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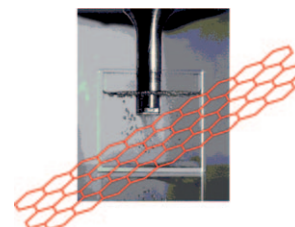


Nanomaterials

G. Cravotto,* P. Cintas*

Sonication-Assisted Fabrication and Post-Synthetic Modifications of Graphene-Like Materials

Sound—action! Inexpensive graphitic precursors can be transformed into invaluable graphenes (both single and few layers) using ultrasonication as the key step. This safe wet chemistry enables rapid dispersion and formation of stable colloids (see figure). This minireview unveils the rich and sound science behind the lab trick.



Chem. Eur. J.
DOI: 10.1002/chem.200903259

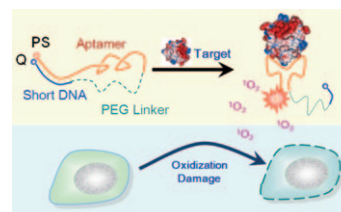


Photosensitizers

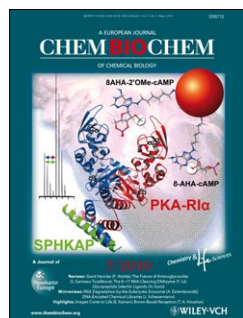
Z. Tang, Z. Zhu, P. Mallikaratchy, R. Yang, K. Sefah, W. Tan*

Aptamer–Target Binding Triggered Molecular Mediation of Singlet Oxygen Generation

Molecular mediation of singlet oxygen generation is demonstrated based on a newly engineered aptamer probe. Both ATP and human α -thrombin aptamers were engineered to testify to this design, and both showed that the production of singlet oxygen can be triggered and quantitatively mediated by the presence of target molecules. Moreover, both photosensitizer aptamer switch (PAS) probes showed excellent selectivity toward their targets. These results suggest that a PAS can serve as a smart photodynamic therapy agent.



Chem. Asian J.
DOI: 10.1002/asia.200900545

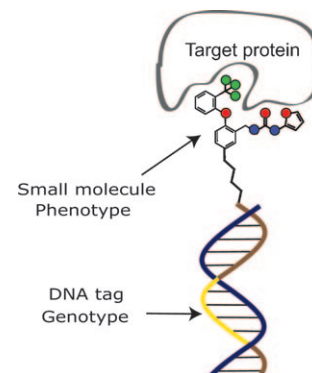


DNA-Encoded Chemical Library

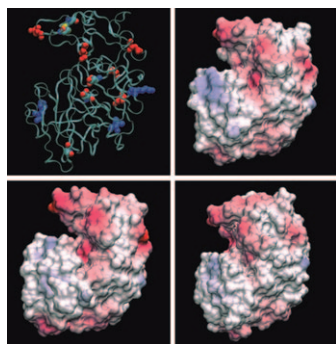
J. Scheuermann,* D. Neri*

DNA-Encoded Chemical Libraries: A Tool for Drug Discovery and for Chemical Biology

DNA decoder: The collection of organic molecules, individually coupled to distinctive oligonucleotides, is generally referred to as “DNA-encoded chemical library”. In full analogy to phage display technology, these libraries can be panned on immobilized target proteins and analyzed (before and after selection) by suitable “decoding” methods (for example, DNA-sequencing).



ChemBioChem
DOI: 10.1002/cbic.201000066

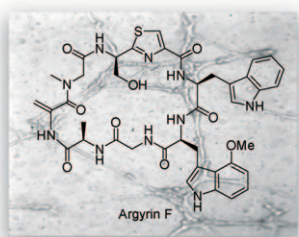
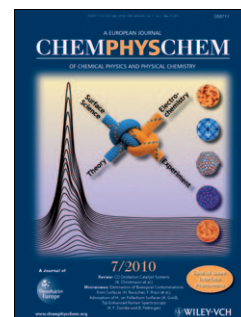


ChemPhysChem
DOI: 10.1002/cphc.200901038

Protein Encapsulation

L. Giussani, E. Fois, E. Gianotti, G. Tabacchi, A. Gamba, S. Coluccia*
On the Compatibility Criteria for Protein Encapsulation inside Mesoporous Materials

Compatible partners: A modelling study provides insight into the properties relevant for enzyme encapsulation inside mesoporous silica materials. Pepsin is negatively charged but its surface presents both positive and negative patches (see picture). Its structure has a significant rigidity and stability combined with atomic-scale flexibility. These factors could contribute to the production of bioinorganic hybrids.



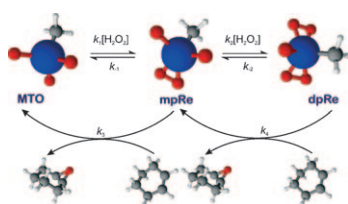
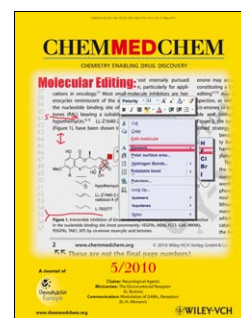
ChemMedChem
DOI: 10.1002/cmdc.201000080

Antitumor Agents

L. Bülow, I. Nickleit,* A.-K. Girbig, T. Brodmann, A. Rentsch, U. Eggert, F. Sasse, H. Steinmetz, R. Frank, T. Carlomagno, N. P. Malek, M. Kalesse*

Synthesis and Biological Characterization of Argyrin F

Argyirin F unfolds its promising antitumor activity twice: First through stabilization of the tumor suppressor protein p27 and second by vascular damage.



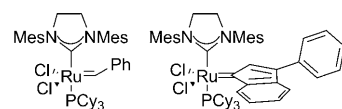
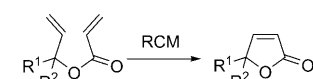
ChemSusChem
DOI: 10.1002/cssc.201000022

Catalysis

M. Crucianelli,* R. Saladino,* F. De Angelis

Methyltrioxorhenium Catalysis in Nonconventional Solvents: A Great Catalyst in a Safe Reaction Medium

Oxyfunctionalization reactions with methyltrioxorhenium (MTO), one of the most-studied organometallic rhenium derivatives, are the subject of this Review. A detailed account is given of the catalytic activity and selectivity of MTO in nonconventional solvents or under solvent-free conditions, using H₂O₂ or urea-hydrogen peroxide complex as primary oxidants.



ChemCatChem
DOI: 10.1002/cctc.200900282

Homogeneous Catalysis

B. Schmidt,* D. Geißler

Ring-Closing Metathesis of Acrylates: A Comparative Study

Closed for business: Second-generation benzylidene and indenylidene complexes both catalyze the ring-closing metathesis (RCM; see scheme) of acrylates to butenolides in good yields. The initial concentration of the substrate is a more important factor in the success of metathesis-based butenolide synthesis than the amount of catalyst used.



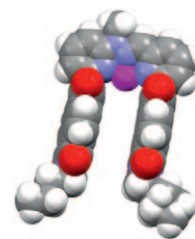


Dynamic Tweezers

S. Ulrich, A. Petitjean, J.-M. Lehn*

Metallo-Controlled Dynamic Molecular Tweezers: Design, Synthesis, and Self-Assembly by Metal-Ion Coordination

We report the design and synthesis of metallo-controlled dynamic molecular tweezers. The presence of large aromatic arms impacts the coordination-driven self-assembly due to additional supramolecular interactions. These dynamic devices can efficiently bind, in solution, coordinating and non-coordinating molecular substrates.



Eur. J. Inorg. Chem.
DOI: 10.1002/ejic.200901262

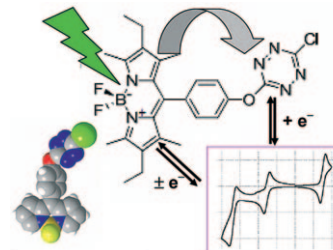


New BODIPY-Tetrazine Dyads

C. Dumas-Verdes, F. Miomandre,* E. Lépicier, O. Galangau, T. T. Vu, G. Clavier, R. Méallet-Renault, P. Audebert*

BODIPY-Tetrazine Multichromophoric Derivatives

The photophysical, electrochemical and spectroelectrochemical properties of new BODIPY-tetrazine dyads have been investigated. As expected, these dyes have very low fluorescence yields due mainly to intramolecular energy transfer between the BODIPY chromophore and the tetrazine moiety.



Eur. J. Org. Chem.
DOI: 10.1002/ejoc.200900874

New Journal

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