SPOTLIGHTS ...

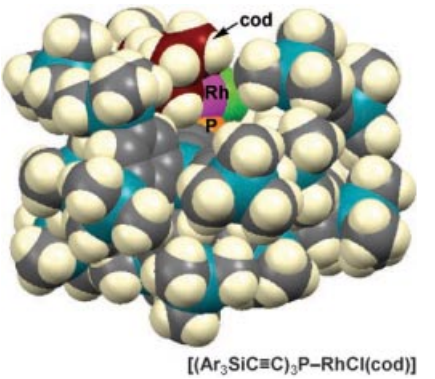
Phosphine Ligands

A. Ochida, M. Sawamura*

Phosphorus Ligands with a Large Cavity: Synthesis of Triethynylphosphines with Bulky End Caps and Application to the Rhodium-Catalyzed Hydrosilylation of Ketones

Chem. Asian J.
DOI: **10.1002/asia.200700006**

Holey phosphines! The end capping of triethynylphosphine with bulky groups results in the creation of ligands with a large cavity in which the phosphorus lone-pair electrons are located. The novel coordination properties of these ligands lead to a rate-accelerating effect in the rhodium-catalyzed hydrosilylation of ketones. cod = 1,5-cyclooctadiene.

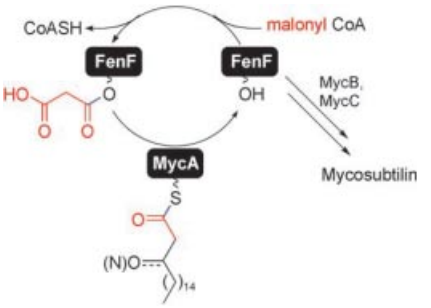


Biosynthesis

Z. D. Aron, P. D. Fortin, C. T. Calderone, C. T. Walsh*

FenF: Servicing the Mycosubtilin Synthetase Assembly Line *in trans*

ChemBioChem
DOI: **10.1002/cbic.200600575**



AT your service. We report the expression and characterization of FenF from mycosubtilin biosynthesis. This work represents the first kinetic and selectivity studies performed on an *in trans* AT domain servicing a polyketide synthase (PKS), and revealed a strong acyl-group specificity and broad promiscuity toward substrate carrier proteins. The lack of specificity in FenF-mediated malonyl transfer suggests that this protein might prove a powerful tool for combinatorial biosynthesis.

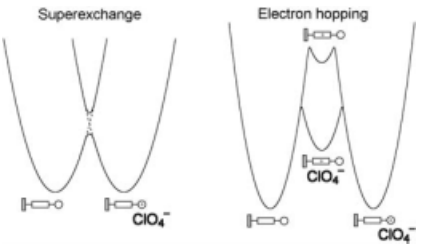
Electrochemistry

C. Amatore,* E. Maisonhaute, B. Schöllhorn, J. Wadhawan

Ultrafast Voltammetry for Probing Interfacial Electron Transfer in Molecular Wires

ChemPhysChem
DOI: **10.1002/cphc.200600774**

Up to speed: Electron transfer in self-assembled monolayers of complex redox-active oligophenylenevinylene molecular wires is examined by ultrafast cyclic voltammetry. If the redox center is buried within long hydrophobic diluents, counterion movement towards the redox entity becomes rate-limiting. This effect is examined for superexchange and electron-hopping mechanisms (see picture).

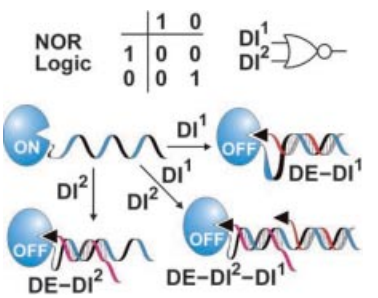


Programmable Enzymes

N. C. Gianneschi, M. R. Ghadiri*

Design of Molecular Logic Devices Based on a Programmable DNA-Regulated Semisynthetic Enzyme

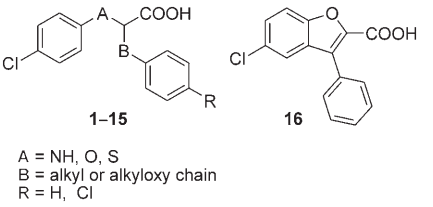
Angew. Chem. Int. Ed.
DOI: **10.1002/anie.200700047**



Informed decisions: Logic operations (AND, OR, NOR) can be performed with an enzyme by tagging it and its inhibitor with single-strand DNA. By adding appropriate single-strand DNA, the activity of the enzyme complex can be switched ON and OFF (see picture for NOR logic; **DE**: DNA-tagged enzyme; **DI^1**, **DI^2**: DNA-tagged inhibitors), or it can be used as a sensitive PCR-independent gene-diagnostic probe.

… ON OUR SISTER JOURNALS

A series of chiral 4-chlorophenoxyacetic acid analogues was synthesized and tested for activity toward both PPARα and PPARγ. Some derivatives were potent PPARα agonists as well as PPARγ agonists. Docking experiments were performed to explain the influence of the absolute configuration on PPARα activity.



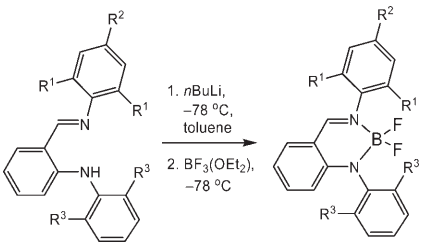
PPAR Agonists

G. Fracchiolla, A. Laghezza, L. Piemontese, G. Carbonara, A. Lavecchia,* P. Tortorella, M. Crestani, E. Novellino, F. Loiodice*

Synthesis, Biological Evaluation, and Molecular Modeling Investigation of Chiral Phenoxyacetic Acid Analogues with PPARα and PPARγ Agonist Activity

ChemMedChem
DOI: **10.1002/cmdc.200600307**

Three new organoboron complexes with anilido-imine ligands were synthesized. All complexes were characterized by ^{1}H, ^{11}B, ^{13}C and ^{19}F NMR spectroscopy, X-ray crystallography, elemental analyses and mass spectrometry. These complexes show excellent luminescent properties.



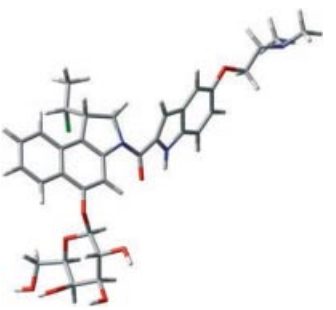
Organoboron Complexes

Y. Ren, X. Liu, W. Gao, H. Xia, L. Ye, Y. Mu*

Boron Complexes with Chelating Anilido-Imine Ligands: Synthesis, Structures and Luminescent Properties

Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200600841**

Glycosidic prodrugs: A novel class of β-D-galactosidic prodrugs based on the cytotoxic antibiotics CC-1065 and the duocarmycins were synthesized for an antibody directed enzyme prodrug therapy (ADEPT) for a selective treatment of cancer. Subsequent in vitro cytotoxicity tests of the illustrated β-D-galactosidic prodrug against the human bronchial carcinoma cell line A549 show an excellent QIC_{50} value thus exceeding all prodrugs of this type prepared to date by us and others.



Antitumor Agents

L. F. Tietze,* F. Major, I. Schuberth, D. A. Spiegl, B. Krewer, K. Maksimenka, G. Bringmann, J. Magull

Selective Treatment of Cancer: Synthesis, Biological Evaluation and Structural Elucidation of Novel Analogues of the Antibiotic CC-1065 and the Duocarmycins

Chem. Eur. J.
DOI: **10.1002/chem.200700113**

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