

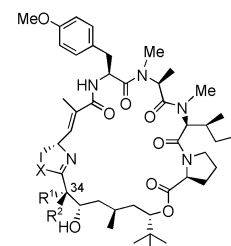


Total Synthesis

Y. Numajiri, T. Takahashi,* T. Doi*

Total Synthesis of (–)-Apratoxin A, 34-Epimer, and Its Oxazoline Analogue

18-step plan: Total synthesis of the marine natural product apratoxin A and related synthetic analogues is described. Apratoxin A is prepared with an overall yield of 18% through a synthetic route with a longest linear sequence of eighteen steps.



apratoxin A (X = S, R¹ = Me, R² = H)
34-epi apratoxin A (X = S, R¹ = H, R² = Me)
oxazoline analogue (X = O, R¹ = Me, R² = H)

Chem. Asian J.
DOI: 10.1002/asia.200800365

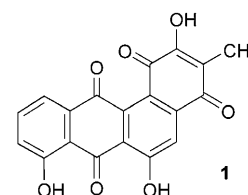


Biosynthesis

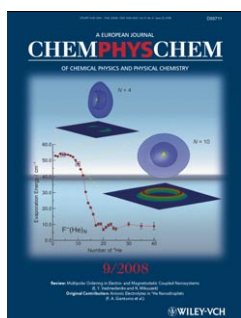
F. Lombó, M. S. Abdelfattah, A. F. Braña, J. A. Salas, J. Rohr,* C. Méndez*

Elucidation of Oxygenation Steps during Ovidomycin Biosynthesis and Generation of Derivatives with Increased Antitumor Activity

Eight different angucyclinones have been produced in *Streptomyces albus* by combining three oxygenase genes together with the polyketide synthase and cyclases genes from the ovidomycin biosynthetic gene cluster from *Streptomyces antibioticus* ATCC 11891. Three of these angucyclinones show higher antitumor activity than ovidomycin (**1**).



ChemBioChem
DOI: 10.1002/cbic.200800425

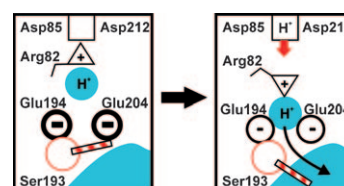


Solar Cells

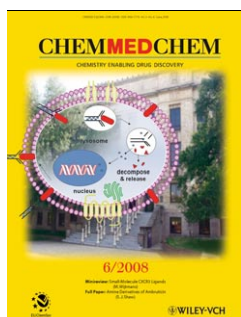
S. Wolf, E. Freier, K. Gerwert*

How Does a Membrane Protein Achieve a Vectorial Proton Transfer Via Water Molecules?

Pathway to extracellular bulk water: A mechanism for the proton transfer from a protein-bound protonated water cluster to the bulk water directed by side chains in bacteriorhodopsin is presented. During the photocycle, a transient protonation of Glu194/204 leads to the breaking of a hydrogen bond to Ser193, opening the water cluster to the extracellular water and leading to the proton release.



ChemPhysChem
DOI: 10.1002/cphc.200800703

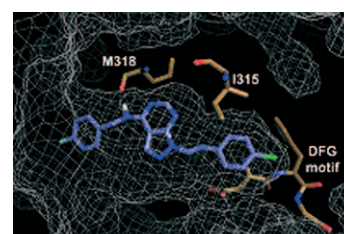


Antileukemia Agents

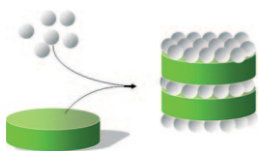
M. A. Santucci, V. Corradi, M. Mancini, F. Manetti, M. Radi, S. Schenone,* M. Botta

C6-Unsubstituted Pyrazolo[3,4-d]pyrimidines Are Dual Src/Abl Inhibitors Effective against Imatinib Mesylate Resistant Chronic Myeloid Leukemia Cell Lines

Docking studies with the Bcr–Abl T315I mutant suggest that C6-unsubstituted pyrazolo[3,4-d]pyrimidines engage the Abl kinase domain in a manner that avoids steric clashes with the gatekeeper residue. The selected compounds affect the proliferation and survival of cells with the T315I mutation which do not respond to dual Src/Abl inhibitors.



ChemMedChem
DOI: 10.1002/cmdc.200800320



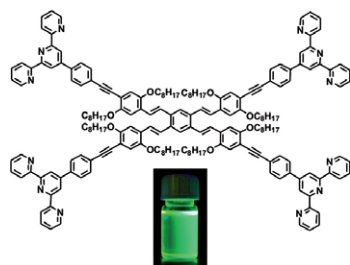
Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.200800668

Hybrid Assembly

J. H. Lee, H. J. Nam, S. W. Rhee, D.-Y. Jung*

Hybrid Assembly of Layered Double Hydroxide Nanocrystals with Inorganic, Polymeric and Biomaterials from Micro- to Nanometer Scales

Nanosized PMMA beads were uniformly assembled on LDH nanocrystals through electrostatic interaction to form homogeneous polymer-LDH nanocomposites with conformal polymer layers.



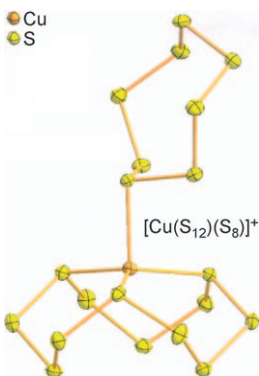
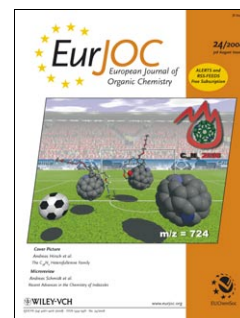
Eur. J. Org. Chem.
DOI: 10.1002/ejoc.200800857

π-Conjugated Terpyridines

A. Winter, C. Friebe, M. D. Hager, U. S. Schubert*

Synthesis of Rigid π-Conjugated Mono-, Bis-, Tris-, and Tetrakis(terpyridine)s: Influence of the Degree and Pattern of Substitution on the Photophysical Properties

π-Conjugated oligo(terpyridine)s have been synthesized and characterized as new supramolecular templates for potential OLED applications. The photophysical properties of the materials in solution and in the solid state reveal strong influences both of the numbers of terpyridine moieties attached to the central phenyl cores and of the geometries of the compounds.



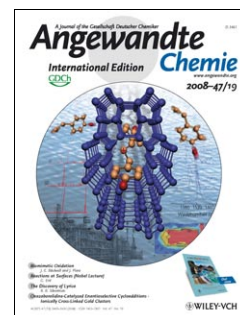
Angew. Chem. Int. Ed.
DOI: 10.1002/anie.200804021

Cyclosulfur Ligands

G. Santiso-Quinones, R. Brückner, C. Knapp, I. Dionne, J. Passmore, I. Krossing*

Cyclododecasulfur as a Ligand: From Gas-Phase Experiments to the Crystal Structures of $[\text{Cu}(\text{S}_{12})(\text{S}_8)]^+$ and $[\text{Cu}(\text{S}_{12})(\text{CH}_2\text{Cl}_2)]^+$

Just say S: Although gas-phase mass spectrometry experiments suggested the existence of Cu^I complexes with cyclosulfur ligands, such complexes had never been detected in the condensed phase. The use of “naked” Cu^I sources with weakly coordinating anions enables the preparation of the first cyclododecasulfur complexes of any metal.



ChemSusChem
DOI: 10.1002/cssc.200800197

Glycerol Conversion

A. Behr,* J. Leschinski, C. Awungacha, S. Simic, T. Knoth

Telomerization of Butadiene with Glycerol: Reaction Control through Process Engineering, Solvents, and Additives

Butadiene, telomer, glycerol: The telomerization of butadiene with glycerol leads to unsaturated glycerol ethers that can be used as detergents, emulsifiers, defoamers, or diluents. Two important considerations for this reaction are 1) control of the selectivity and 2) reduction of decomposition and leaching of the homogeneous noble-metal catalyst. The telomerization reaction was optimized by studying the influence of different solvents and additives.

