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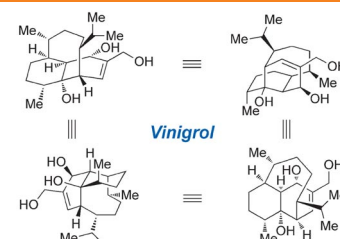


### Total Synthesis

A. D. Hutters, N. K. Garg\*

#### Synthetic Studies Inspired by Vinigrol

**Vinigrol, a diterpene natural product**, has been a fascinating target for total synthesis for over two decades. This minireview describes recent synthetic studies that have ultimately allowed access to the coveted vinigrol scaffold, including the approaches reported by Barriault, Njardarson, and Hanna, as well as the first total synthesis of vinigrol, reported by Baran in 2009.



*Chem. Eur. J.*

DOI: 10.1002/chem.201000916

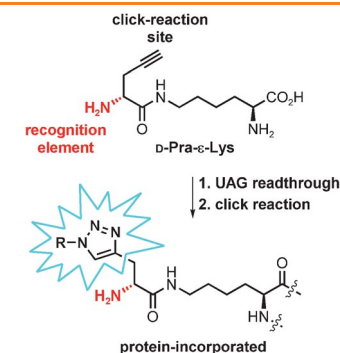


### Pyrrolysine

X. Li, T. Fekner, M. K. Chan\*

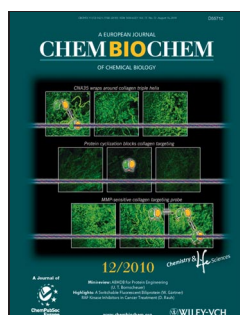
#### N<sup>6</sup>-(2-(R)-Propargylglycyl)lysine as a Clickable Pyrrolysine Mimic

**Clickable copycat!** Readily available dipeptide D-Pra-ε-Lys is identified using a modified fluorescence protein assay as a highly efficient clickable pyrrolysine mimic. It is shown to incorporate into calmodulin in high yield to provide a handle for labeling with an azide-containing coumarin.



*Chem. Asian J.*

DOI: 10.1002/asia.201000205

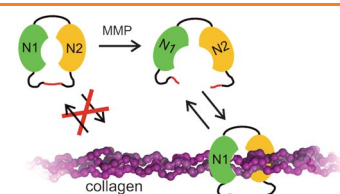


### Protein Engineering

M. Breurken, E. H. M. Lempens, M. Merckx\*

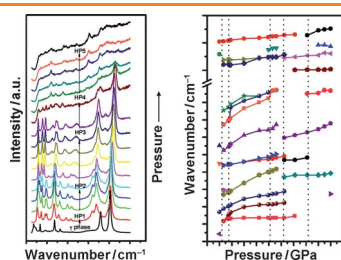
#### Protease-Activatable Collagen Targeting Based on Protein Cyclization

**Threading collagen through a protein needle:** The collagen-binding protein CNA35 operates by wrapping itself around the collagen triple helix. By connecting the N and C termini through an MMP recognition sequence, a dual-specific MMP-sensitive collagen-targeting ligand is obtained that can be used for imaging extracellular matrix turnover.



*ChemBioChem*

DOI: 10.1002/cbic.201000223



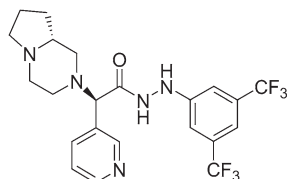
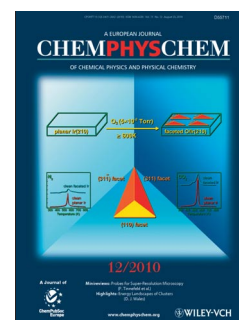
*ChemPhysChem*  
DOI: 10.1002/cphc.201000341

## Nanowires

J. Chen,\* S. H. Chen, D. Y. Lu, W. H. Zhang, F. Y. Xie, W. G. Xie, L. Gong, C. X. Wang\*

### Pressure-Induced Structural Transition in WO<sub>3</sub> Nanowires

**Pressure-induced structural transition in WO<sub>3</sub> nanowires** is followed by Raman spectroscopic analysis (see picture). Upon increasing the applied pressure, WO<sub>3</sub> nanowires undergo four phase transitions at pressures around 1.7, 4.6, 21.5, and 26.2 GPa, which are all less than those reported for bulk WO<sub>3</sub>. At a pressure of 42.5 GPa, a new high-pressure phase appears, which has never been reported and is not reversible while unloading pressure.



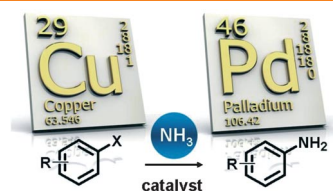
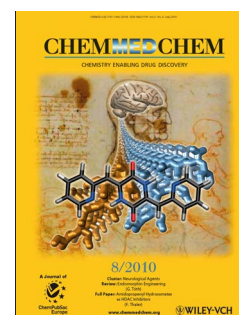
*ChemMedChem*  
DOI: 10.1002/cmdc.201000185

## Drug Discovery

F. M. Sabbatini,\* R. Di Fabio,\* M. Corsi, P. Cavanni, S. M. Bromidge, Y. St-Denis, L. D'Adamo, S. Contini, M. Rinaldi, S. Guery, C. Savoia, C. Mundi, B. Perini, A. J. Carpenter, G. Dal Forno, F. Faggioni, M. Tessari, F. Pavone, C. Di Francesco, A. Buson, M. Mattioli, E. Perdonà, S. Melotto

### Discovery Process and Characterization of Novel Carbohydrazone Derivatives as Potent and Selective GHSR1a Antagonists

**Ghrelin: don't feed them after dark!** A novel class of highly potent and selective growth hormone secretagogue receptor 1a (GHSR1a) antagonists has been identified. The synthesis and preliminary biological investigation, both in vitro and in vivo is described. This compound series is a useful tool for further understanding the role of GHSR1a and may provide new approaches for the treatment of a number of pathological conditions associated with eating disorders.



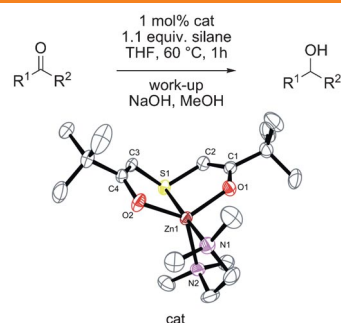
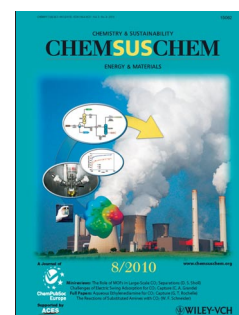
*ChemSusChem*  
DOI: 10.1002/cssc.201000145

## Organic Synthesis

S. Enthaler\*

### Ammonia: An Environmentally Friendly Nitrogen Source for Primary Aniline Synthesis

**Got ammo?** In the search for sustainable and environmentally benign primary aniline synthesis, the application of ammonia instead of currently applied ammonia surrogates is one major challenge in catalysis. Recent efforts in palladium- and copper-catalyzed transformations of ammonia to anilines are discussed in this Highlight.



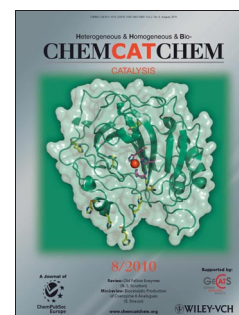
*ChemCatChem*  
DOI: 10.1002/cctc.201000036

## Homogeneous Catalysis

N. A. Marinou, S. Enthaler, M. Driess\*

### High Efficiency in Catalytic Hydrosilylation of Ketones with Zinc-Based Precatalysts Featuring Hard and Soft Tridentate O,S,O-Ligands

**That zinc-ing feeling:** A new type of hard and soft tridentate O,S,O-ligands in combination with auxiliary amines have been successfully employed in zinc-catalyzed hydrosilylation of various ketones. Good catalytic activity is obtained with low catalyst loading for several silanes. Variation of the amines indicates a potential catalytic mechanism.



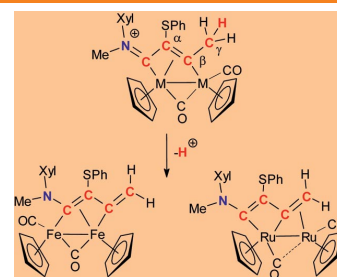


### $\gamma$ -Deprotonation

L. Busetto, F. Marchetti, M. Salmi, S. Zacchini, V. Zanotti\*

#### $\gamma$ -Deprotonation of Bridging Vinyliminium Ligands: New Route to Aminobutadienyldiene Diiron and Diruthenium Complexes

Conjugated iminium ions (as bridging vinyliminium ligands) can undergo  $\gamma$ -deprotonation to form dienamines, which are stabilized by dinuclear coordination. Two different coordination modes have been evidenced.



*Eur. J. Inorg. Chem.*

DOI: 10.1002/ejic.201000252

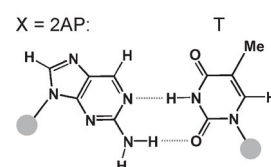
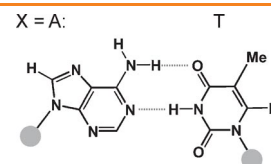


### Nonnatural Nucleobases

A. Dallmann, L. Dehmel, T. Peters, C. Mügge, C. Griesinger, J. Tuma,\* N. P. Ernsting\*

#### 2-Aminopurine Incorporation Perturbs the Dynamics and Structure of DNA

**Vive la petite différence:** 2-Aminopurine (2AP) induces small but detectable perturbations of the DNA helix. More significant are changes in the base-pair dynamics in the vicinity of 2AP. The differences have been characterized in NMR and UV spectroscopic studies on a 13-mer DNA double strand with either adenine (A) or 2AP in a central position.



*Angew. Chem. Int. Ed.*

DOI: 10.1002/anie.201001312

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