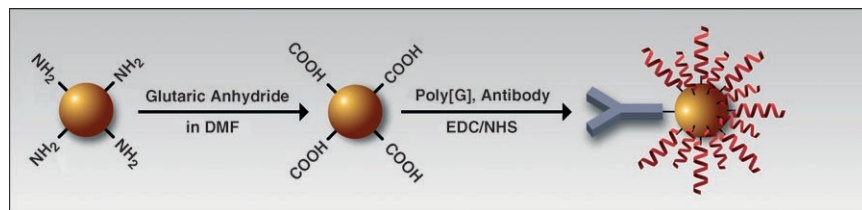


Nanotechnology

J. Wang, G. Liu, Y. Lin*

Electroactive Silica Nanoparticles for Biological Labeling



Making biosense: Electroactive poly(guanine)-functionalized silica nanoparticles have been synthesized and used as biological labels (see scheme). An electrochemical immunobiosensor based on such labels was developed, which utilizes a mediator-generated cat-

alytic reaction. This immunobiosensor is very sensitive for IgG detection (to a limit of 0.2 ng mL^{-1} or 1.3 pM), which was attributed to signal amplification from the poly(guanine)-functionalized silica nanoparticles and from the catalytic oxidation of guanine.

Small

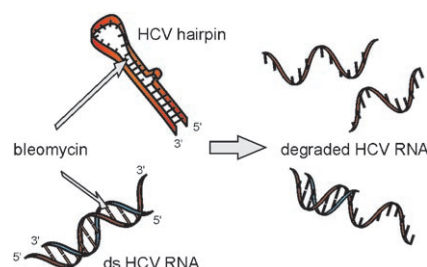
DOI: 10.1002/sml.200600189

Antivirals

B. Rakić, M. Brûlotte, Y. Rouleau, S. Bélanger, J. P. Pezacki*

Bleomycin is a Potent Small-Molecule Inhibitor of Hepatitis C Virus Replication

No translation. Bleomycin is known to bind to and degrade DNA and, to a lesser extent, RNA. Here we show that bleomycin can be used as an inhibitor of the hepatitis C virus (HCV) in cell culture. It intercalates into the secondary and tertiary structure of hepatitis C RNA and cuts the genomic RNA, thus preventing HCV protein translation in the viral life cycle. Bleomycin inhibits HCV at a concentration at which cellular DNA is unaffected.



ChemBioChem

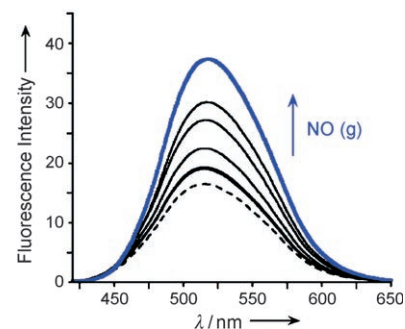
DOI: 10.1002/cbic.200600180

Fluorescence

M. H. Lim, C. Kuang, S. J. Lippard*

Nitric Oxide-Induced Fluorescence Enhancement by Displacement of Dansylated Ligands from Cobalt

NO turn on fluorescence. Two new cobalt complexes containing dansyl emitting groups were synthesized as turn-on fluorescent nitric oxide (NO) sensors. Upon addition of NO, the quenched fluorescence of the dansyl group by cobalt is restored. The fluorescent NO response of both complexes in CH_3CN is faster than that of other known cobalt-based sensors.



ChemBioChem

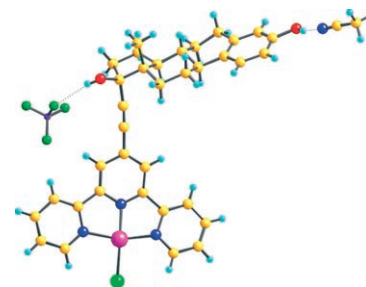
DOI: 10.1002/cbic.200600042

DNA Recognition

M. J. Hannon,* P. S. Green, D. M. Fisher, P. J. Derrick, J. L. Beck, S. J. Watt, S. F. Ralph, M. M. Sheil, P. R. Barker, N. W. Alcock, R. J. Price, K. J. Sanders, R. Pither, J. Davis, A. Rodger*

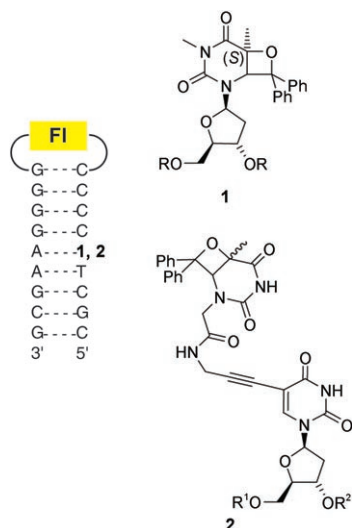
An Estrogen-Platinum Terpyridine Conjugate: DNA and Protein Binding and Cellular Delivery

A steroidal targeting motif: A platinum metal complex in which terpyridine joins estradiol (via an ethynyl link) to a platinum with a labile ligand (chloride) has been designed, synthesised and its X-ray crystal structure determined (see figure). A whole cell estrogen receptor positive cell (MCF-7) confirms binding of both EEtpy and PtEEtpy to the estrogen receptor in cells.



Chem. Eur. J.

DOI: 10.1002/chem.200501012



Excess electron transfer through DNA was probed with DNA hairpins containing a flavin electron donor in the head and two different oxetanes electron acceptors **1** and **2** in the stem of the hairpin (see scheme).

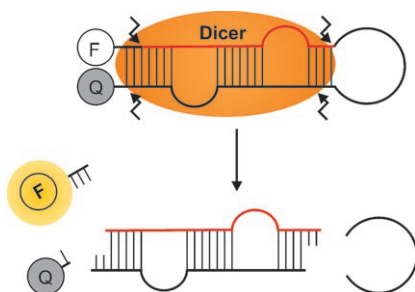
*S. Breeger, M. von Meltzer, U. Hennecke, T. Carell**

Investigation of the Pathways of Excess Electron Transfer in DNA with Flavin-Donor and Oxetane-Acceptor Modified DNA Hairpins

Chem. Eur. J.

DOI: 10.1002/chem.200600074

Micro RNAs



Maturation process: Micro RNAs represent a recently (re-) discovered group of regulators of gene expression. Ligands of the inactive precursor RNAs (pre-miRNAs) inhibit the formation of the respective miRNAs. Such ligands could potentially be used as tools in biomedicine. A doubly labeled RNA beacon allows simple screening of potential pre-miRNA binders.

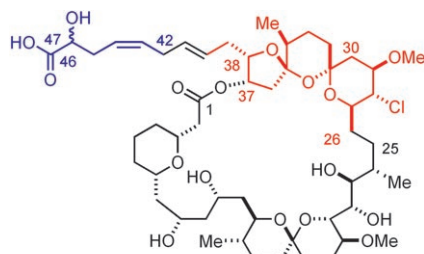
*B. P. Davies, C. Arenz**

A Homogenous Assay for Micro RNA Maturation

Angew. Chem. Int. Ed.

DOI: 10.1002/anie.200601332

Natural Products (1)



one of the possible stereostructures of spirastrellolide A

North and South: The unique biological activity of the natural product spirastrellolide A renders it an attractive lead for anticancer agents. The southern hemisphere (C1–C25) and the northern hemisphere (including the chlorinated [5,6,6]-bis-spiroacetal entity and the lateral C42–C47 chain) are prepared by concise and efficient routes. Consequently, the entire carbon framework of this potent phosphatase inhibitor, which contains 21 chiral centers, is prepared in an optically active form, and an important step toward structure determination by total synthesis is achieved.

A. Fürstner, M. D. B. Fenster, B. Fasching, C. Godbout, K. Radkowski*

Toward the Total Synthesis of Spirastrellolide A. Part 1: Strategic Considerations and Preparation of the Southern Domain

Angew. Chem. Int. Ed.

DOI: 10.1002/anie.200601654

On these pages, we feature the excellent work in chemistry that has been recently reported in our sister journals *ChemBioChem*, *Angewandte Chemie*, or *Chemistry—A European Journal*.

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the Wiley InterScience® platform. Please visit www.interscience.wiley.com for further details.