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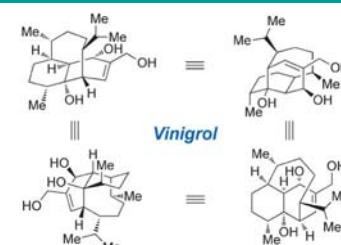


Total Synthesis

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

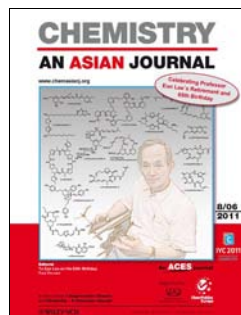
Synthetic Studies Inspired by Vinigrol

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](https://doi.org/10.1002/chem.201000916)

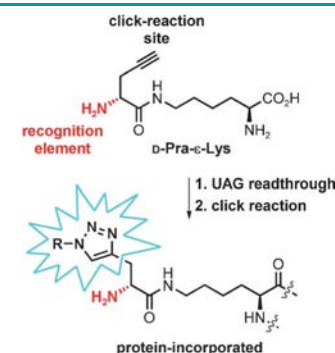


Pyrrolysine

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

N⁶-(2-(R)-Propargylglycyl)lysine as a Clickable Pyrrolysine Mimic

Clickable corycat! 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](https://doi.org/10.1002/asia.201000205)

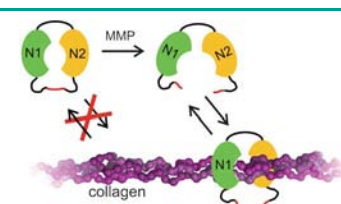


Protein Engineering

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

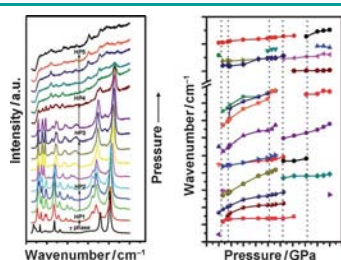
Protease-Activatable Collagen Targeting Based on Protein Cyclization

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](https://doi.org/10.1002/cbic.201000223)



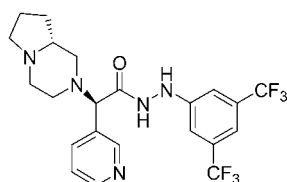
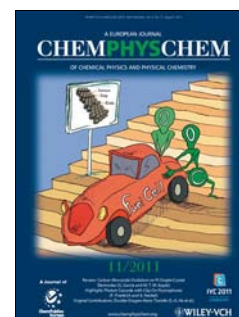
ChemPhysChem
DOI: 10.1002/cphc.201000341

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 WO₃ Nanowires

Pressure-induced structural transition in WO₃ nanowires is followed by Raman spectroscopic analysis (see picture). Upon increasing the applied pressure, WO₃ 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 WO₃. 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.



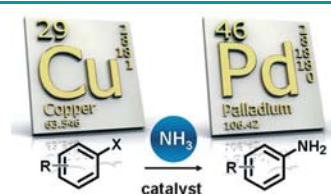
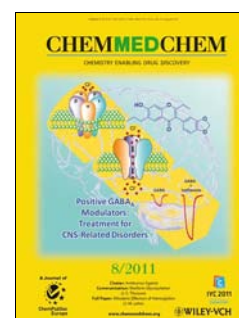
ChemMedChem
DOI: 10.1002/cmdc.201000185

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. Perdona', 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.



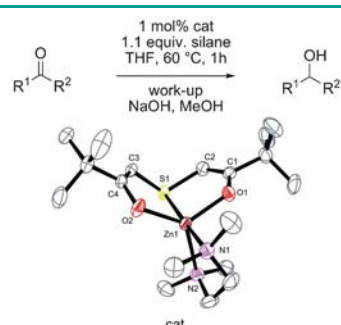
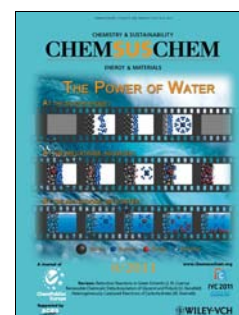
ChemSusChem
DOI: 10.1002/cssc.201000145

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.



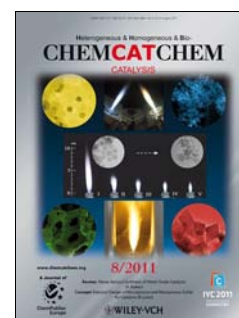
ChemCatChem
DOI: 10.1002/cctc.201000036

Homogeneous Catalysis

N. A. Marinos, 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.



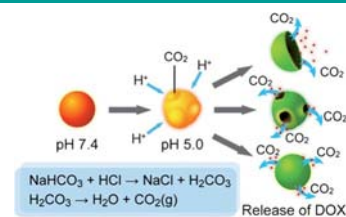


Drug Delivery

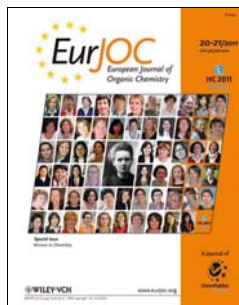
C. J. Ke, T. Y. Su, H. L. Chen, H. L. Liu, W. L. Chiang,
P. C. Chu, Y. Xia,* H. W. Sung*

Smart Multifunctional Hollow Microspheres for the Quick Release of Drugs in Intracellular Lysosomal Compartments

Prepared to self-destruct: When poly(D,L-lactic-co-glycolic acid) (PLGA) hollow microspheres containing NaHCO_3 entered the endocytic organelles of a live cell, the NaHCO_3 in the aqueous core reacted with protons that infiltrated from the compartment to generate CO_2 gas. The evolution of CO_2 bubbles led to the formation of small holes in the PLGA shell and thus rapid release of the encapsulated drug doxorubicin (DOX; see picture).



Angew. Chem. Int. Ed.
DOI: 10.1002/anie.201102852

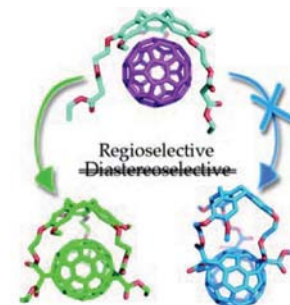


Fullerene Chirality

A. Kraszewska, P. Rivera-Fuentes, G. Rapenne, J. Crassous,
A. G. Petrovic, J. L. Alonso-Gómez, E. Huerta, F. Diederich,
C. Thilgen*

Regioselectivity in Tether-Directed Remote Functionalization – The Addition of a Cyclotrimeratrylene-Based Trimalonate to C_{60} Revisited

Triple Bingel addition of enantiomerically pure cyclotrimeratrylene-tethered trimalonates to C_{60} was reinvestigated with regard to the regio- and diastereoselectivity. Electronic and vibrational circular dichroism studies showed that the addition proceeds regioselectively, yielding *trans*-3,*trans*-3,*trans*-3 tris-adducts, contrary to earlier reports.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.201000396

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