VIP *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:*

*C. Parthier, S. Görlich, F. Jaenecke, C. Breithaupt, U. Bräuer, U. Fandrich, D. Clausnitzer, U. F. Wehmeier, C. Böttcher, D. Scheel, M. T. Stubbs**
The *O*-Carbamoyl Transferase TobZ Catalyzes an Ancient Enzymatic Reaction

*A. Patzer, M. Schütz, T. Möller, O. Dopfer**
IR Spectrum and Structure of the Adamantane Cation: Direct Evidence for Jahn–Teller Distortion

*D. Globisch, C. A. Lowery, K. C. McCague, K. D. Janda**
Uncharacterized DPD Molecules Shown by NMR Analysis: Implications for a Greater Signaling Diversity in Bacterial Species

*C. Lux, M. Wollenhaupt, T. Bolze, Q. Liang, J. Köhler, C. Sarpe, T. Baumert**
Circular Dichroism in the Photoelectron Angular Distributions of Camphor and Fenchone from Multiphoton Ionization with Femtosecond Laser Pulses

*C. Giese, F. Zosel, C. Puorger, R. Glockshuber**
The Most Stable Protein/Ligand Complex: Applications for One-Step Affinity Purification and Identification of Protein Assemblies

*X.-F. Xiong, Q. Zhou, J. Gu, L. Dong, T.-Y. Liu, Y.-C. Chen**
Trienamine Catalysis of 2,4-Dienones: Development and Application in Asymmetric Diels–Alder Reaction

M. T. C. Walvoort, H. Van den Elst, O. J. Plante, L. Kröck, P. H. Seeberger, H. S. Overkleeft, G. A. van der Marel, J. D. Codée**
Automated Solid-Phase Synthesis of β-Mannuronic Acid Alginates

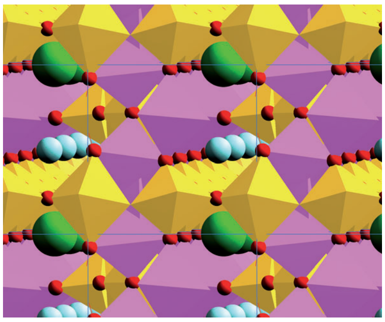
*P. G. Schiro, M. Zhao, J. S. Kuo, K. M. Koehler, D. E. Sabath, D. T. Chiu**
Sensitive and High-Throughput Isolation of Rare Cells from Peripheral Blood with Ensemble-Decision Aliquot Ranking

Author Profile

*"The best stage in a scientist's career is the first ten years of independent research.
The best advice I have ever been given is studying science instead of liberal arts …"*
This and more about Qi-Lin Zhou can be found on page 3748.

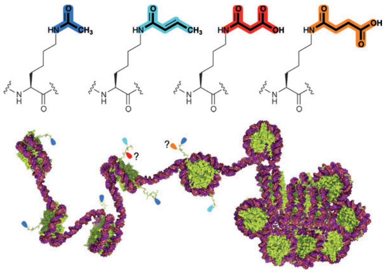
Books

Highlights



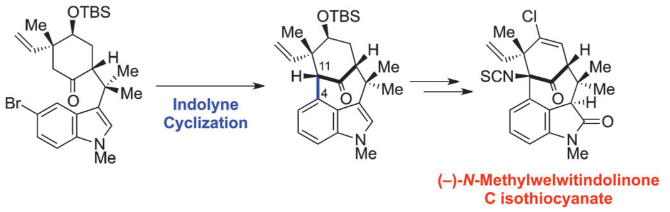
Structure prediction of stable and metastable phases is put on equal footing for the first time, with a solid thermodynamical background. How to estimate the lifetime of metastable phases is demonstrated by recent groundbreaking work of Jansen, Pentin, and Schön. At the heart lies the exploration of the Gibbs free-energy landscapes and the extended phase diagrams for complex systems.

Structure Prediction

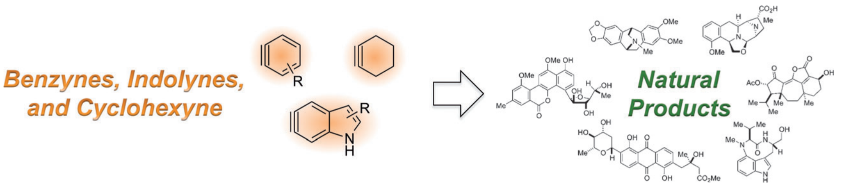


Leaving marks: The number of known posttranslational modifications for lysine has been expanded considerably. In addition to acetylation of side-chain amino functionalities of lysine residues in proteins, crotonylation, succinylation, and malonylation have now been identified as posttranslational modifications in histone and in non-histone proteins.

Minireviews



17 years in the making: The welwitindolinones with bicyclo[4.3.1] cores are a class of natural products that have attracted tremendous interest from the synthetic community. Contemporary studies aimed at the total synthesis of these challenging targets are described, including two recently completed syntheses (see one example).



Highly reactive! The latest developments in the field of aryne and angle-strained cycloalkyne chemistry have led to recent applications of benzynes, indolynes, and cyclohexyne in natural product syntheses. The inherent reactivity of these intermediates can be harnessed to rapidly increase molecular complexity. The syntheses presented are highly instructive for synthetic organic chemists.

For the USA and Canada:
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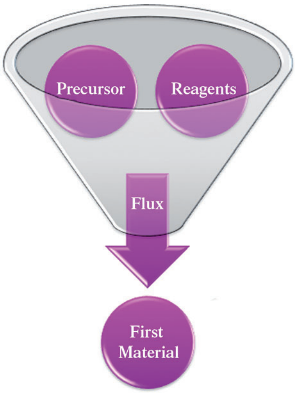
Reviews



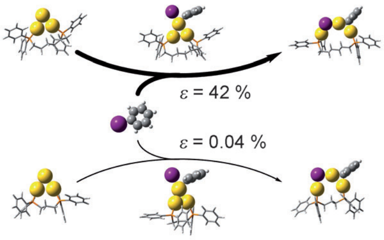
The flux of the matter: The search for the "First Material", the archetype in which a new phenomenon is first observed, has been a prime motivator for materials research. One method to discover such "First Materials" is crystal growth from high-temperature solutions using a flux as solvent (see scheme). This approach has been extremely successful in the discovery of new materials and is described using quaternary and higher oxides as examples.

Crystal Growth

D. E. Bugaris,*
H.-C. zur Loye* ____________ **3780 – 3811**

Materials Discovery by Flux Crystal Growth: Quaternary and Higher Order Oxides

Communications



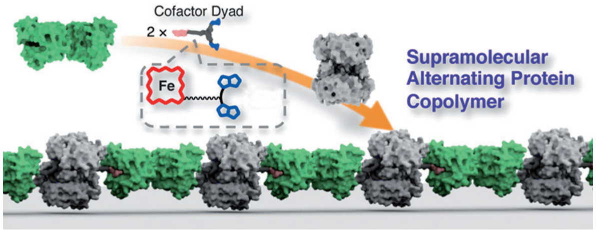
Controversy resolved! A combination of gas-phase ion–molecule reactions and theoretical studies confirm bisligated mononuclear Au^I complexes are unable to undergo oxidative addition of iodobenzene for Sonogashira coupling, but that the ligated gold clusters $[Au_3L^n]^+$ ($L{=}Ph_2P(CH_2)_nPPh_2$; $n = 3$–6) activate the C–I bond. DFT calculations on the transition states show that the linker size *n* tunes the cluster reactivity.

Sonogashira Coupling

P. S. D. Robinson, G. N. Khairallah,*
G. da Silva, H. Lioe,
R. A. J. O'Hair* ____________ **3812 – 3817**

Gold-Mediated C–I Bond Activation of Iodobenzene

Frontispiece



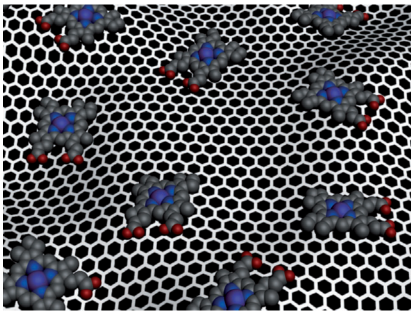
Alternating: A cofactor dyad consisting of a heme group (red in picture) and a bis(biotin) unit (blue) was synthesized and shown to specifically bind to both apomyoglobin and streptavidin. In the presence of the dyad, the 1:1 association of a disulfide-bridged myoglobin dimer (green) with streptavidin (gray) afforded a submicrometer-sized fibrous alternating copolymer.

Protein Assembly

K. Oohora, S. Burazerovic, A. Onoda,
Y. M. Wilson, T. R. Ward,*
T. Hayashi* ____________ **3818 – 3821**

Chemically Programmed Supramolecular Assembly of Hemoprotein and Streptavidin with Alternating Alignment

Front Cover



Well supported: Stable hemin–graphene conjugates (see picture) formed by immobilization of monomeric hemin on graphene, showed excellent catalytic activity, more than 10 times better than that of the recently developed hemin–hydrogel system and 100 times better than that of unsupported hemin. The catalysts also showed excellent binding affinities and catalytic efficiencies approaching that of natural enzymes.

Biomimetic Catalysis

T. Xue, S. Jiang, Y. Qu, Q. Su, R. Cheng,
S. Dubin, C.-Y. Chiu, R. Kaner, Y. Huang,*
X. Duan* ____________ **3822 – 3825**

Graphene-Supported Hemin as a Highly Active Biomimetic Oxidation Catalyst

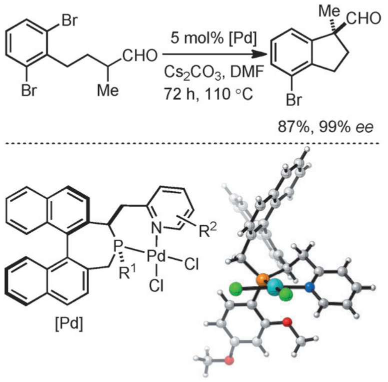
Inside Back Cover

Asymmetric Catalysis

P. Nareddy, L. Mantilli, L. Guénée,
C. Mazet* 3826–3831

Atropoisomeric (P,N) Ligands for the Highly Enantioselective Pd-Catalyzed Intramolecular Asymmetric α-Arylation of α-Branched Aldehydes

Three-in-one: A short synthetic route readily gives access to a new class of chiral (P,N) ligands characterized by three distinct elements of chirality. These ligands are highly enantioselective in the challenging Pd-catalyzed intramolecular asymmetric α-arylation of α-branched aldehydes (see picture).

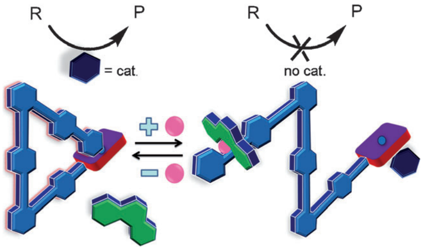


Molecular Switch

M. Schmittel,* S. De,
S. Pramanik 3832–3836

Reversible ON/OFF Nanoswitch for Organocatalysis: Mimicking the Locking and Unlocking Operation of CaMKII

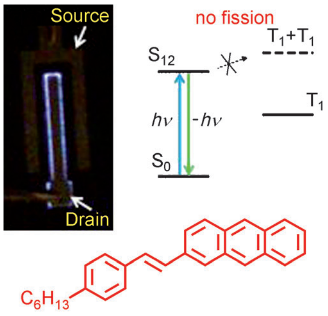
Flip a switch: A nanoswitch uses chemical inputs to turn an organocatalytic Knoevenagel reaction on and off (see scheme: R = reactant, P = product). To stop catalysis the chemical input (pink and green) wraps around the inhibitory segment of the nanoswitch to effect release or unlocking of the switch. The process can run reversibly over three cycles without loss of activity.



Organic Electronics

A. Dadvand, A. G. Moiseev, K. Sawabe,
W.-H. Sun, B. Djukic, I. Chung,
T. Takenobu, F. Rosei,
D. F. Perepichka* 3837–3841

Maximizing Field-Effect Mobility and Solid-State Luminescence in Organic Semiconductors

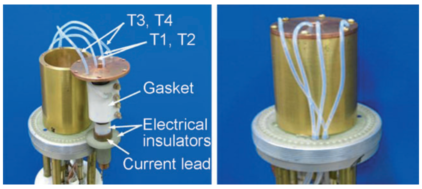


Conductive and emissive: Organic transistors made from a simple styrylanthracene derivative (see scheme) have high charge mobility and high luminescence quantum yields. These properties are attributed to the lack of singlet fission, and challenge the idea that the efficient π interactions required for high mobility always lead to quenching of emission. The transistors emit blue electroluminescence and are stable during operation and storage.

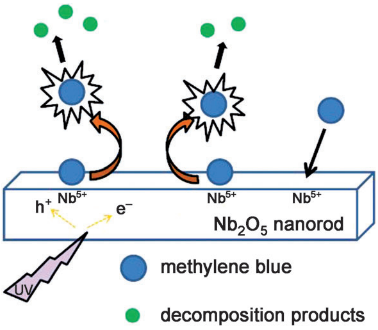
Fuel Cells

O. H. Han,* K. S. Han, C. W. Shin, J. Lee,
S.-S. Kim, M. S. Um, H.-I. Joh, S.-K. Kim,
H. Y. Ha 3842–3845

Observation of Methanol Behavior in Fuel Cells In Situ by NMR Spectroscopy



The chemical conversion of methanol in direct methanol fuel cells was followed in situ by NMR spectroscopy. Comparing data of the methanol oxidation on Pt and PtRu anode catalysts allowed the role of Ru in both Faradaic and non-Faradaic reactions to be investigated. The spatial distributions of chemicals could also be determined. (Picture: T1–T4 = inlet and outlet tubes.)



Nb_2O_5 nanorods and nanospheres were synthesized, and their photocatalytic activity for methylene blue decomposition in water compared. Nb_2O_5 nanorods clearly displayed higher activity, despite their comparable surface area. With a shape-dependent surface acidity, hydrothermal stability, and high photoactivity, these Nb_2O_5 nanorods are a unique and exciting nanomaterial for non-classical photocatalytic mineralization of organic compounds in water.

Shape-Dependent Photocatalysis

Y. Zhao, C. Eley, J. Hu, J. S. Foord, L. Ye, H. He, S. C. E. Tsang* ______ **3846 – 3849**

Shape-Dependent Acidity and Photocatalytic Activity of Nb_2O_5 Nanocrystals with an Active TT (001) Surface

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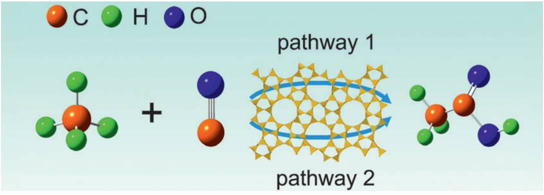

Two ways: A Zn-modified ZSM-5 zeolite catalyst was developed for the reaction of methane with carbon monoxide to directly produce acetic acid (see scheme) under mild conditions (573–623 K), and two different intermediate-dependent reaction pathways were unambiguously identified for acetic acid formation by in situ solid-state NMR spectroscopy.

Heterogeneous Catalysis

X. M. Wang, G. D. Qi, J. Xu,* B. J. Li, C. Wang, F. Deng* ________ **3850 – 3853**

NMR-Spectroscopic Evidence of Intermediate-Dependent Pathways for Acetic Acid Formation from Methane and Carbon Monoxide over a ZnZSM-5 Zeolite Catalyst

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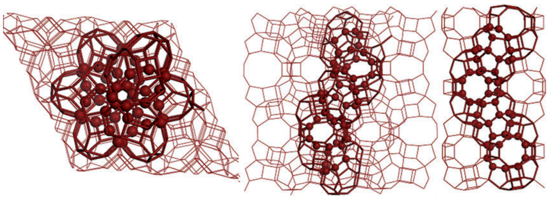
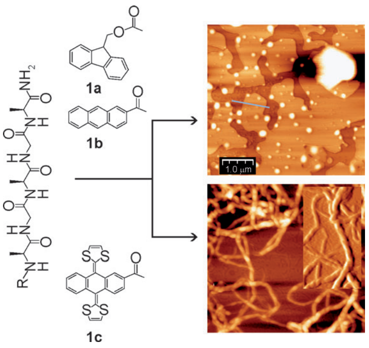


A microporous polymorph of SiO_2, HPM-1, has a chiral structure and contains helical pores. The defect-free pure SiO_2 composition, which has been previously considered unfeasible for this structure type, bestows a high thermal and hydrothermal stability upon this material.

Chiral Zeolites

A. Rojas, M. A. Camblor* __ **3854 – 3856**

A Pure Silica Chiral Polymorph with Helical Pores



Chromophore–peptide systems: A study on a series of pentapeptides covalently connected to planar π systems (**1a** and **1b**) or to a curved π system (**1c**) showed the influence of the concave shape on the efficient chiral transmission at nano- and mesoscales. Control over the hierarchical growth by H bonding, π–π, and solvophobic interactions made possible the efficient generation of electroactive 3D helical fibers (see picture).

Supramolecular Chemistry

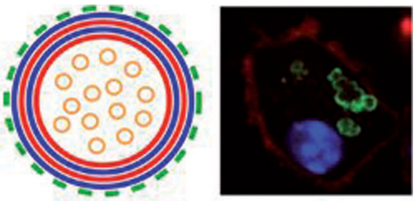
J. L. López, C. Atienza, A. Insuasty, J. López-Andarias, C. Romero-Nieto, D. M. Guldi,* N. Martín* __ **3857 – 3861**

Concave versus Planar Geometries for the Hierarchical Organization of Mesoscopic 3D Helical Fibers

Vaccines

B. G. De Geest,* M. A. Willart,
B. N. Lambrecht, C. Pollard, C. Vervaet,
J. P. Remon, J. Grooten,
S. De Koker ______________ **3862 – 3866**

Surface-Engineered Polyelectrolyte Multilayer Capsules: Synthetic Vaccines Mimicking Microbial Structure and Function

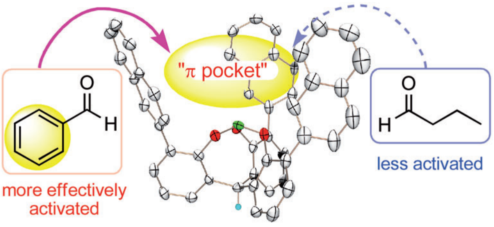


Immunizing: To evoke highly potent immune responses against recombinant antigens, hollow capsules consisting of layers of dextran sulphate and poly-L-arginine that encapsulate the antigen ovalbumin (orange circles) were coated with immune-activating CpG-containing oligonucleotides (green). These capsules were readily internalized by dendritic cells (see picture) and showed activity in further immunization experiments.

Molecular Recognition

H. Nakajima, M. Yasuda,* R. Takeda,
A. Baba* ______________ **3867 – 3870**

Recognition of Aromatic Compounds by π Pocket within a Cage-Shaped Borate Catalyst



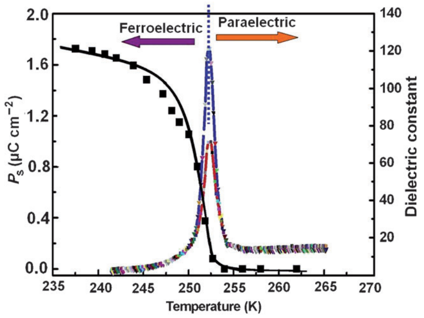
Taking shape: The ability of a Lewis acid catalyst to distinguish between aromatic and aliphatic hydrocarbon moieties was accomplished by using cage-shaped borate catalysts $B(OC_6H_3Aryl)_3CH$ (see picture) having a π pocket derived from aryl substituents surrounding the boron center. The catalyst predominantly activated aromatic aldehydes over aliphatic ones for reaction.

Phase Transitions

Z. Sun, T. Chen, J. Luo,*
M. Hong ______________ **3871 – 3876**

Bis(imidazolium) L-Tartrate: A Hydrogen-Bonded Displacive-Type Molecular Ferroelectric Material

A hydrogen-bonded ionic cocrystal with imidazole as molecular rotator and L-tartaric acid as homochiral component is reported as a displacive-type ferroelectric material. It undergoes a paraelectric–ferroelectric phase transition (see picture) at 252 K with exceptional dielectric responses triggered by atomic displacements.



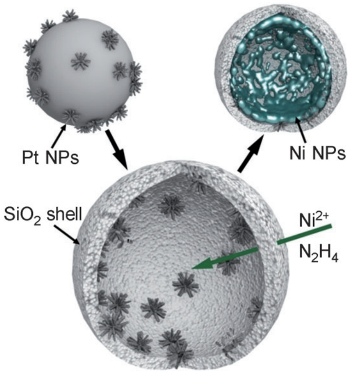
Nanocapsules

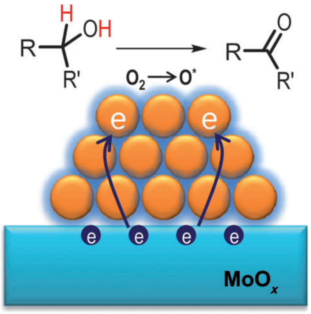
M. Sanlés-Sobrido, M. Pérez-Lorenzo,
B. Rodríguez-González, V. Salgueiriño,*
M. A. Correa-Duarte* ______ **3877 – 3882**

Highly Active Nanoreactors: Nanomaterial Encapsulation Based on Confined Catalysis

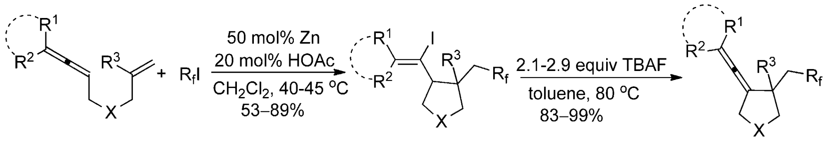
Back Cover

It happens inside: Highly active nanoreactors are prepared by encapsulating dendritic Pt nanoparticles (NPs) grown on a polystyrene template inside hollow porous silica capsules. The catalytic activity of these Pt NPs is preserved after encapsulation and template removal. Different metals, such as Ni, can thus be reduced inside the capsules, thereby leading to the formation of composites with tunable magnetic properties.



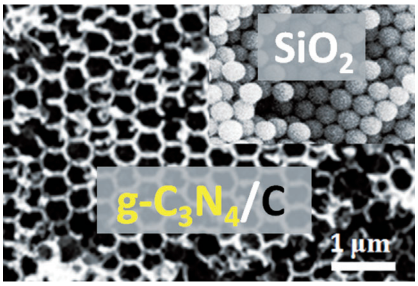


The sensing of electrons confined inside surface defect sites has been demonstrated. Tetracyanoethylene was employed as a single-electron acceptor to characterize the reduction of fully oxidized MoO_3. Electron transfer deposits negative charge on closely contacted gold nanoparticles on the surface, which explains the high catalytic activity in the aerobic oxidation of alcohols.

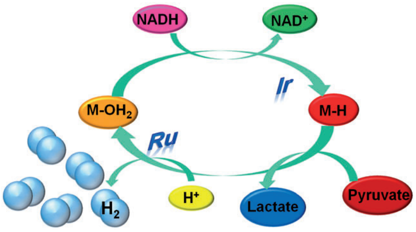


Something radical: The first example of alkene-to-allene radical cyclization of allene-enes is reported. The highly chemoselective intermolecular radical addition reaction of the alkene and subsequent, exclusive *exo*-radical addition to the allene was realized with perfluoroalkyl radicals (see scheme). A subsequent TBAF-promoted dehydroiodination of the cyclization products forms cyclopentanes and regenerates an allene moiety (TBAF = tetra-*n*-butylammonium fluoride).

Honeycomb catalysis: A facile oxygen reduction reaction has been observed on a graphitic C_3N_4/carbon catalyst with three-dimensional interconnected macropores (see picture with SiO_2 template). This material not only shows catalytic activity that is comparable to that of commercial Pt/C, but also has much higher organic-fuel tolerance and long-term stability.



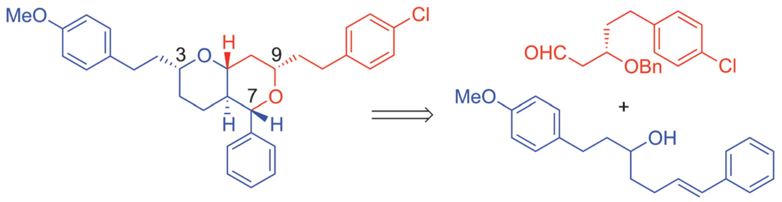
Artificial enzymes: Half-sandwich arene ruthenium(II) and cyclopentadienyl iridium(III) complexes containing *N*,*N*-chelated ligands can use NADH as a source of hydride for the reduction of ketones (see picture). Moreover, cyclopentadienyl phenanthroline iridium(III) derivatives at micromolar concentrations are robust catalysts for the production of H_2 from NADH in water and can raise the NAD^+/NADH ratio in cancer cells.



Synthetic Methods

A. J. Bunt, C. D. Bailey, B. D. Cons, S. J. Edwards, J. D. Elsworth, T. Pheko, C. L. Willis* ______ **3901 – 3904**

Bicyclic Oxygen Heterocycles from γ,δ-Unsaturated Alcohols: Synthetic Targets Inspired by Blepharocalyxin D

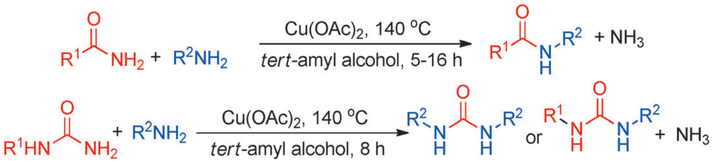


***trans*-2,8-Dioxabicyclodecanes** were prepared in high yield with the creation of up to three stereocenters in a single pot by the acid-mediated reaction of γ,δ-unsaturated alcohols with aldehydes (see scheme, Bn = benzyl). This versatile reaction enables the stereoselective introduction of substituents at the C3, C4, C7, and C9 positions of the bicyclic framework.

Synthetic Methods

M. Zhang, S. Imm, S. Bähn, L. Neubert, H. Neumann, M. Beller* ___ **3905 – 3909**

Efficient Copper(II)-Catalyzed Transamidation of Non-Activated Primary Carboxamides and Ureas with Amines



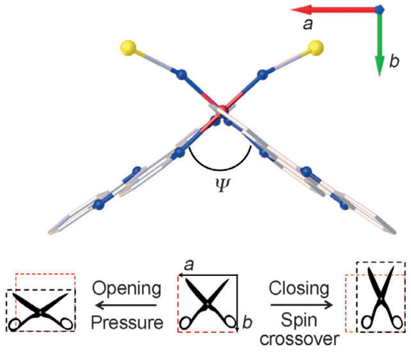
Amid(e) them all: Primary carboxamides and ureas react with aromatic and aliphatic amines in the presence of a copper catalyst to give a wide range of functionalized amides (see scheme).

Molecular Materials

H. J. Shepherd, T. Palamarciuc, P. Rosa, P. Guionneau,* G. Molnár,* J.-F. Létard, A. Bousseksou ______ **3910 – 3914**

Antagonism between Extreme Negative Linear Compression and Spin Crossover in $[Fe(dpp)_2(NCS)_2]\cdot py$

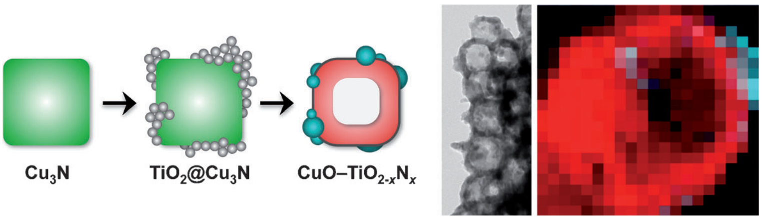
A scissor-like geometric mechanism is responsible for the strongest negative linear compression effect yet observed in a molecular material, $[Fe(dpp)_2(NCS)_2]\cdot py$ (see picture; dpp = dipyrido[3,2-*a*:2′3′-*c*]phenazine), C gray, N blue, S yellow, Fe red). The same mechanism is also responsible for suppressing the high-spin to low-spin transition under pressure.



Photocatalytic CO_2 Conversion

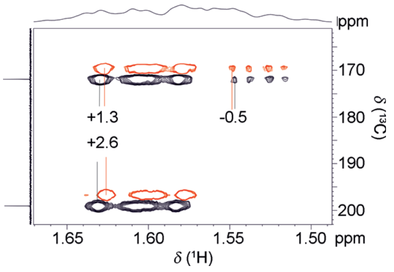
S. I. In, D. D. Vaughn II, R. E. Schaak* ______ **3915 – 3918**

Hybrid $CuO\text{-}TiO_{2-x}N_x$ Hollow Nanocubes for Photocatalytic Conversion of CO_2 into Methane under Solar Irradiation



Methane-producing hollow nanocubes: Hybrid $CuO\text{-}TiO_{2-x}N_x$ hollow nanocubes have been synthesized by first depositing TiO_2 onto Cu_3N nanocube templates, then heating in air to oxidize the Cu_3N to CuO while concomitantly incorporating nitrogen into the TiO_2. The nanostructured $CuO\text{-}TiO_{2-x}N_x$ material photocatalytically converts CO_2 into methane under solar irradiation.

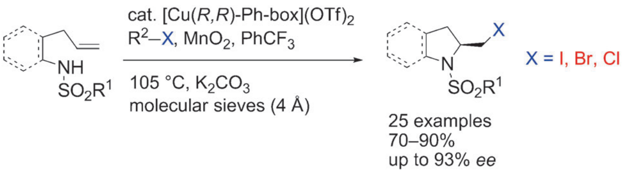
Simply successful: A proton-selective HSQMBC-TOCSY experiment can be used to measure small proton–carbon ($^nJ_{CH}$; $n > 1$) coupling constants on both protonated and non-protonated carbon atoms (see spectrum). The method combines in a single pulse scheme all the benefits of the widely used HSQMBC and HSQC-TOCSY experiments. The magnitude and the sign of $^nJ_{CH}$ can be determined simply with excellent accuracy.



NMR Spectroscopy

J. Saurí, J. F. Espinosa,
T. Parella* ________ **3919 – 3922**

A Definitive NMR Solution for a Simple and Accurate Measurement of the Magnitude and the Sign of Small Heteronuclear Coupling Constants on Protonated and Non-Protonated Carbon Atoms

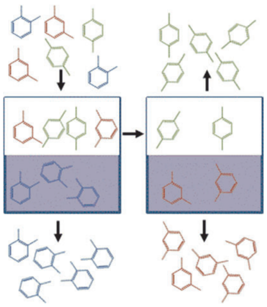


Problem solved: The title reaction was used for the synthesis of chiral 2-bromo, chloro, and iodomethyl indolines and 2-iodomethyl pyrrolidines (see scheme). Stereocenter formation is believed to occur by enantioselective *cis* aminocupration and C–X bond formation is believed to occur by atom transfer. The ultility of the products as versatile synthetic intermediates was demonstrated, as was a radical cascade cyclization sequence.

Enantioselective Aminohalogenation

M. T. Bovino,
S. R. Chemler* ________ **3923 – 3927**

Catalytic Enantioselective Alkene Aminohalogenation/Cyclization Involving Atom Transfer

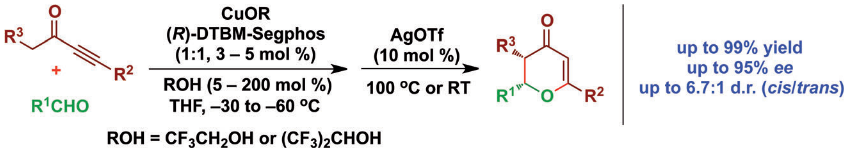


A Werner complex is highly selective for *o*-xylene in a vapor mixture containing all three isomers. However, in the absence of *o*-xylene, the substrate shows similar selectivity for *m*-xylene over *p*-xylene. Kinetic studies show a different trend whereby *m*-xylene is absorbed most rapidly, implying that thermodynamic factors must be responsible for the selectivity.

Xylene Separation

M. Lusi, L. J. Barbour* ________ **3928 – 3931**

Solid–Vapor Sorption of Xylenes: Prioritized Selectivity as a Means of Separating All Three Isomers Using a Single Substrate



Ynones as diene surrogates: The asymmetric synthesis of enantiomerically enriched substituted dihydropyranones is described. The products are obtained in two steps by a copper(I)-catalyzed direct aldol reaction of ynones followed by a silver-catalyzed oxy-Michael reaction. This easy method is compatible with both aromatic and aliphatic substrates, and provides excellent chemoselectivity under mild reaction conditions.

Asymmetric Synthesis

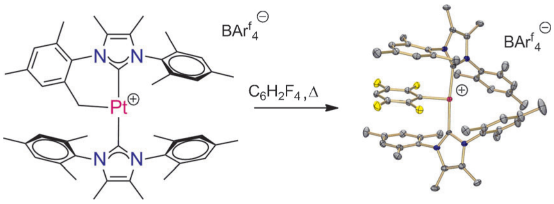
S.-L. Shi, M. Kanai,*
M. Shibasaki* ________ **3932 – 3935**

Asymmetric Synthesis of Dihydropyranones from Ynones by Sequential Copper(I)-Catalyzed Direct Aldol and Silver(I)-Catalyzed Oxy-Michael Reactions

Agostic Interactions

O. Rivada-Wheelaghan, M. A. Ortuño, J. Díez, A. Lledós,* S. Conejero* ______ **3936 – 3939**

Tuning N-Heterocyclic Carbenes in T-Shaped Pt^{II} Complexes for Intermolecular C–H Bond Activation of Arenes

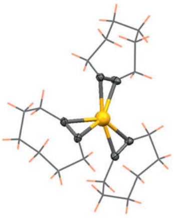


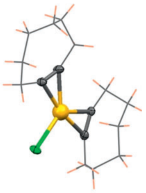
Small change matters: T-shaped Pt^{II} complexes with less flexible substituents, than, for example, isopropyl or *tert*-butyl groups, on N-heterocyclic carbene (NHC) ligands allow for C–H bond activation reactions of aromatic compounds (see scheme; $BAr^f_4{}^- =$ tetrakis[(3,5-trifluoromethyl)phenyl]borate; F yellow, Pt red). NHC substituents that are not highly branched prevent agostic interactions and reduce the barriers to achieve the C–H bond cleavage.

Gold Complexes

A. Das, C. Dash, M. Yousufuddin, M. A. Celik, G. Frenking,* H. V. R. Dias* ______ **3940 – 3943**

Isolable Tris(alkyne) and Bis(alkyne) Complexes of Gold(I)


1

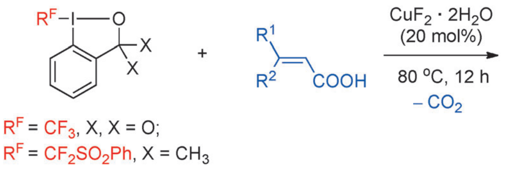

2

Golden trefoils: Tris(alkyne)gold complex $[(coct)_3Au][SbF_6]$ (see picture; **1**-SbF_6) can be synthesized from cyclooctyne (coct) and $AuSbF_6$ generated in situ. Treatment of AuCl with cyclooctyne led to the bis(alkyne)gold complex $[Au(coct)_2Cl]$ (**2**). DFT analysis indicates that the cyclooctyne ligands are net electron donors in **1** but overall electron acceptors in **2**. $AuSbF_6$ is shown to mediate [2+2+2] cycloaddition reactions of alkynes.

Synthetic Methods

Z. He, T. Luo, M. Hu, Y. Cao, J. Hu* ______ **3944 – 3947**

Copper-Catalyzed Di- and Trifluoromethylation of α,β-Unsaturated Carboxylic Acids: A Protocol for Vinylic Fluoroalkylations

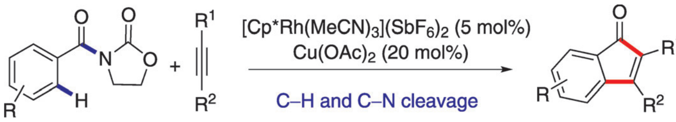


Dual action: The Lewis acid $CuF_2{\cdot}2H_2O$ efficiently catalyzes the reaction between electrophilic fluoroalkylating agents and α,β-unsaturated carboxylic acids by dually activating both reactants, thus affording di- and trifluoromethyl alkenes in high yields with excellent *E*/*Z* selectivity.

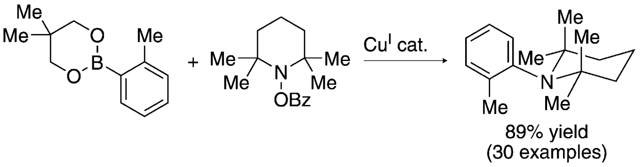
C–H Activation

B.-J. Li, H.-Y. Wang, Q.-L. Zhu, Z.-J. Shi* ______ **3948 – 3952**

Rhodium/Copper-Catalyzed Annulation of Benzimides with Internal Alkynes: Indenone Synthesis through Sequential C–H and C–N Cleavage

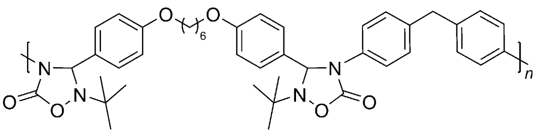


Doubled up: A rhodium(III)/copper(II) system co-catalyzes the annulation of benzimides with internal alkynes for the synthesis of indenones (see scheme; $Cp^* = C_5Me_5$). The reaction involves an uncommon nucleophilic addition of a transition-metal–carbon bond to an imide moiety. This novel reaction provides a facile route to synthesize indenones from readily available benzimides and internal alkynes.



No longer a hindrance: Copper-catalyzed electrophilic amination of aryl boronic esters is accomplished under mild reaction conditions using 2.5–5.0 mol% of a catalyst derived from copper *tert*-butoxide and Xantphos ligand (see scheme). The reaction tolerates a wide range of functional groups and can be used to prepare some of the most hindered anilines made to date.

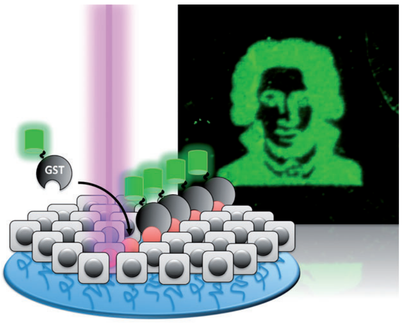
Synthetic Methods



A premier in polymer chemistry: The cycloaddition of bisoxaziridines with 4,4′-methylene diphenyl diisocyanate yields novel linear poly(1,2,4-oxadiazolidin-5-one) derivatives (see scheme). The polymers are relatively stable (> 200 °C) and model reactions show that the reaction rate strongly depends on the electronic properties of the oxaziridine unit; electron-donating substituents on the C atom of the heterocyclic ring promote the cycloaddition.

Polycycloaddition

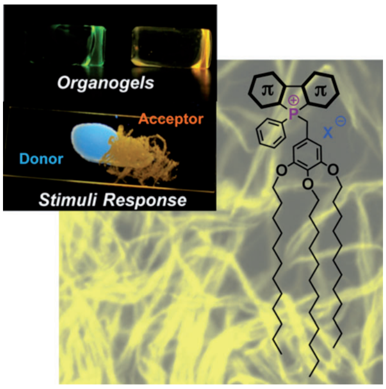
Light, GSH, action! Glutathione (GSH) fulfills a universal role as redox factor, scavenger of reactive oxygen species, and as an essential substrate in the conjugation, detoxification, and reduction reactions catalyzed by glutathione S-transferase (GST). A photoactivatable glutathione allows the GSH-GST network to be triggered by light. GST fusion proteins can be assembled in situ at variable density and structures by laser-scanning activation.



Chemical Biology

Inside Cover

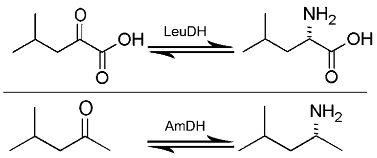
Sensitive gels: The amphiphilic features of phosphole-lipids lead to intriguing self-assembly properties and the formation of highly fluorescent organogels. Moreover, the dynamic structural features of the system make it possible to amplify the mechanochromic emission shifts (100 nm) in a donor–acceptor system through thermally and mechanically responsive fluorescence resonance energy transfer (FRET).



Phosphole-Lipids

Asymmetric Amine Synthesis

A leucine dehydrogenase has been successfully altered through several rounds of protein engineering to an enantioselective amine dehydrogenase. Instead of the wild-type α-keto acid, the new amine dehydrogenase now accepts the analogous ketone, methyl isobutyl ketone (MIBK), which corresponds to exchange of the carboxy group by a methyl group to produce chiral (*R*)-1,3-dimethylbutylamine.



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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Angewandte Corrigendum

Nanoparticle-Stabilized Double Emulsions and Compressed Droplets

C. Miesch, I. Kosif, E. Lee, J.-K. Kim,
T. P. Russell,* R. C. Hayward,*
T. Emrick* ________ **145–149**

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

DOI: 10.1002/anie.201106665

The authors of this Communication wish to insert an additional citation in reference [25]. This is to note the report of Fletcher and co-workers on stabilizing both simple and multiple emulsions of ionic liquids with two different fumed silica particles, in which the particles have different wettability.

[25] a) B. P. Binks, J. Philip, J. A. Rodrigues, *Langmuir* **2005**, *21*, 3296; b) B. P. Binks, A. K. F. Dyab, P. D. I. Fletcher, *Chem. Commun.* **2003**, 2540.