SPOTLIGHTS …

Amination

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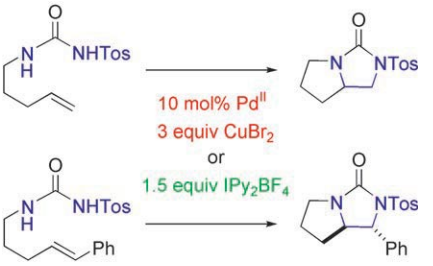
J. M. González, J. Streuff, M. Nieger

Intramolecular Diamination of Alkenes with Palladium(II)/Copper(II) Bromide and IPy_2BF_4: The Role of Halogenated Intermediates

Chem. Asian J.
DOI: **10.1002/asia.200700373**



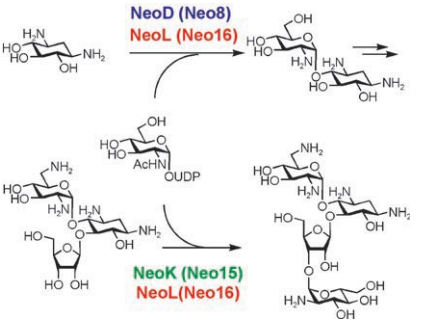
Complementary procedures for the diamination of terminal and internal alkenes with tethered ureas and related groups as the nitrogen source provide access to cyclic urea, sulfamide, and guanidine derivatives. Opposite stereochemical pathways were identified for the diamination of terminal alkenes with IPy_2BF_4 and under palladium catalysis with the reoxidant $CuBr_2$, but identical ones were found for internal alkenes.

Biosynthesis

K. Yokoyama, Y. Yamamoto,
F. Kudo, T. Eguchi*

Involvement of Two Distinct *N*-Acetylglucosaminyltransferases and a Dual-Function Deacetylase in Neomycin Biosynthesis

ChemBioChem
DOI: **10.1002/cbic.200700717**



A new enzyme family: The glycosylation steps in the biosynthesis of neomycin were clarified through recombinant enzyme assays. NeoD catalyzes the first transglucosaminylation, and NeoK catalyzes the second, while NeoL catalyzes both deacetylations. We found that NeoK and its homologous proteins constitute a novel glycosyltransferase family.

Host–Guest Complexes

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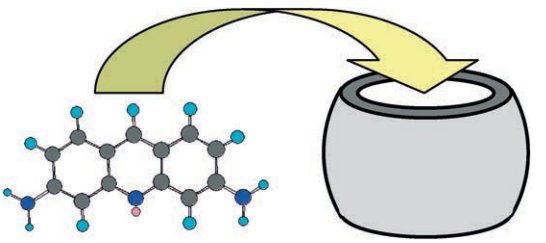
H. Garcia*

Complexation and Fluorescence of Tricyclic Basic Dyes Encapsulated in Cucurbiturils

ChemPhysChem
DOI: **10.1002/cphc.200700735**



Encapsulating cucurbiturils: Tricyclic dyes can be inserted into cucurbiturils to form host–guest complexes (see figure). These complexes vary in stoichiometry, depending on the cucurbituril involved. The stoichiometry of the complex plays a major role in the photophysical behaviour of the dyes.

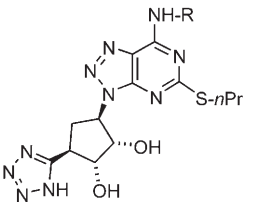
Receptor Antagonist

H. Ye, C. Chen, H.-C. Zhang,*
B. Haertlein, T. J. Parry,
B. P. Damiano, B. E. Maryanoff*

Carba-nucleosides as Potent Antagonists of the Adenosine 5′-Diphosphate (ADP) Purinergic Receptor ($P2Y_{12}$) on Human Platelets

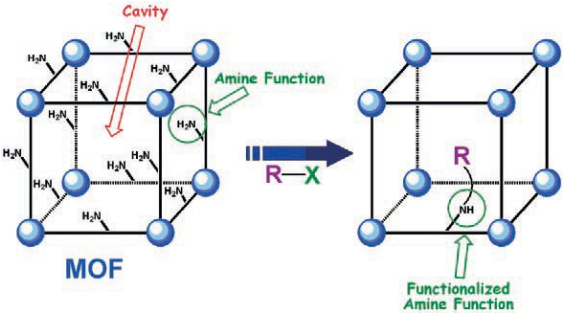
ChemMedChem
DOI: **10.1002/cmdc.200700310**

Antagonizing a key platelet purinergic receptor. The wide clinical use of clopidogrel has highlighted the importance of platelet ADP receptor ($P2Y_{12}$) antagonists for preventing adverse cardiovascular events. We synthesized a series of novel carba-nucleosides and examined their usefulness as $P2Y_{12}$ antagonists. Some tetrazole derivatives were high-affinity receptor antagonists and potent inhibitors of human platelet aggregation.



EurJOC European Journal of Organic Chemistry

Post-Synthetically Modified MOFs



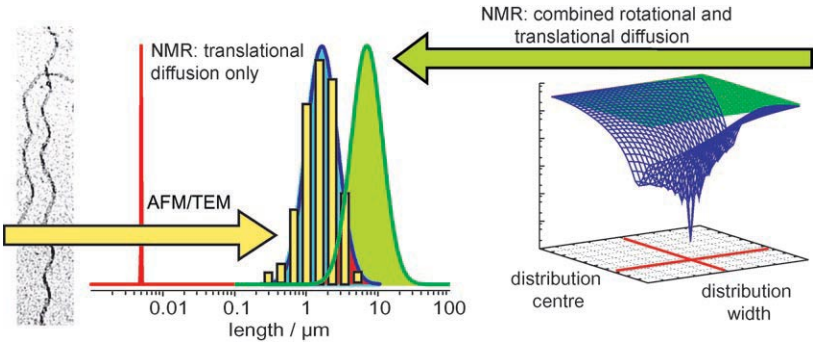
A new metal–organic framework with amino groups oriented inside the pores has been synthesized. The post-synthetic modification of the cavities in this MOF with two different functionalities is for the first time clearly evidenced by X-ray crystallography. The cavities of the MOF can be transformed without modifying the original 3D structure of the MOF.

J. S. Costa, P. Gamez,* C. A. Black, O. Roubeau, S. J. Teat, J. Reedijk

Chemical Modification of a Bridging Ligand Inside a Metal–Organic Framework while Maintaining the 3D Structure

Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200800002**

Amyloid Fibrils



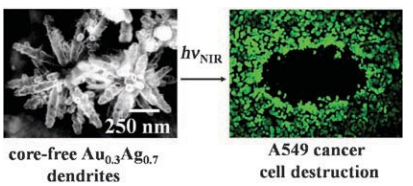
Telling fibrils: Diffusion data obtained by solution NMR spectroscopy from flexible regions of amyloid fibrils for both rotational and translation diffusion combined is of similar magnitude to that measured using AFM and TEM (see picture). Fibrils in solution are calculated to be somewhat longer on average than those deposited on surfaces for microscopy experiments, which can be partially attributed to the sensitivity of fibrils to fracture.

A. J. Baldwin, S. J. Anthony-Cahill, T. P. J. Knowles, G. Lippens, J. Christodoulou, P. D. Barker, C. M. Dobson*

Measurement of Amyloid Fibril Length Distributions by Inclusion of Rotational Motion in Solution NMR Diffusion Measurements

Angew. Chem. Int. Ed.
DOI: **10.1002/anie.200703915**

Gold–Silver Nanostructures



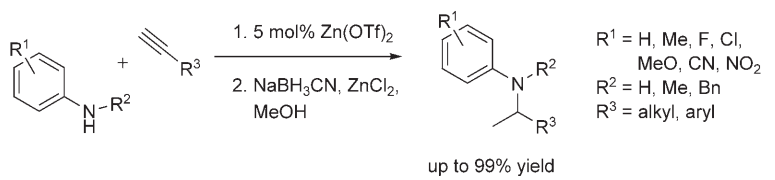
Gold–silver therapy: Core-free Au_xAg_{1-x} nanostructured dendrites have been developed that show absorption in the NIR region, exhibiting potential as photothermal therapeutic agents. An effective photothermal capability was found in hollow $Au_{0.3}Ag_{0.7}$ nanostructured dendrites treated with A549 lung cancer cells.

K.-W. Hu, C.-C. Huang, J.-R. Hwu, W.-C. Su, D.-B. Shieh, C.-S. Yeh*

A New Photothermal Therapeutic Agent: Core-Free Nanostructured Au_xAg_{1-x} Dendrites

Chem. Eur. J.
DOI: **10.1002/chem.200800114**

Homogeneous Catalysis



Zinc green: Easily available zinc salts are active and practical catalysts for the intermolecular hydroamination of terminal alkynes with anilines. The reactions proceed in the presence of $Zn(OTf)_2$ with excellent regioselectivity (>99%) and with high yields. Moreover, difficult functional groups such as nitro and cyano substituents are tolerated by the catalyst.

K. Alex, A. Tillack, N. Schwarz, M. Beller*

General Zinc-Catalyzed Intermolecular Hydroamination of Terminal Alkynes

ChemSusChem
DOI: **10.1002/cssc.200700160**

