SPOTLIGHTS …

Molecular Rotations

S. Nishihara, T. Akutagawa,* D. Sato, S. Takeda, S.-i. Noro, T. Nakamura*

Multirotations of (Anilinium)([18]Crown-6) Supramolecular Cation Structure in Magnetic Salt of $[Ni(dmit)_2]^-$

Chem. Asian J.
DOI: **10.1002/asia.200700010**

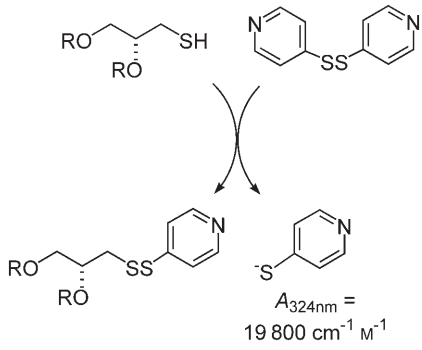
Round and round we go: (Anilinium)-([18]crown-6) dynamic supramolecular cations undergo different modes of rotation in the solid state. The 180° flip-flop motion of anilinium and the rotation of [18]crown-6 were confirmed from solid-state NMR spectra. Multimolecular rotations of different motional freedoms were also observed simultaneously.

Enzyme Catalysis

Y. Liu, C. Mihai, R. J. Kubiak, M. Rebecchi, K. S. Bruzik*

Phosphorothiolate Analogues of Phosphatidylinositols as Assay Substrates for Phospholipase C

ChemBioChem
DOI: **10.1002/cbic.200700061**



Unnaturally superior. Analogues of all naturally occurring phosphatidylinositols in which the scissile P–O bond is replaced by a P–S bond have been synthesized and shown to be useful assay substrates for the determination of phosphatidylinositol-specific phospholipase C activity.

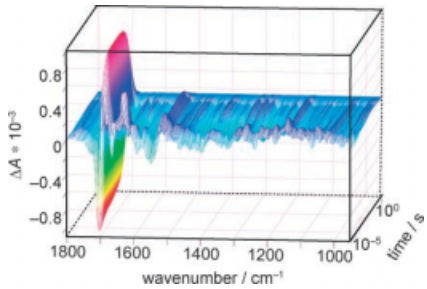
Proton Transfer

T. Majerus, T. Kottke, W. Laan, K. Hellingwerf, J. Heberle*

Time-Resolved FT-IR Spectroscopy Traces Signal Relay within the Blue-Light Receptor AppA

ChemPhysChem
DOI: **10.1002/cphc.200700248**

Revealing intermediates: Time-resolved step-scan FT-IR difference experiments (see figure) on flavin-containing photoreceptors reveal photocycle intermediates which have been spectrally silent in previous UV/Vis experiments on Appa–BLUF. The data indicate blue-light induced proton transfer or a change in H-bonding in the vicinity of a carboxylic side chain which represent an important step in signal transfer from the chromophore to the protein surface.



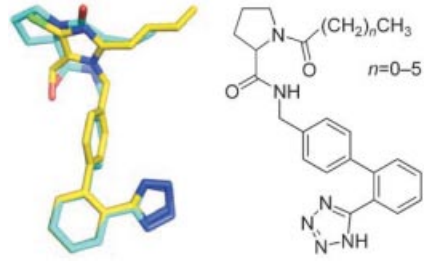
Virtual Screening

C. Lamanna, A. Catalano, A. Carocci, A. Di Mola, C. Franchini,* V. Tortorella, P. M. L. Vanderheyden, M. S. Sinicropi, K. A. Watson, S. Sciabola

AT_1 Receptor Ligands: Virtual-Screening-Based Design with TOPP Descriptors, Synthesis, and Biological Evaluation of Pyrrolidine Derivatives

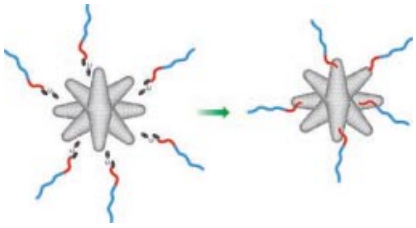
ChemMedChem
DOI: **10.1002/cmdc.200700082**

A virtual approach that uses TOPP 3D descriptors to explore the AT_1 receptor is presented. It features a new series of sartan analogues (shown), which were synthesized and biologically evaluated on CHO-hAT_1 cells stably expressing the human AT_1 receptor.



EurJIC European Journal of Inorganic Chemistry

Carbon Nanohorns



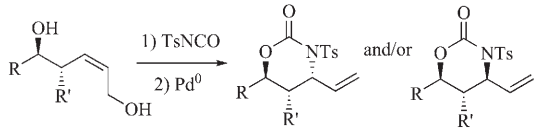
Taking the nanotube by the horn! The covalent functionalization of the newly discovered carbon nanohorns with well-defined homopolymers and block copolymers is described (see scheme). The synthesis and the properties of the above hybrid materials are elucidated using complementary techniques.

G. Mountrichas, S. Pispas,*
N. Tagmatarchis*

Grafting Living Polymers onto Carbon Nanohorns

Chem. Eur. J.
DOI: **10.1002/chem.200700770**

Pd-Catalyzed Cyclizations



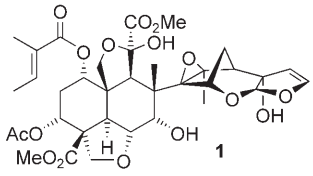
The Pd-catalyzed stereoselective cyclization of dicarbamates proceeded with 1,3-asymmetric induction under either thermodynamic or kinetic control to afford enantioselectively six-membered-ring cyclic carbamates. Calculations enabled us to rationalize the observed stereoselectivity.

G. Broustal, X. Ariza,
J.-M. Campagne,* J. Garcia,*
Y. Georges, A. Marinetti,
R. Robiette*

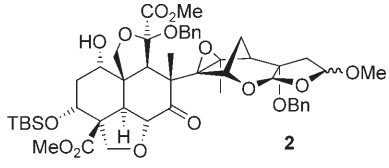
A Stereoselective Approach to 1,3-Amino Alcohols Protected as Cyclic Carbamates: Kinetic vs. Thermodynamic Control

Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200700503**

Total Synthesis



1



2

22 Years in the making: Azadirachtin (**1**) was synthesized for the first time by a highly convergent approach, utilizing a Claisen rearrangement and a radical cyclization as key steps. End-game strategies relied on intermediate **2**, which could be obtained by synthetic methods as well as by degradation of **1**. Bn = benzyl, TBS = *tert*-butyldimethylsilyl.

G. E. Veitch, E. Beckmann,
B. J. Burke, A. Boyer, S. L. Maslen,
S. V. Ley*

Synthesis of Azadirachtin: A Long but Successful Journey

Angew. Chem. Int. Ed.
DOI: **10.1002/anie.200703027**

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