

# SPOTLIGHTS ...

## Phosphine Ligands

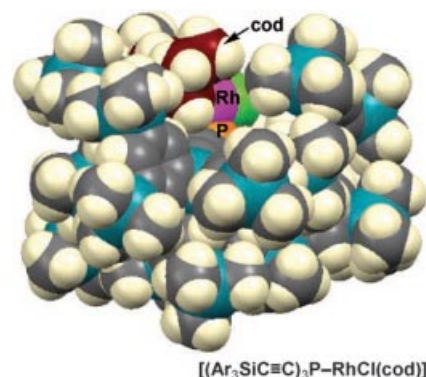
A. Ochida, M. Sawamura\*

### 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.



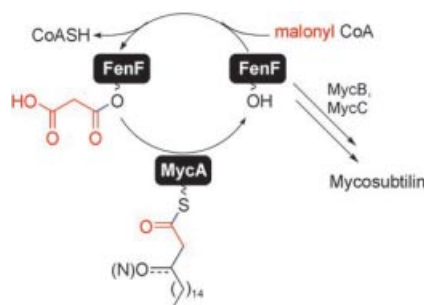
## Biosynthesis

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

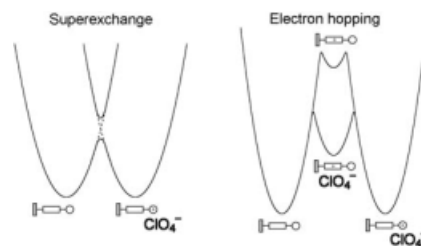
C. Amatore,\* E. Maisonhaute,  
B. Schöllhorn, J. Wadhawan

### 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).



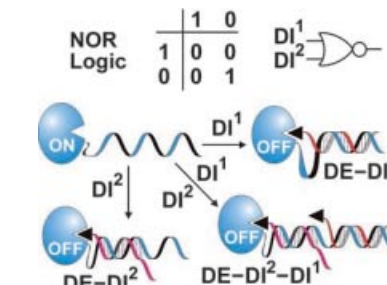
## Programmable Enzymes

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

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

Angew. Chem. Int. Ed.

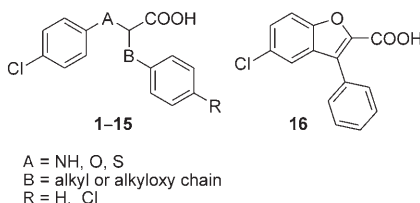
DOI: 10.1002/anie.200700047



**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<sup>1</sup>**, **DI<sup>2</sup>**: 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 PPAR $\alpha$  and PPAR $\gamma$ . Some derivatives were potent PPAR $\alpha$  agonists as well as PPAR $\gamma$  agonists. Docking experiments were performed to explain the influence of the absolute configuration on PPAR $\alpha$  activity.



### PPAR Agonists

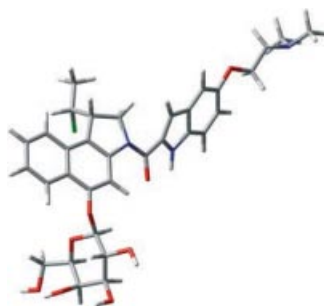
G. Fracchiolla, A. Laghezza, L. Piemontese, G. Carbonara, A. Lavecchia,\* P. Tortorella, M. Crestani, E. Novellino, F. Loiodice\*

### Synthesis, Biological Evaluation, and Molecular Modeling Investigation of Chiral Phenoxyacetic Acid Analogues with PPAR $\alpha$ and PPAR $\gamma$ Agonist Activity

*ChemMedChem*

DOI: 10.1002/cmdc.200600307

**Glycosidic prodrugs:** A novel class of  $\beta$ -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  $\beta$ -D-galactosidic prodrug against the human bronchial carcinoma cell line A549 show an excellent QIC<sub>50</sub> value thus exceeding all prodrugs of this type prepared to date by us and others.



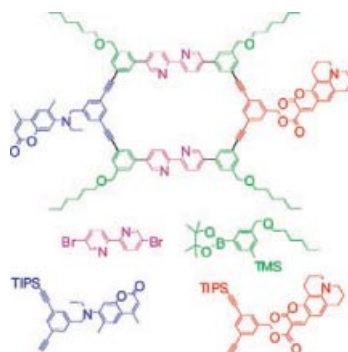
### Antitumor Agents

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



A flexible route to shape-persistent macrocycles based upon a collection of building blocks is reported. An easy introduction of several different functional units at predetermined positions as well as the obtainment of cycles in high isolated yields were accomplished by copper-free Sonogashira cross-coupling reactions and gel-permeation chromatography.

### Shape-Persistent Macrocycles

J. Sakamoto, A. D. Schlüter\*

### Shape-Persistent Macrocycles: A Synthetic Strategy that Combines Easy and Site-Specific Decorations with Improved Cyclization Efficiency

*Eur. J. Org. Chem.*

DOI: 10.1002/ejoc.200700118



On these pages, we feature a selection of the excellent work that has recently been published in our sister journals. If you are reading these pages on a computer, click on any of

the items to read the full article. Otherwise please see the DOIs for easy online access through Wiley InterScience.