

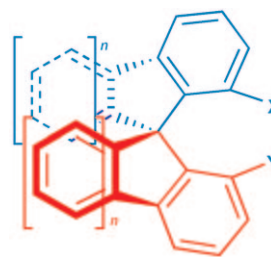


Spiro-Skeleton Ligands

K. Ding,* Z. Han, Z. Wang

Spiro Skeletons: A Class of Privileged Structure for Chiral Ligand Design

A strong backbone makes all the difference: A family of chiral ligands based on spirobiindane (see structure, $n=0$) and spirobifluorene ($n=1$) backbones have been successfully applied in a wide range of transition-metal-catalyzed asymmetric reactions with superior or comparable enantioselectivities to those obtained by using the related ligands bearing other backbones, proving the spiro skeleton to be a type of privileged structure for chiral ligand design.



Chem. Asian J.
DOI: 10.1002/asia.200800192

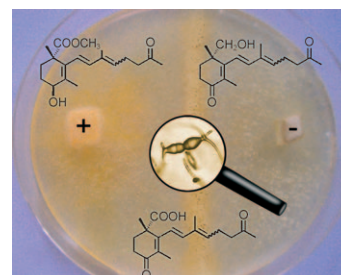


Biosynthesis

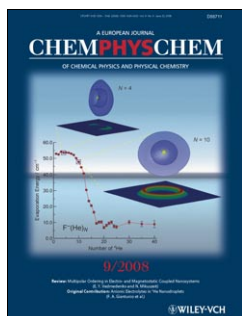
D. Schachtschabel, A. David, K.-D. Menzel, C. Schimek, J. Wöstemeyer, W. Boland*

Cooperative Biosynthesis of Trisporoids by the (+) and (−) Mating Types of the Zygomycete *Blakeslea trispora*

A chemical romance: Trisporic acids (TSAs) control the sexual reproduction of opposite mating types of many zygomycetes fungi. Cultures of *Blakeslea trispora* were supplemented with a series of deuterium-labeled apocarotenoid precursors. The isolated metabolites allowed for the reconstruction of the biosynthetic sequence between β -carotene and the different series of TSAs.



ChemBioChem
DOI: 10.1002/cbic.200800477

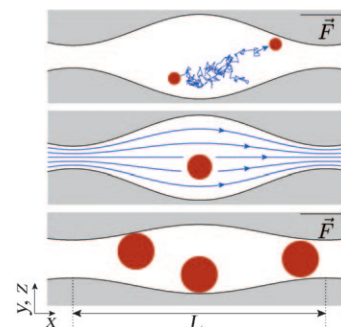


Cell Biology

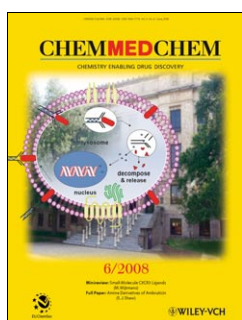
P. S. Burada, P. Hänggi,* F. Marchesoni, G. Schmid, P. Talkner

Diffusion in Confined Geometries

A tight squeeze: The mathematical formalism for modelling the diffusion of a Brownian particle immersed in a confined suspension fluid (picture) is outlined. Particle transport along a channel subject to stationary pumping is described. A review of results for the diffusion of a single file along a periodically corrugated channel (picture, bottom) is presented.



ChemPhysChem
DOI: 10.1002/cphc.200800526

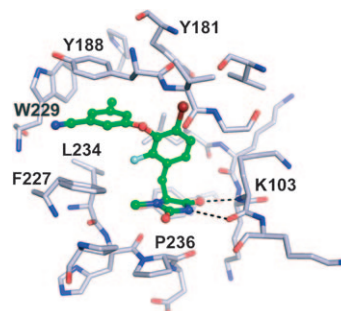


Antiviral Agents

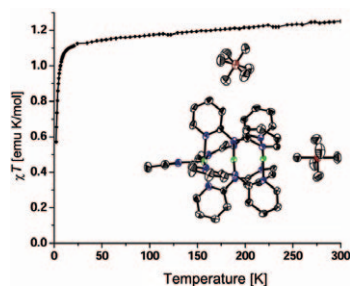
Z. K. Sweeney,* J. J. Kennedy-Smith, J. Wu, N. Arora, J. R. Billedeau, J. P. Davidson, J. Fretland, J. Q. Hang, G. M. Heilek, S. F. Harris, D. Hirschfeld, P. Inbar, H. Javanbakht, J. A. Jernelius, Q. Jin, Y. Li, W. Liang, R. Roetz, K. Sarma, M. Smith, D. Stefanidis, G. Su, J. M. Suh, A. G. Villaseñor, M. Welch, F.-J. Zhang, K. Klumpp

Diphenyl Ether Non-Nucleoside Reverse Transcriptase Inhibitors with Excellent Potency Against Resistant Mutant Viruses and Promising Pharmacokinetic Properties

As part of a program focused on the discovery of NNRTIs for the treatment of HIV infection, we concentrated on the optimization of a series of diaryl ether compounds. The structure–activity relationships observed in this series of compounds provide insight into the structural features required for inhibiting the replication of a wide range of mutant viruses.



ChemMedChem
DOI: 10.1002/cmdc.200800262



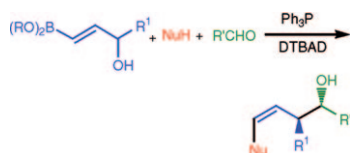
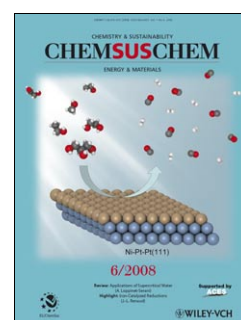
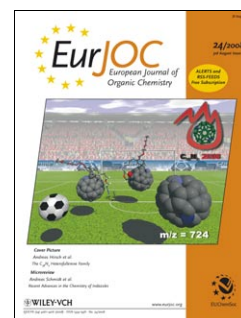
Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.200800808

Trinickel EMAC Compound

F. A. Cotton, C. A. Murillo,* Q. Wang, M. D. Young

Unusual Magnetism of an Unsymmetrical Trinickel Chain

An extended metal atom chain (EMAC) with an unsymmetrical trinickel core, $\text{Ni}_3(\text{dpa})_4(\text{CH}_3\text{CN})(\text{PF}_6)_2 \cdot 2\text{CH}_2\text{Cl}_2$, ($1 \cdot 2\text{CH}_2\text{Cl}_2$) was synthesized in crystalline form. Compound 1 contains two non-magnetic Ni^{II} units in a nearly square-planar arrangement and a paramagnetic entity in a pyramidal environment. The magnetic behavior differs considerably from that of symmetrical trinickel EMACs.



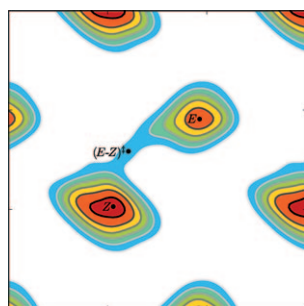
Eur. J. Org. Chem.
DOI: 10.1002/ejoc.200800965

Boron-Mediated Mitsunobu Reactions

F. Berrée,* N. Gernigon, A. Hercouet, C. H. Lin, B. Carboni

$\text{S}_{\text{N}}2'$ Boron-Mediated Mitsunobu Reactions – A New One-Pot Three-Component Synthesis of Substituted Enamides and Enol Benzoates

Substituted enamides and enol benzoates are readily prepared with a high diastereoselectivity in a one-pot procedure consisting of a regio-controlled Mitsunobu reaction with convenient nucleophiles, followed by allylboration of aldehydes.



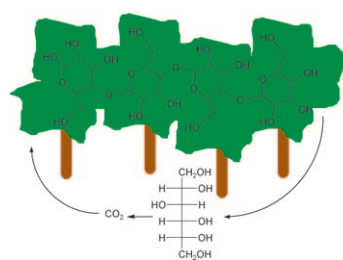
Chem. Eur. J.
DOI: 10.1002/chem.200800948

Azaallylic Anions

R. Declerck, B. De Sterck, T. Verstraelen, G. Verniest, S. Mangelinckx, J. Jacobs, N. De Kimpe,* M. Waroquier, V. Van Speybroeck*

Insight into the Solvation and Isomerization of 3-Halo-1-azaallylic Anions from Ab Initio Metadynamics Calculations and NMR Experiments

Long live the Z isomer! The solvation and isomerization properties of lithiated 3-chloro-1-azaallylic anions in tetrahydrofuran are revealed. Extensive and convincing evidence is obtained from state-of-the-art first-principle molecular dynamics and metadynamics simulations in an explicit periodic solvent model, together with detailed NMR experiments.



ChemSusChem
DOI: 10.1002/cssc.200800129

Heterogeneous Cat

P. L. Dhepe, A. Fukuoka*

Cellulose Conversion under Heterogeneous Catalysis

Tree-hugging chemistry: The conversion of cellulose (non-food biomass) into chemicals can be carried out with the aid of heterogeneous catalysis using solid acids or supported metals (Pt, Ru). Thus, sugar alcohols such as sorbitol and mannitol can be formed with high selectivity under relatively mild conditions and then further transformed into value-added products.



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