

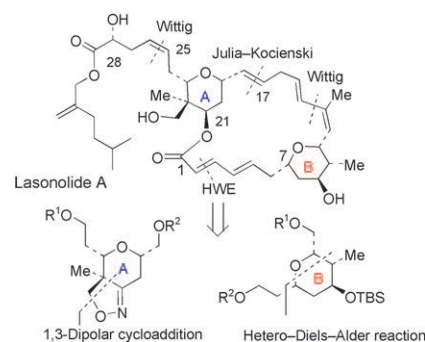
Total Synthesis

A. K. Ghosh,* G. Gong

Total Synthesis of Potent Antitumor Agent (–)-Lasonolide A: A Cycloaddition-Based Strategy*Chem. Asian J.*

DOI: 10.1002/asia.200800164

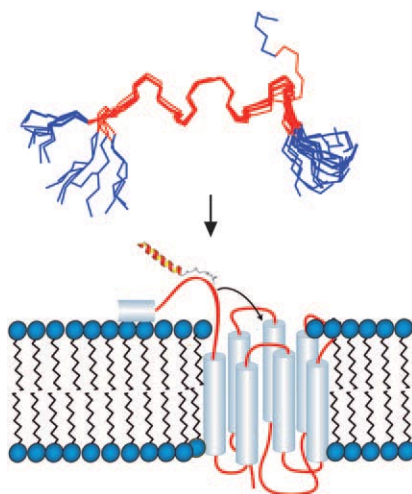
Two key rings: Lasonolide A exhibits potent cytotoxic activity against A549 human lung carcinoma and P388 murine leukemia cells. The successful total synthesis of this molecule has now paved the way for the design and synthesis of less complex and more potent lasonolide-derived anticancer molecules. HWE = Horner–Wadsworth–Emmons, TBS = *tert*-butyldimethylsilyl.



GPCRs

C. Zou, S. Kumaran, S. Markovic,
R. Walser, O. Zerbe***Studies of the Structure of the N-Terminal Domain from the Y4 Receptor—a G Protein-Coupled Receptor—and its Interaction with Hormones from the NPY Family***ChemBioChem*

DOI: 10.1002/cbic.200800221

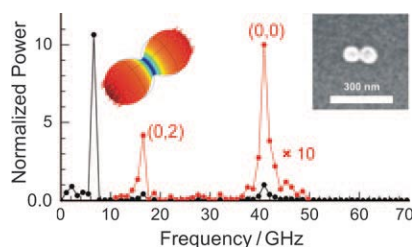


Helices and membranes: The N-terminal domain from the human Y4 receptor, a GPCR mainly targeted by the pancreatic polypeptide, was synthesized in a recombinant fashion. The solution structure was determined by NMR in the presence of phospholipid micelles, and its interactions with peptides from the NPY family were tested by NMR and SPR techniques.

Gold Nanoparticles

A. L. Tchebotareva, M. A. v. Dijk,
P. V. Ruijgrok, V. Fokkema,
M. H. S. Hesselberth, M. Lippitz,
M. Orrit***Acoustic and Optical Modes of Single Dumbbells of Gold Nanoparticles***ChemPhysChem*

DOI: 10.1002/cphc.200800289

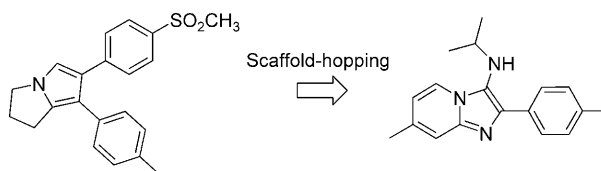


Gold vibrations: A new elastic (stretching) mode, appearing in individual dumbbells of gold nanospheres at 5–7 GHz (see figure), is a function of the contact area. This can be used to estimate the contact area between the particles, which plays an important role in the local enhancement of electromagnetic fields in such nanoantenna structures.

Cheminformatics

B. Hofmann, L. Franke, E. Proschak,
Y. Tanrikulu, P. Schneider,
D. Steinhilber, G. Schneider***Scaffold-hopping cascade yields potent inhibitors of 5-lipoxygenase***ChemMedChem*

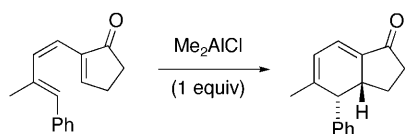
DOI: 10.1002/cmdc.200800153



A two-step iterative approach to virtual screening can identify potent lead scaffolds as demonstrated for 5-lipoxygenase inhibition, a validated target for the treatment of inflammation and allergic reactions. Four cycles of virtual

screening using both 3D- and 2D-based methods, and substructure searching were performed, and cell-based assays were used to further refine the lead selection at each stage of the process.

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55-fold rate acceleration

Filling the gap: Lewis acid catalysis of a 6π electrocyclicization has been achieved for the first time (see scheme). DFT calculations were performed on the coordination of a Lewis acid to a Lewis basic group in the 2-position of a triene, and experimentally, the rates of the electrocyclicization increase in the presence of Me₂AlCl.

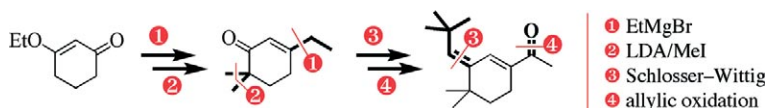
Electrocyclization Reaction

L. M. Bishop, J. E. Barbarow,
R. G. Bergman,* D. Trauner*

Catalysis of 6π Electrocyclizations

Angew. Chem. Int. Ed.

DOI: [10.1002/anie.200803336](https://doi.org/10.1002/anie.200803336)



Four new members in the young family of dienone musks! Cyclopentenylbutenones and acetylalkylidenecyclohexenes, accessible on short synthetic routes as shown for the latter

class: Woods–Grignard on 3-ethoxycyclohex-2-enone, *gem*-6,6-dimethylation, (*E*)-selective Schlosser–Wittig, and concluding dirhodium(II) caprolactamate-catalyzed allylic oxidation.

Allylic Oxidation

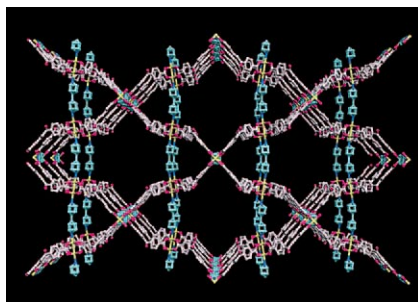
P. Kraft,* K. Popaj

New Musk Odorants:

(3*E*)-4-(2'-Alkyl-5',5'-dimethylcyclopent-1'-enyl)but-3-en-2-ones and (3*E*)-1-Acetyl-3-alkylidene-4,4-dimethylcyclohexenes

Eur. J. Org. Chem.

DOI: [10.1002/ejoc.200800644](https://doi.org/10.1002/ejoc.200800644)



Pores for thought! Porous solid SNU-6, [Cu₂(BPnDC)₂(bpy)]_n (see figure), exhibits permanent porosity with high surface area, high H₂ gas storage capacity, and high CO₂ uptake capability. {[Zn₂(BPnDC)₂(dabco)]·13 DMF·3 H₂O}_n undergoes a single-crystal-to-single-crystal transformation on guest exchange (H₂BPnDC = benzophenone 4,4'-dicarboxylic acid, bpy = 4,4'-bipyridine, dabco = 4-diazabicyclo[2.2.2]octane).

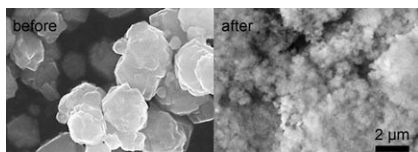
Microporous Materials

H. J. Park, M. P. Suh*

Mixed-Ligand Metal–Organic Frameworks with Large Pores: Gas Sorption Properties and Single-Crystal-to-Single-Crystal Transformation on Guest Exchange

Chem. Eur. J.

DOI: [10.1002/chem.200801064](https://doi.org/10.1002/chem.200801064)



Touching base: The selective conversion of glycerol to linear dimers was studied in a liquid-phase batch reaction at 260 °C under base catalysis. The reaction only marginally benefits from the use of Na/Cs-modified solid zeolites, as the crystallinity of the zeolite is lost within the first 2–6 h of reaction (see SEM images of CsX). The alkali cations are released into the liquid, and the reaction profile becomes similar to that of a homogeneously catalyzed reaction.

Glycol Conversion

Y. K. Krisnandi, R. Eckelt,
M. Schneider, A. Martin, M. Richter*

Glycerol Upgrading over Zeolites by Batch-Reactor Liquid-Phase Oligomerization: Heterogeneous versus Homogeneous Reaction

ChemSusChem

DOI: [10.1002/cssc.200800128](https://doi.org/10.1002/cssc.200800128)



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