

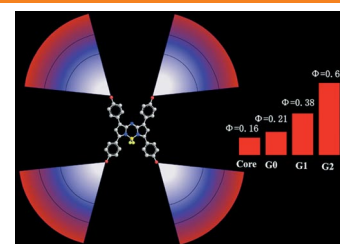


Light Harvesting

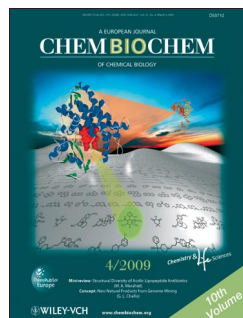
M. Yuan, X. Yin, H. Zheng, C. Ouyang, Z. Zuo, H. Liu, Y. Li*

Light Harvesting and Efficient Energy Transfer in Dendritic Systems: New Strategy for Functionalized Near-Infrared BF₂-Azadipyrrromethenes

Bright funnels: A series of dendritic systems, which are capable of funneling energy from the periphery to the core, have been synthesized. The photophysical properties of dendrimers have been determined. Selective excitation of the donor leads to an efficient energy transfer (>90%) to the acceptor. The approach provides a facile synthesis for the modification of near-infrared BF₂-Azadipyrrromethenes.



Chem. Asian J.
DOI: 10.1002/asia.200800391

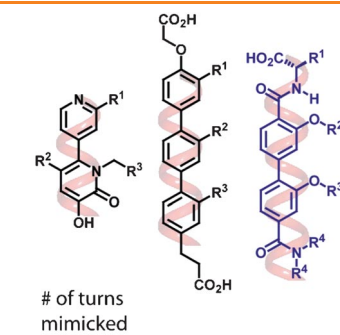


Peptidomimetics

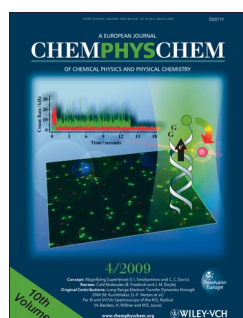
J. M. Rodriguez, L. Nevola, N. T. Ross, G.-i. Lee, A. D. Hamilton*

Synthetic Inhibitors of Extended Helix-Protein Interactions Based on a Biphenyl 4,4'-Dicarboxamide Scaffold

Turn Bak: We present rationally designed scaffolds that mimic the spatial projection of the *i*, *i*+4, *i*+7, and *i*+11 residues of an α -helix. A library of biphenyl derivatives was shown by competition fluorescence polarization and ITC to mimic Bak and disrupt the Bak/Bcl-x_L protein-protein interaction. ¹⁵N HSQC experiments confirmed that the surface of Bcl-x_L normally occupied by Bak was the target area of our new synthetic inhibitors.



of turns mimicked
1 2 3
ChemBioChem
DOI: 10.1002/cbic.200800715

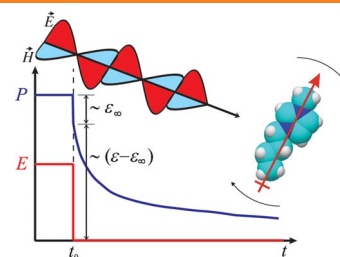


Ionic Liquids

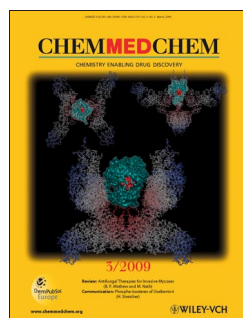
J. Hunger, A. Stoppa, S. Schrödle, G. Heftner, R. Buchner*

Temperature Dependence of the Dielectric Properties and Dynamics of Ionic Liquids

No solo dancers: The temperature dependence of dielectric spectra suggests that the lower-frequency relaxation dominating the dynamics of imidazolium-based room temperature ionic liquids cannot be solely due to independent rotational diffusion of the cations (see picture), but must also include cooperative motions of the surrounding particles.



ChemPhysChem
DOI: 10.1002/cphc.200800483

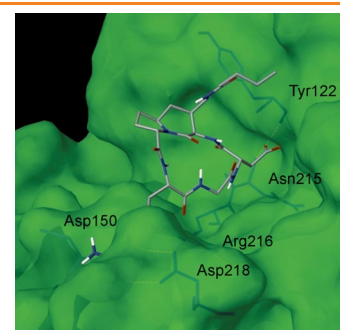


Peptidomimetics

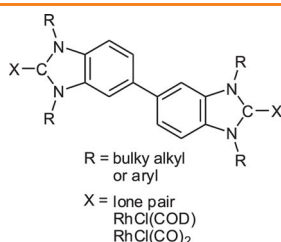
L. Manzoni,* L. Belvisi,* D. Arosio, M. Civera, M. Pilkington-Miksa, D. Potenza, A. Caprini, E. M. V. Araldi, E. Monferini, M. Mancino, F. Podestà, C. Scolastico

Cyclic RGD-Containing Functionalized Azabicycloalkane Peptides as Potent Integrin Antagonists for Tumor Targeting

Vitronectin receptors $\alpha_3\beta_3$ and $\alpha_5\beta_5$ have emerged as potential therapeutic targets for the treatment of osteoporosis, restenosis, ocular disease, tumor-induced angiogenesis, metastasis, and sickle-cell anemia. Among a collection of compounds, a new potent integrin antagonist was synthesized, and its binding toward the $\alpha_3\beta_3$ and $\alpha_5\beta_5$ receptors was evaluated. This molecule is a suitable candidate as a vector for therapeutics and diagnostics.



ChemMedChem
DOI: 10.1002/cmdc.200800422



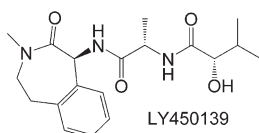
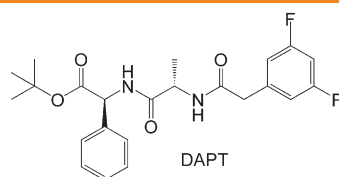
Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.200801188

N-Heterocyclic Carbenes

J. A. V. Er, A. G. Tennyson, J. W. Kamplain, V. M. Lynch, C. W. Bielawski*

Synthesis and Study of 5,5'-Bibenzimidazolylidenes and Their Bimetallic Complexes

Bis(carbene)s featuring two N-heterocyclic carbenes annulated to a common biphenyl linker have been synthesized and characterized. A variety of bimetallic Rh complexes were prepared with these ligands and the degree of communication between the two metal centers was evaluated electrochemically and spectroscopically, and compared with a series of monometallic analogues.



Angew. Chem. Int. Ed.
DOI: 10.1002/anie.200802808

Medicinal Chemistry

R. Jakob-Roetne,* H. Jacobsen*

Alzheimer's Disease: From Pathology to Therapeutic Approaches

Mind how you go: The current strategies for the development of therapies for Alzheimer's disease are very diverse. Particular attention is given to the search for inhibitors (see picture for two examples) of the proteolytic enzyme β - and γ -secretase, which inhibits the cleavage of the amyloid precursor proteins into amyloid β peptides, from which the disease-defining deposits of plaque in the brains of Alzheimer's patients originates.



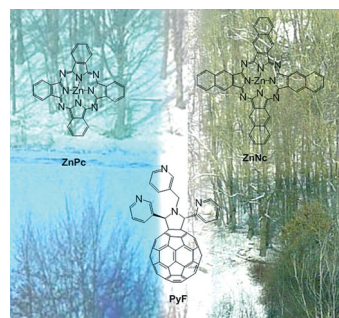
Chem. Eur. J.
DOI: 10.1002/chem.200802683

Powder X-ray Diffraction

L. A. Baumes,* M. Moliner, A. Corma*

Design of a Full-Profile-Matching Solution for High-Throughput Analysis of Multiphase Samples Through Powder X-ray Diffraction

Finding a clear route to new structures: The design of an adaptable time warping (ATW) methodology (see figure) for automatically, quickly, and reliably deciphering X-ray diffraction patterns is described.



ChemSusChem
DOI: 10.1002/cssc.200900029

Solar Cells

R. Koeppel,* D. Hoeglinger, P. A. Troshin, R. N. Lyubovskaya, V. F. Razumov, N. S. Sariciftci

Organic Solar Cells with Semitransparent Metal Back Contacts for Power Window Applications

A window to the world: Metal-organic complexes such as zincphthalocyanines and -naphthalocyanines show broad transmission windows in the visible spectral range and can be used together with fullerenes in semitransparent organic solar cells. By achieving a high transmission of visible light through silver electrodes, this property is exploited to construct organic solar cells that one can see through.



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