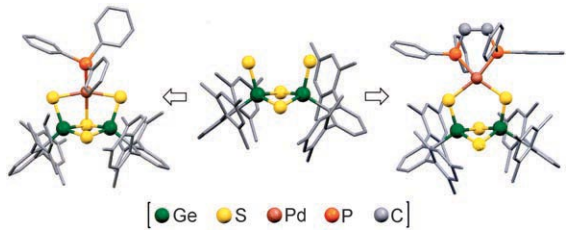
SPOTLIGHTS …

Ge/Pd/S Clusters

T. Matsumoto, Y. Matsui, M. Ito, K. Tatsumi*

Synthesis of *syn*-2,4-Dimercapto-1,3,2,4-dithiadigermetane and Its Application to Ge_2PdS_4 Cluster Synthesis

Chem. Asian J.
DOI: **10.1002/asia.200700355**



Group work: *syn*-[DmpGe(SH)(μ-S)$_2$-GeDmp(SH)] (Dmp = 2,6-dimesitylphenyl) is a new entry to mercaptogermanes, synthesized from a series of polythiadigermabicyclo[*x*.1.1]alkanes (x = 3–5) obtained by sulfurization of $DmpGeH_3$ in melted elemental sulfur. The mercaptogermane is a good precursor to heteronuclear complexes composed of Ge and transition metals.

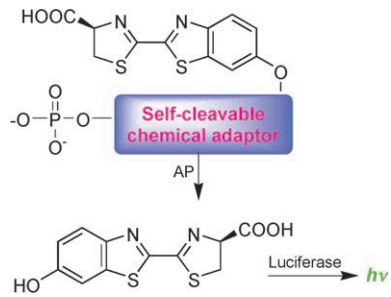
Bioluminescent Substrates

W. Zhou,* C. Andrews,* J. Liu, J. W. Shultz, M. P. Valley, J. J. Cali, E. M. Hawkins, D. H. Klaubert, R. F. Bulleit, K. V. Wood

Self-Cleavable Bioluminogenic Luciferin Phosphates as Alkaline Phosphatase Reporters

ChemBioChem
DOI: **10.1002/cbic.200700644**

After glow. Reactive chemical adaptors were used to stabilize bioluminogenic phosphates for monitoring alkaline phosphatase (AP) activity (see scheme). The 1,6-elimination based luciferin phosphate exhibited ultrasensitive ability to detect ~10^{-22} mol of AP enzyme in a homogeneous solution, and picograms of protein in an immunoassay.

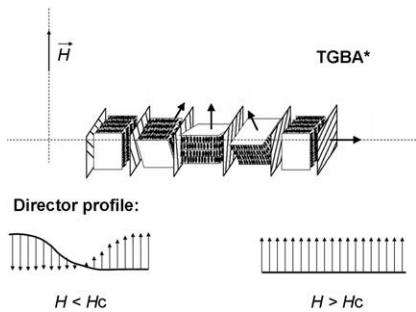


Liquid Crystals

V. Domenici,* C. A. Veracini, V. Novotná, R. Y. Dong

Twist Grain Boundary Liquid-Crystalline Phases under the Effect of the Magnetic Field: A Complete ^2H and ^{13}C NMR Study

ChemPhysChem
DOI: **10.1002/cphc.200700647**



Magnetic twist: A complete ^2H and ^{13}C NMR study on a wide range of TGBA* and TGBC* phases reveals a peculiar effect of the external magnetic field in winding and deforming the TGB supramolecular structure (see picture).

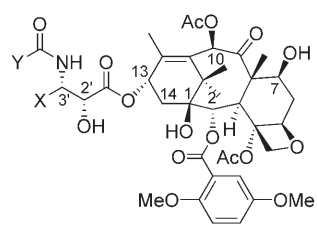
QSAR Studies

R. P. Verma,* C. Hansch

Taxane Analogues against Breast Cancer: A Quantitative Structure–Activity Relationship Study

ChemMedChem
DOI: **10.1002/cmdc.200700278**

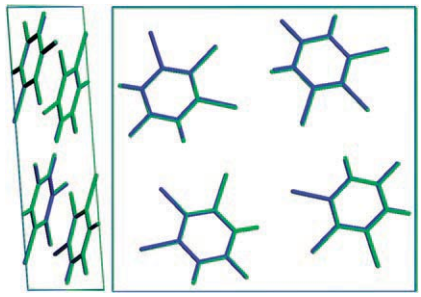
Revealing relationships: Quantitative structure–activity relationships were developed for four series of taxane derivatives with respect to their inhibitory activities against breast cancer cells. The activities of these taxane derivatives are largely dependent either on their hydrophobicity or the hydrophobic/molar refractivity descriptor of their substituents.



EurJIC European Journal of Inorganic Chemistry

Crystal Structure Prediction

A crystal ball? A new method for crystal structure prediction combines a tailor-made force field with a density functional theory method incorporating a van der Waals correction for dispersive interactions. In a blind test, the method predicts the correct crystal structure for all four compounds, one of which is a cocrystal. The picture shows the predicted structure of one of the compounds in green and the experimental structure in blue.

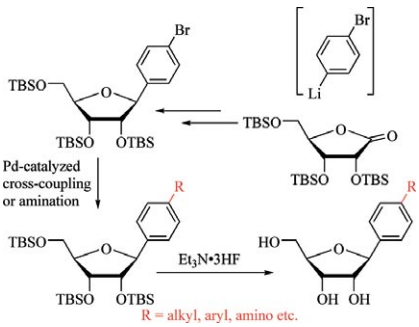


M. A. Neumann, F. J. J. Leusen,* J. Kendrick

A Major Advance in Crystal Structure Prediction

Angew. Chem. Int. Ed.
DOI: **10.1002/anie.200704247**

Benzene C-Ribonucleosides



A modular and efficient synthesis of a series of diverse 4- and 3-substituted benzene and aniline C-ribonucleosides was developed on the basis of Pd-catalyzed cross-coupling and amination reactions of protected bromophenyl C-nucleosides.

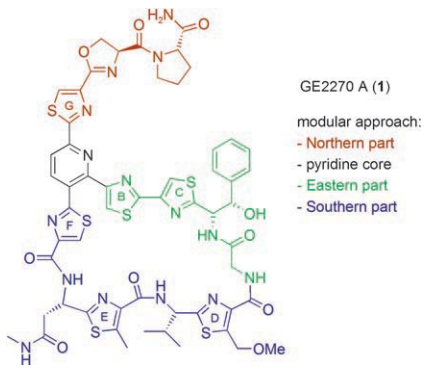
M. Štefko, R. Pohl, B. Klepetářová, M. Hocek*

A Modular Methodology for the Synthesis of 4- and 3-Substituted Benzene and Aniline C-Ribonucleosides

Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200701168**

Antibiotics

A modular assembly of the individual thiazole fragments to the central pyridine core was achieved by regioselective cross-coupling reactions giving access to the title compound (see graphic) in an overall yield of 4.8% over 20 steps. The successful implementation of orthogonal metalation and protecting group strategies further contributed to the brevity of the total synthesis.



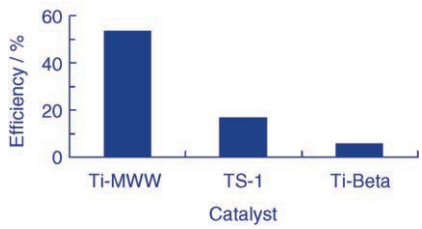
O. Delgado, H. M. Müller, T. Bach*

Concise Total Synthesis of the Thiazolyl Peptide Antibiotic GE2270 A

Chem. Eur. J.
DOI: **10.1002/chem.200701823**

Heterogeneous Catalysis

Ti time for dioxane: Oxidation of 1,4-dioxane with aqueous H_2O_2 over various titanosilicates was investigated. Use of Ti-MWW as catalyst leads to much higher conversions than with TS-1 and Ti-Beta under solvent-free conditions and is accounted for by a radical mechanism. The number of active intermediate Ti species is highly dependent on the substrate, solvent, and titanosilicate used.



W. Fan, Y. Kubota, T. Tatsumi*

Oxidation of 1,4-Dioxane over Ti-MWW in the Presence of H_2O_2

ChemSusChem
DOI: **10.1002/cssc.200700003**

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