras-Signaling Modulators Palmostatin B and M

Natural Products



What makes a fungus blush? The deletion of a gene that is required for global protein N-acetylation triggers the production of unprecedented metabolites in *Aspergillus nidulans*. The pronounced red pigmentation of the engineered mutant is caused by pheofungins (benzothiazinone chromophores, see scheme), the biogenesis of which is strikingly similar to those of pheomelanins found in red bird feathers and hair of Celtic origin.

K. Scherlach, H.-W. Nützmann,
V. Schroeckh, H.-M. Dahse,
A. A. Brakhage,*
C. Hertweck* ________ **9843 – 9847**

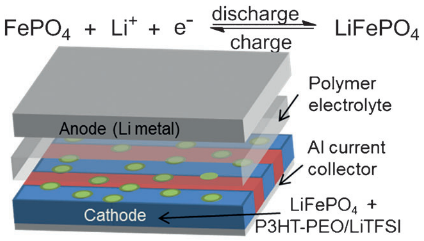
Cytotoxic Pheofungins from an Engineered Fungus Impaired in Posttranslational Protein Modification

Conducting Materials

A. E. Javier, S. N. Patel, D. T. Hallinan, Jr., V. Srinivasan, N. P. Balsara* **9848–9851**

Simultaneous Electronic and Ionic Conduction in a Block Copolymer: Application in Lithium Battery Electrodes

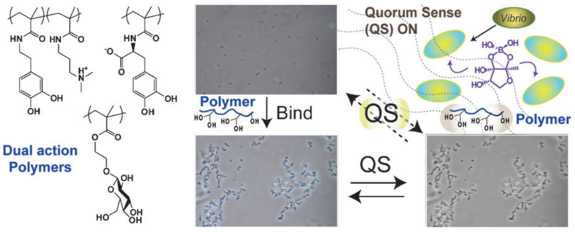
Charging ahead: Separate values for the simultaneous electronic and ionic conductivity of a conjugated polymer containing poly(3-hexylthiophene) and poly(ethylene oxide) (P3HT-PEO) were determined by using ac impedance and dc techniques. P3HT-PEO was used as binder, and transporter of electronic charge and Li$^+$ ions in a $LiFePO_4$ cathode, which was incorporated into solid-state lithium batteries (see picture; TFSI = bis(trifluoromethane sulfone)imide).



Dual-Activity Polymers

X. Xue, G. Pasparakis, N. Halliday, K. Winzer, S. M. Howdle, C. J. Cramphorn, N. R. Cameron, P. M. Gardner, B. G. Davis,* F. Fernández-Trillo,* C. Alexander* **9852–9856**

Synthetic Polymers for Simultaneous Bacterial Sequestration and Quorum Sense Interference

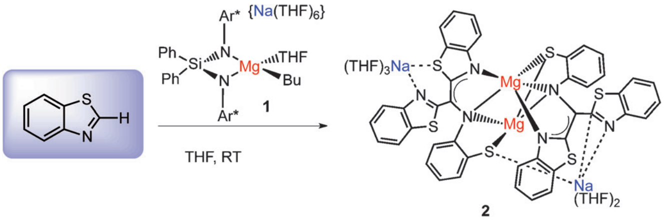


Double agents: Dual-action polymers are able to sequester rapidly the marine organism *Vibrio harveyi* from suspension, while at the same time quenching bacterial quorum sense (QS) signals (see picture). The potency of the polymers is assessed by cell aggregation experiments and competitive binding assays against a QS signal precursor, and their effect on bacterial behavior is shown by means of bioluminescence.

Mixed-Metal Chemistry

V. L. Blair, W. Clegg, A. R. Kennedy, Z. Livingstone, L. Russo, E. Hevia* **9857–9860**

Magnesium-Mediated Benzothiazole Activation: A Room-Temperature Cascade of C–H Deprotonation, C–C Coupling, Ring-Opening, and Nucleophilic Addition Reactions

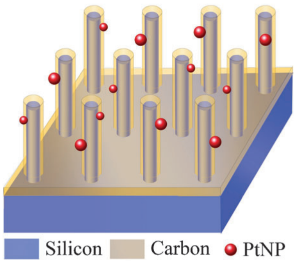


Ligand domin(o)ated: In contrast to the straightforward deprotonation of benzothiazole using Grignard reagents, treatment of benzothiazole with **1** leads to a novel type of activation. The initial magnesiation initiates an unstoppable domino reaction of C–C coupling, ring opening, nucleophilic addition, and deprotonation to give **2**. THF = tetrahydrofuran.

Solar Cells

X. Wang, K.-Q. Peng,* X. J. Pan, X. Chen, Y. Yang, L. Li, X. M. Meng, W. J. Zhang, S.-T. Lee* **9861–9865**

High-Performance Silicon Nanowire Array Photoelectrochemical Solar Cells through Surface Passivation and Modification

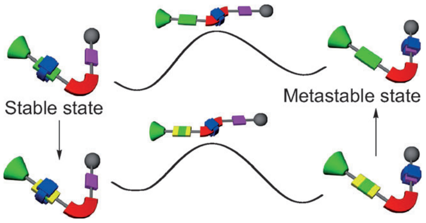


Nanowire solar cells: Pt nanoparticle (PtNP) decorated C/Si core/shell nanowire photoelectrochemical solar cells (see picture) show high conversion efficiency of 10.86% and excellent stability in aggressive electrolytes under 1-sun AM 1.5 G illumination. Superior device performance is achieved by improved surface passivation of the nanowires by carbon coating and enhanced interfacial charge transfer by PtNPs.

Molecular Devices

K.-D. Zhang, X. Zhao,* G.-T. Wang, Y. Liu,* Y. Zhang, H.-J. Lu,* X.-K. Jiang, Z.-T. Li* ______ **9866 – 9870**

Foldamer-Tuned Switching Kinetics and Metastability of [2]Rotaxanes

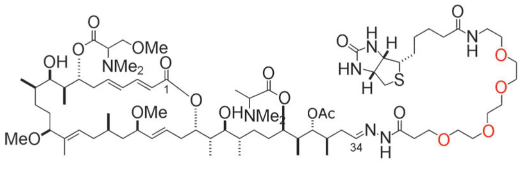


Slip sliding away: Foldamers (see picture, red) can function as modular stoppers to regulate the slippage and de-slippage of pseudorotaxanes and the switching kinetics and metastability of bistable rotaxanes. By simply changing the solvent or the length of the hydrogen-bonded foldamer, the lifetime of the metastable co-conformation state can be increased dramatically, from several minutes to as long as several days.

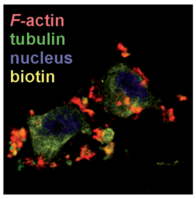
Natural Products

M. Kita,* Y. Hirayama, M. Sugiyama, H. Kigoshi* ______ **9871 – 9874**

Development of Highly Cytotoxic and Actin-Depolymerizing Biotin Derivatives of Aplyronine A



PEG-linked ApA–biotin probe

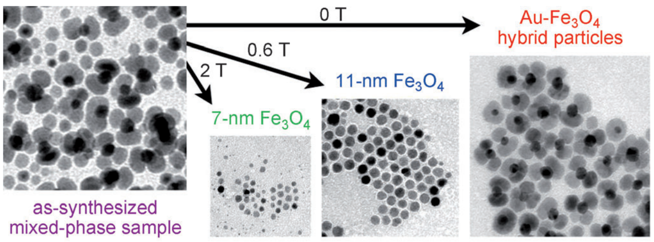


Tied up: A PEG-linked biotin derivative of marine macrolide aplyronine A (ApA; see scheme) is shown to exhibit potent cytotoxicity and cause actin disassembly in tumor cells. This method of introducing a PEG linker at the end of the aliphatic tail should offer perspectives for developing and using versatile actin-targeting molecular probes. PEG = poly(ethylene glycol)

Purifying Heterodimers

J. S. Beveridge, M. R. Buck, J. F. Bondi, R. Misra, P. Schiffer, R. E. Schaak,* M. E. Williams* ______ **9875 – 9879**

Purification and Magnetic Interrogation of Hybrid Au-Fe_3O_4 and FePt-Fe_3O_4 Nanoparticles

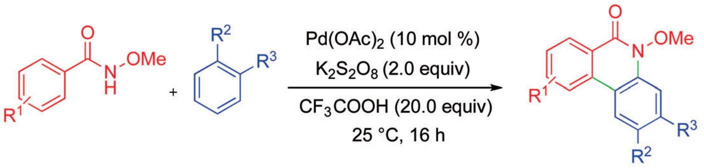


Purifying heterodimers: Differential magnetic catch and release separation is used to purify two important hybrid nanocrystal systems, Au-Fe_3O_4 and FePt-Fe_3O_4. The purified samples have substantially different magnetic properties compared to the as-synthesized materials: the magnetization values are more accurate and magnetic polydispersity is identified in morphologically similar hybrid nanoparticles.

C–H Activation

J. Karthikeyan, C.-H. Cheng* ______ **9880 – 9883**

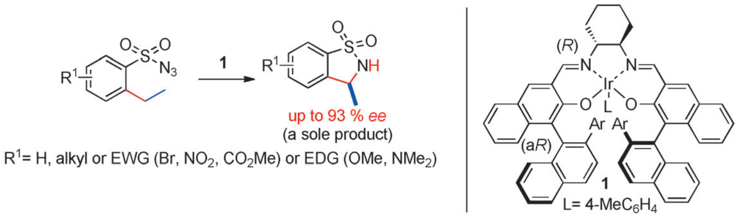
Synthesis of Phenanthridinones from *N*-Methoxybenzamides and Arenes by Multiple Palladium-Catalyzed C–H Activation Steps at Room Temperature



Many steps make light work: Substituted phenanthridinones can be obtained with high regioselectivity and in very good yields by palladium-catalyzed cyclization reactions of *N*-methoxybenzamides with arenes (see scheme). The reaction proceeds through multiple oxidative C–H activation and C–C/C–N formation steps in one pot at room temperature, and thus provides a simple method for generating bioactive phenanthridinones.

Contents

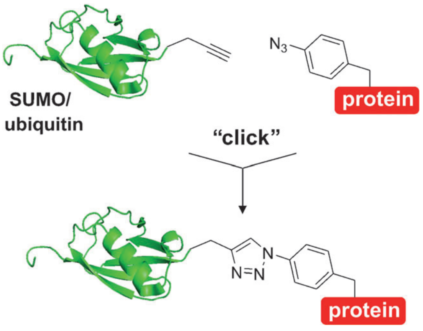
C–H Amination



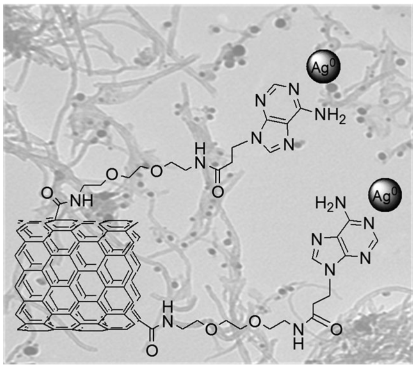
'Salen' along: The iridium(III)–salen complex **1** efficiently catalyzes the title reaction of 2-ethylbenzenesulfonyl azides to give five-membered sultams with high enantioselectivity. Other 2-alkyl-substitued substrates lead to five- and six-membered sultams with high enantioselectivity; the regioselectivity depends upon the substrate and the catalyst used. EDG = electron-donating group.

Posttranslational Modification

Wrestling with SUMO: The chemical conjugation of proteins with small ubiquitin-like modifiers (SUMO) can be achieved by a copper(I)-catalyzed cycloaddition and unnatural amino acid mutagenesis (see scheme). This approach overcomes previous restrictions related to the primary sequence of proteins and coupling conditions. Moreover, biochemical data suggests that this triazole linkage presents the modifier in a proper distance and orientation relative to the target protein.



Nanotubes

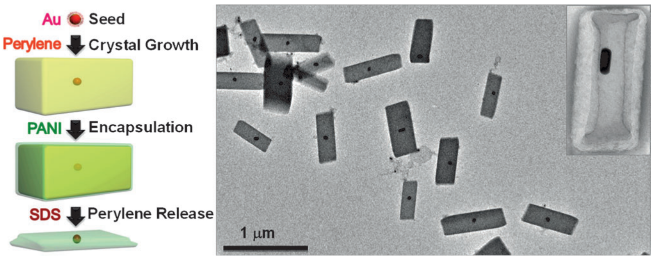


Stuck together: Adenine/carbon nanotube hybrids trigger the formation of controlled-size catalytic silver nanoparticles on the nanotube surface (see picture). The catalytic efficiency of the resulting species was assessed in the oxidation of 2-methylhydroquinone to its corresponding benzoquinone, with complete recovery and without loss of activity of the catalyst.

Composite Nanocrystals

M. Sindoro, Y. Feng, S. Xing, H. Li, J. Xu,
H. Hu, C. Liu, Y. Wang, H. Zhang, Z. Shen,
H. Chen* ———— **9898 – 9902**

Triple-Layer (Au@Perylene)@Polyaniline Nanocomposite: Unconventional Growth of Faceted Organic Nanocrystals on Polycrystalline Au

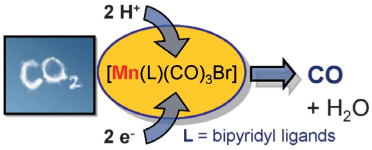


Unconventional crystal growth: Core/shell nanocrystals were obtained by growth of a dominant single-crystalline phase of perylene over polycrystalline Au nanoparticle seeds and isolated by coating with polyaniline (PANI) shells. Perylene is released in the presence of sodium dodecyl sulfate (SDS) micelles (see schematic). The TEM images show (Au@perylene)@PANI nanocomposites before and after complete release of perylene leaving Au@PANI (inset).

Electrocatalysis

M. Bourrez, F. Molton,
S. Chardon-Noblat,*
A. Deronzier* ———— **9903 – 9906**

[Mn(bipyridyl)$(CO)_3$Br]: An Abundant Metal Carbonyl Complex as Efficient Electrocatalyst for CO_2 Reduction



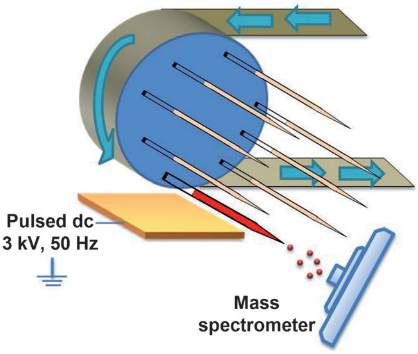
Manganese at work: Carbonyl bipyridyl complexes based on manganese, a non-noble abundant and inexpensive metal, have been proved to be excellent molecular catalysts for the selective electrochemical reduction of CO_2 to CO under mild conditions. Another advantage of manganese complexes over rhenium complexes is that these catalysts operate at markedly less overpotential (0.40 V gain).

High-Throughput Mass Spectrometry

G. Huang, G. Li,
R. G. Cooks* ———— **9907 – 9910**

Induced Nanoelectrospray Ionization for Matrix-Tolerant and High-Throughput Mass Spectrometry

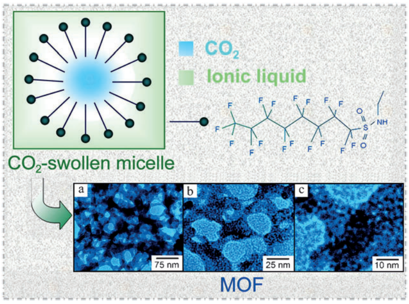
No-contact rule: The title method is ultrasensitive, high-throughput (4 samples per second), easily multiplexed, and is compatible with serum, urine, and concentrated salt solutions. Other features of this method, which avoids physical contact between the electrode and the solvent (see picture), include sample economy and the ability to produce both positive and negative-ion spectra in one cycle.



Ionic Liquids

J. Zhang,* B. Han,* J. Li, Y. Zhao,
G. Yang ———— **9911 – 9915**

Carbon Dioxide in Ionic Liquid Microemulsions

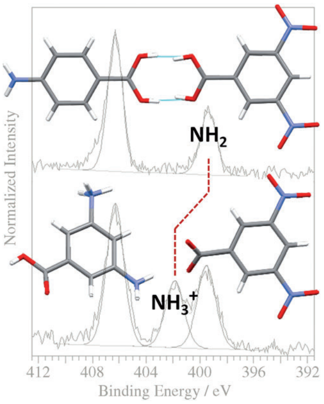


Tailor-made emulsion: A CO_2-in-ionic-liquid microemulsion was produced for the first time. The CO_2-swollen micelles are "tunable" because the micellar size can be easily adjusted by changing the pressure of CO_2. The microemulsion has potential applications in materials synthesis, chemical reactions, and extraction.

Solid-State Chemistry

J. S. Stevens, S. J. Byard, C. C. Seaton,
G. Sadiq, R. J. Davey,
S. L. M. Schroeder* ________ **9916 – 9918**

Crystallography Aided by Atomic Core-Level Binding Energies: Proton Transfer versus Hydrogen Bonding in Organic Crystal Structures

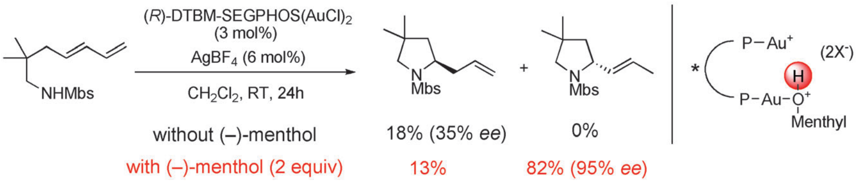


Ionic bond or hydrogen bridge? Brønsted proton transfer to nitrogen acceptors in organic crystals causes strong N1s core-level binding energy shifts. A study of 15 organic cocrystal and salt systems shows that standard X-ray photoelectron spectroscopy (XPS) can be used as a complementary method to X-ray crystallography for distinguishing proton transfer from H-bonding in organic condensed matter (see picture).

Gold Catalysis

O. Kanno, W. Kuriyama, Z. J. Wang,
F. D. Toste* ________ **9919 – 9922**

Regio- and Enantioselective Hydroamination of Dienes by Gold(I)/Menthol Cooperative Catalysis

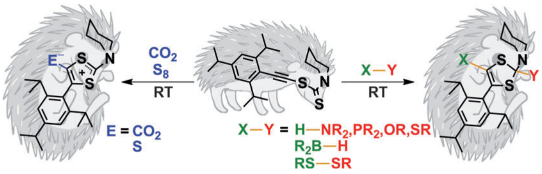


Alcohol is key: Regio- and enantioselective hydroamination of 1,3-dienes has been achieved with the dinuclear catalyst (*R*)-DTBM-SEGPHOS. The rate and selectivity of the reaction are enhanced by alcohol additives like menthol, which coordinates the cationic gold(I) to generate a Brønsted acid that can participate in catalysis. Mbs = *p*-methoxybenzenesulfonyl.

Bond Activation

G. Ung, G. D. Frey, W. W. Schoeller,
G. Bertrand* ________ **9923 – 9925**

Bond Activation with an Apparently Benign Ethynyl Dithiocarbamate $\mathrm{Ar{-}C{\equiv}C{-}S{-}C(S)NR_2}$

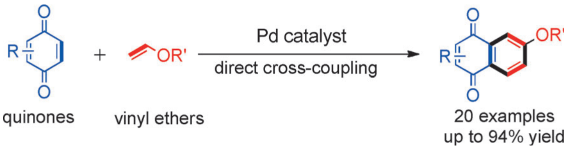


The hedgehog molecule: A simple ethynyl dithiocarbamate [$\mathrm{Ar{-}C{\equiv}C{-}S{-}C(S)NR_2}$] is able to cleave a broad range of enthalpically strong σ bonds and to activate carbon dioxide and elemental sulfur (see picture). Depending on the substrate, the bond activation process involves either the existence of an equilibrium with the nonobservable mesoionic carbene isomer or the cooperation of the nucleophilic carbon–carbon triple bond and the electrophilic CS carbon atom.

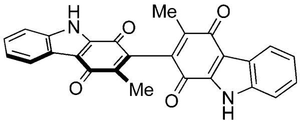
Cross-Coupling

P. Hu, S. Huang, J. Xu, Z.-J. Shi,*
W. Su* ________ **9926 – 9930**

Construction of Substituted Benzene Rings by Palladium-Catalyzed Direct Cross-Coupling of Olefins: A Rapid Synthetic Route to 1,4-Naphthoquinone and Its Derivatives



Ring the changes: The direct cross-coupling of electron-deficient 1,4-benzoquinone or its derivatives with electron-rich alkyl vinyl ethers proceeds in a tandem manner to produce substituted benzene rings with good selectivity and in good to excellent yields (see scheme). The reaction has the potential for the rapid synthesis of diverse substituted benzene rings as it is not limited by substituent effects.



bismurrayaquinone A

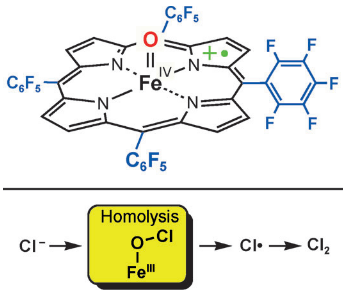
Lost in rotation: The concise strategy of the first enantioselective total synthesis of bismurrayaquinone A utilized traceless stereochemical exchange to form an enantioenriched biphenyl core that was elaborated in a bidirectional manner to the natural product. Observed racemization on an unsuccessful initial route prompted studies into the configurational stability of bismurrayaquinone A and related biquinones.

Natural Products

L. C. Konkol, F. Guo, A. A. Sarjeant, R. J. Thomson* ________ **9931 – 9934**

Enantioselective Total Synthesis and Studies into the Configurational Stability of Bismurrayaquinone A

Ironing it out: Oxoiron(IV) porphyrin π-cation radical complexes (see figure) serve as models for the oxidation of Cl^- into an active chlorinating reagent that chlorinates various organic compounds. Evidence suggests that Cl^- is oxidized to Cl_2 via $Cl^•$. The mechanism involving either direct electron transfer or iron(III) hypochlorite formation, and then homolysis of the Cl—O bond is discussed.



Enzyme Models

Z. Cong, T. Kurahashi, H. Fujii* ________ **9935 – 9939**

Oxidation of Chloride and Subsequent Chlorination of Organic Compounds by Oxoiron(IV) Porphyrin π-Cation Radicals

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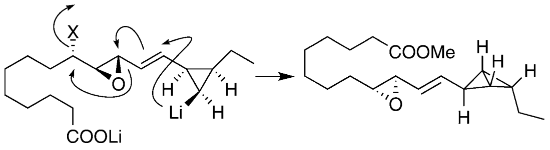
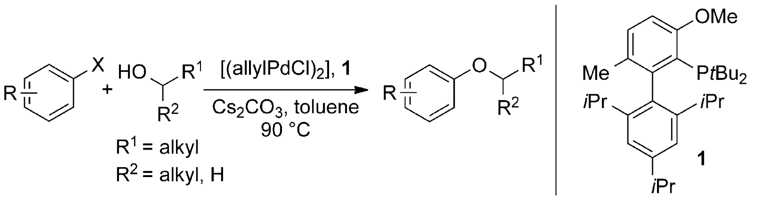


By design: A carbanion-mediated cyclization reaction cascade serves as the key final step in the total synthesis of a novel oxylipin, which features a strained bicyclo[1.1.0]butane conjugated to a labile vinyl epoxide.

Natural Products

S. M. DeGuire, S. Ma, G. A. Sulikowski* ________ **9940 – 9942**

Synthesis of a Bicyclobutane Fatty Acid Identified from the Cyanobacterium *Anabaena* PCC 7120



Forging a bond: An efficient, general palladium catalyst for C—O bond-forming reactions of secondary and primary alcohols with a range of aryl halides has been developed using the ligand **1**. Heteroaryl halides, and for the first time, electron-rich aryl halides can be coupled with secondary alcohols. A diverse set of substrate combinations are possible with just a single ligand, thus obviating the need to survey multiple ligands.

Cross-Coupling

X. Wu, B. P. Fors, S. L. Buchwald* ________ **9943 – 9947**

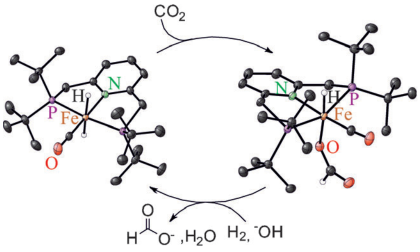
A Single Phosphine Ligand Allows Palladium-Catalyzed Intermolecular C—O Bond Formation with Secondary and Primary Alcohols

Contents

Iron Catalysis

R. Langer, Y. Diskin-Posner, G. Leitus,
L. J. W. Shimon, Y. Ben-David,
D. Milstein* ______________ **9948 – 9952**

Low-Pressure Hydrogenation of Carbon Dioxide Catalyzed by an Iron Pincer Complex Exhibiting Noble Metal Activity



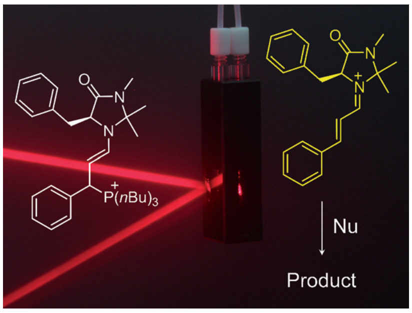
A highly active iron catalyst for the hydrogenation of carbon dioxide and bicarbonates works under remarkably low pressures and achieves activities similar to some of the best noble metal catalysts. A mechanism is proposed involving the direct attack of an iron *trans*-dihydride on carbon dioxide, followed by ligand exchange and dihydrogen coordination.

Organocatalysis

S. Lakhdar,* J. Ammer,
H. Mayr* ______________ **9953 – 9956**

Generation of α,β-Unsaturated Iminium Ions by Laser Flash Photolysis

Two at a time: α,β-Unsaturated iminium ions can be generated by laser flash photolysis of enaminophosphonium ions (see scheme). The rate constants of their reactions with nucleophiles provide the first direct comparison of the electrophilicities of iminium ions derived from MacMillan's first- and second-generation catalysts.

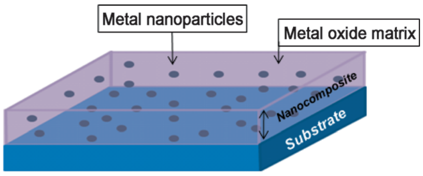


Nanomaterials

N. Bahlawane,* K. Kohse-Höinghaus,
T. Weimann, P. Hinze, S. Röhe,
M. Bäumer ______________ **9957 – 9960**

Rational Design of Functional Oxide Thin Films with Embedded Magnetic or Plasmonic Metallic Nanoparticles

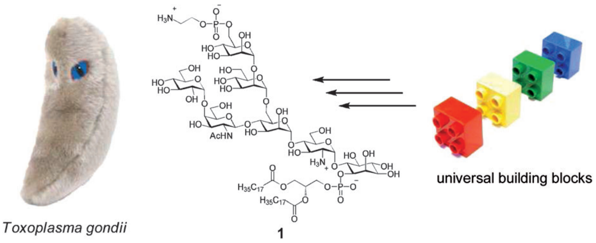
Getting into films: Semiconductor thin films containing magnetic or plasmonic metal nanoparticles are key materials for the development of high-efficiency solar cells, bright light-emitting diodes, and new magnetoelectric devices. The catalytically driven chemical vapor deposition offers a unique way to combine deposition of the metallic nanoparticles with that of functional oxides to produce such films (see picture).



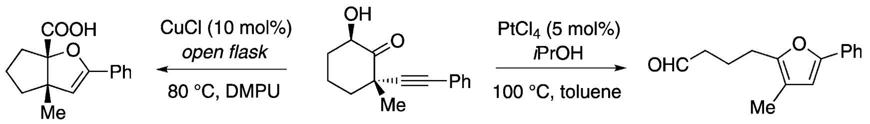
Synthesis of GPI Anchors

Y.-H. Tsai, S. Götze, N. Azzouz,
H. S. Hahm, P. H. Seeberger,*
D. Varon Silva* ______________ **9961 – 9964**

A General Method for Synthesis of GPI Anchors Illustrated by the Total Synthesis of the Low-Molecular-Weight Antigen from *Toxoplasma gondii*



Building blocks: A new, general synthetic strategy, which allows the construction of branched glycosylphosphatidylinositols (GPIs), enables the synthesis of parasitic glycolipid **1** from *Toxoplasma gondii*. In addition, the structure is further confirmed by recognition of monoclonal antibodies.



Two cats, two paths: Two novel domino reactions starting from 6-hydroxy-2-alkyl-2-alkynylcyclohexanones have been discovered. While redox-neutral platinum catalysis gives rise to furans through a sequence of cyclization, 1,2-shift, and Grob fragmentation, oxidative copper catalysis provides an entry to bicyclic 2,3-dihydrofurans. Upon cyclization and oxidation, an unusual benzilic acid rearrangement can take place in this case.

Cyclizations

K.-D. Umland, A. Palisse, T. T. Haug, S. F. Kirsch* ______ **9965 – 9968**

Domino Reactions Consisting of Heterocyclization and 1,2-Migration—Redox-Neutral and Oxidative Transition-Metal Catalysis

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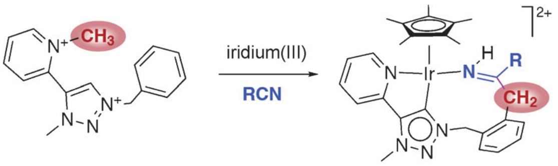

Hop on, hop off: An iridium center transfers a methyl group from pyridinium to an aryl unit, using exclusively the pyridine-bound methyl group as a mild methylene source. The reaction also involves cleavage of an unactivated C(aryl)−H bond and nitrile solvent activation. The process is reminiscent of DNA methylation and entails the formation of two new $C(sp^2)$−$C(sp^3)$ bonds within the metal coordination sphere (see scheme).

Methylene Transfer

R. Lalrempuia, H. Müller-Bunz, M. Albrecht* ______ **9969 – 9972**

Methyltransferase Activity of an Iridium Center with Methylpyridinium as Methylene Source

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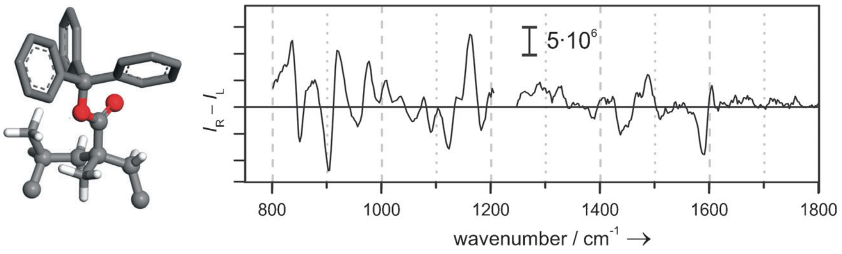

Splitting it up: Excellent agreement between the experimental and the quantum-chemically simulated Raman optical activity (ROA) spectrum of (+)-poly(trityl methacrylate) shows that the polymer backbone adopts a left-handed helical conformation while the trityl side groups display a left-handed propeller conformation. Thus ROA can be used to determine the complete structure of synthetic chiral polymers in solution.

Synthetic Chiral Polymers

C. Merten, L. D. Barron, L. Hecht, C. Johannessen* ______ **9973 – 9976**

Determination of the Helical Screw Sense and Side-Group Chirality of a Synthetic Chiral Polymer from Raman Optical Activity

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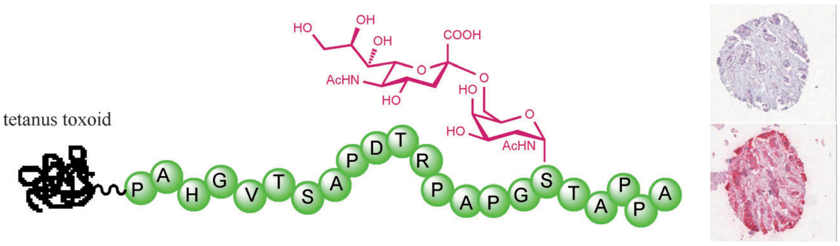


A shot in the arm for cancer treatment: Two MUC1 tetanus toxoid vaccines were synthesized and induced a strong immune response in mice. The antibodies elicited by the vaccines show a high selectivity for the tumor cells in mammary carcinoma tissues and also distinguish between tumor tissues at different stages.

Cancer Therapy

N. Gaidzik, A. Kaiser, D. Kowalczyk, U. Westerlind, B. Gerlitzki, H. P. Sinn, E. Schmitt,* H. Kunz* ______ **9977 – 9981**

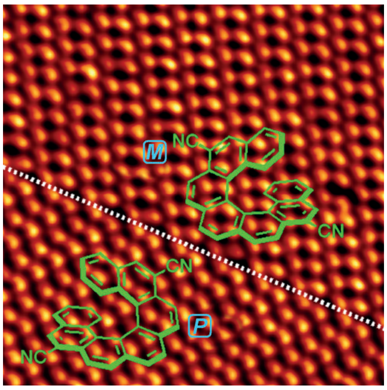
Synthetic Antitumor Vaccines Containing MUC1 Glycopeptides with Two Immunodominant Domains—Induction of a Strong Immune Response against Breast Tumor Tissues

2D Spontaneous Resolution

M. Stöhr,* S. Boz, M. Schär, M.-T. Nguyen,
C. A. Pignedoli, D. Passerone,*
W. B. Schweizer, C. Thilgen, T. A. Jung,*
F. Diederich* ________ 9982 – 9986

Self-Assembly and Two-Dimensional Spontaneous Resolution of Cyano-Functionalized [7]Helicenes on Cu(111)

Birds of a feather flock together: STM and DFT studies provide the first example of spontaneous chiral resolution of a helicene on a surface. Racemic 6,13-dicyano[7]helicene forms fully segregated domains of pure enantiomers (2D conglomerate) on Cu(111). The propensity of the system to optimize intermolecular CN⋯HC(Ar) hydrogen bonding and CN⋯CN dipolar interactions translates into chiral recognition with preferential assembly of homochiral molecules.

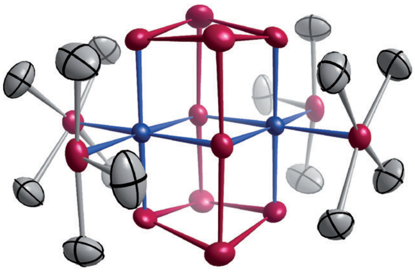


Tellurium Compounds

A. Günther, M. Heise, F. R. Wagner,*
M. Ruck* ________ 9987 – 9990

An Iridium-Stabilized, Formally Uncharged Te_{10} Molecule with 3-Center–4-Electron Bonding

Te for 10: A tricyclic Te_{10} molecule is stabilized in an iridium complex (see structure). Bonding analysis reveals 3-center–4-electron bonds in the linear Te_3 fragment. The tellurium atoms act as 2-electron donors to the transition-metal atoms.



$(Te_{10})[Ir(TeCl_4)(TeCl_3)]_2$

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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Service

Corrigendum

Fused Indolines by Palladium-Catalyzed Asymmetric C–C Coupling Involving an Unactivated Methylene Group

M. Nakanishi, D. Katayev, C. Besnard, E. P. Kündig* ———— 7438–7441

Angew. Chem. Int. Ed. **2011**, *50*

DOI 10.1002/anie.201102639

In this Communication, footnote [a] of Table 3 should read: "[a] Reaction conditions: **1** (0.2 mmol), [{Pd(η^3-cinnamyl)Cl}$_2$] (0.005 mmol), NHC-HI (0.01 mmol), cesium pivalate (0.2 mmol), cesium carbonate (0.3 mmol), and mesitylene."
Also, reference [3] should read as shown below.

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[3] a) An enantioselective (37 % *ee*) coupling between *n*-butylboronic acid and a CH$_3$ group in 2-propylpyridine was reported: B.-F. Shi, N. Maugel, Y.-H. Zhang, J.-Q. Yu, *Angew. Chem.* **2008**, *120*, 4960–4964; *Angew. Chem. Int. Ed.* **2008**, *47*, 4882–4886; b) for a palladium(0)-catalyzed asymmetric β-arylation of enantiotopic CH$_3$ groups at the β-position of carboxylic esters (55–70 % yield, up to 54 % *ee*), see: A. Renaudat, L. Jean-Gerard, R. Jazzar, C. E. Kefalidis, E. Clot, O. Baudoin, *Angew. Chem.* **2010**, *122*, 7419–7423; *Angew. Chem. Int. Ed.* **2010**, *49*, 7261–7265.