SPOTLIGHTS …

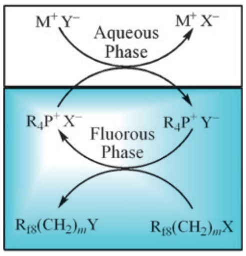
Phase-Transfer Catalysts

*D. Mandal, M. Jurisch, C. S. Consorti, J. A. Gladysz**

Ionic Transformations in Extremely Nonpolar Fluorous Media: Easily Recoverable Phase-Transfer Catalysts for Halide-Substitution Reactions

Chem. Asian J.
DOI: **10.1002/asia.200800138**

A salt for every phase: Fluorous solutions of alkyl halides $R_{f8}(CH_2)_mX$ ($R_{fn} = (CF_2)_{n-1}CF_3$; $m = 2, 3$; X = Cl, Br, I) are inert towards aqueous NaCl, NaBr, KI, KCN, and NaOAc, but substitution occurs in the presence of fluorous (biphasic conditions) or nonfluorous (triphasic conditions) phosphonium salts. The former may be recovered by precipitation onto teflon tape.



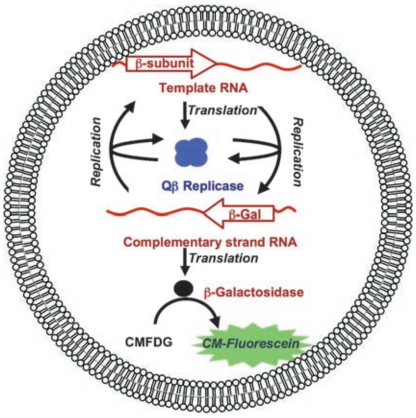
Artificial Cells

*H. Kita, T. Matsuura, T. Sunami, K. Hosoda, N. Ichihashi, K. Tsukada, I. Urabe, T. Yomo**

Replication of Genetic Information with Self-Encoded Replicase in Liposomes

ChemBioChem
DOI: **10.1002/cbic.200800360**

In-liposome self-encoding system: A simplified system in which genetic information is replicated by a self-encoded replicase was assembled in liposomes only with defined components. This system consists of just 144 gene products, which is comparable to the hypothetical minimal requirements, and has the potential to evolve by being compartmentalized in liposomes.



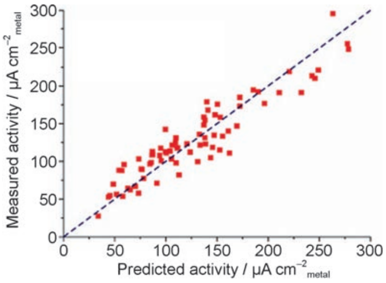
Catalysts

D. Wang, J. Lu, L. Zhuang**

Quantitative Property–Activity Relationship of PtRu/C Catalysts for Methanol Oxidation

ChemPhysChem
DOI: **10.1002/cphc.200800282**

Unravelling PtRu/C catalysts: When the quantitative structure–activity relationship (QSAR) is practically inaccessible, the quantitative property–activity relationship (QPAR) provides an alternative approach to understanding the behavior of complicated catalytic systems (see scheme). A QPAR is developed for PtRu/C that can not only analyze a given catalyst, but also guide rational design of improved catalysts.



Biomimetic Composites

*Y.-X. Huang, J. Buder, R. Cardoso-Gil, Yu. Prots, W. Carrillo-Cabrera, P. Simon, R. Kniep**

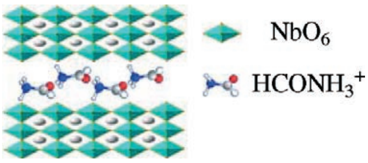
Shape Development and Structure of a Complex (Otoconia-Like?) Calcite–Gelatine Composite

Angew. Chem. Int. Ed.
DOI: **10.1002/anie.200800968**

In one ear … : The outer shape and inner architecture of individual particles of a complex calcite–gelatine composite resemble the known characteristics of biogenic otoconia ("ear dust"; see picture). The relationships between the morphology of artificial and biogenic specimens are discussed.

Reversible Intercalation

Reversibility is manifested for butylamine intercalation–deintercalation in the layered perovskite oxide $KCa_2Nb_3O_{10}$. The recycled layered perovskite oxides also maintain their layered structure and original properties. Two types of amine (butylamine and formamide) in the perovskite interlayer spaces can easily be exchanged.



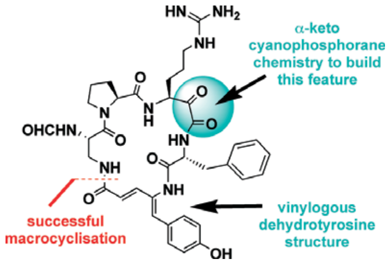
C. Sun, P. Peng, L. Zhu, W. Zheng, Y. Zhao*

Designed Reversible Alkylamine Intercalation–Deintercalation in the Layered Perovskite-Type Oxide $KCa_2Nb_3O_{10}$

Eur. J. Inorg. Chem.
DOI: **10.1002/ejic.200800271**

Natural Product Synthesis

The right place to stitch things up: Tandem oxidation/coupling reactions on appropriate α-keto cyanophosphoranes provide complementary pentapeptide precursors to cyclotheonamide C. Successful coupling at the *C* terminus of the vinylogous dehydrotyrosine residue belies potential problems relating to its fully conjugated structure, leading to a short total synthesis of the target natural product.

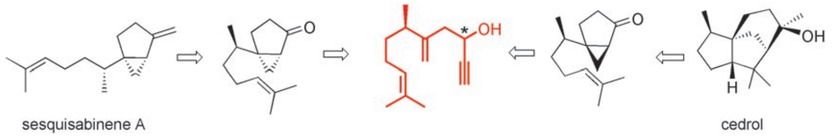


*S. P. Roche, S. Faure, L. El Blidi, D. J. Aitken**

Total Synthesis of Cyclotheonamide C by Use of an α-Keto Cyanophosphorane Methodology for Peptide Assembly

Eur. J. Org. Chem.
DOI: **10.1002/ejoc.200800591**

Natural Products



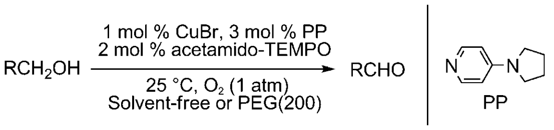
A cosmos of variously functionalized terpenes of the sesquisabina- and sesquithuja families is accessible by a sequence of asymmetric allylation and gold-catalyzed cycloisomerization as the key steps. These syntheses allowed the previously unknown stereostructures of several such bicyclic terpenes to be firmly established.

A. Fürstner, A. Schlecker*

A Gold-Catalyzed Entry into the Sesquisabinene and Sesquithujene Families of Terpenoids and Formal Total Syntheses of Cedrene and Cedrol

Chem. Eur. J.
DOI: **10.1002/chem.200801382**

Aerobic Oxidation



Up the TEMPO: A novel, three-component catalyst system consisting of acetamido-TEMPO, copper bromide, and 4-pyrrolidinopyridine not only gives the highest reported turnover frequencies (up to 200 turnovers per hour) for solvent-free aerobic oxidation of primary alcohols to aldehydes at ambient temperature and pressure, but also displays exceptionally high selectivity toward benzylic and allylic primary alcohols.

*N. Jiang, Arthur J. Ragauskas**

Copper-Catalyzed Highly Efficient Aerobic Oxidation of Alcohols under Ambient Conditions

ChemSusChem
DOI: **10.1002/cssc.200800144**

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