

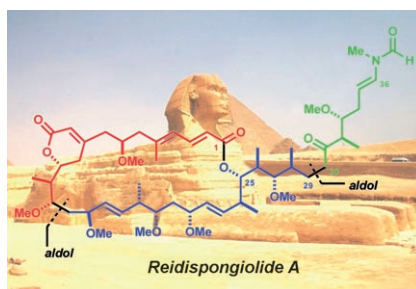
Natural Products Synthesis

I. Paterson,* K. Ashton, R. Britton,
G. Cecere, G. Chouraqui, G. J. Florence,
H. Knust, J. Stafford

Total Synthesis of
(–)-Reidispongioidide A, an
Actin-Targeting Macrolide Isolated from
the Marine Sponge *Reidisporgia coerulea*

Chem. Asian J.

DOI: 10.1002/asia.200700357



An answer fit for the Sphinx: The stereocontrolled total synthesis of (–)-reidispongioidide A uses an aldol-based strategy to construct the macrolactone and coupling of a derived aldehyde with an *N*-vinylformamide-containing ketone to install the full side chain. There are two possible routes to introduce the 2*E*,4*E* dienoate, and a fragment coupling by using a Mukaiyama aldol reaction installs the C13 stereocenter.

Antitumor Agents

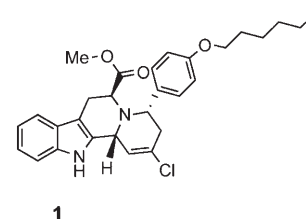
F. Wehner,* A. Nören-Müller, O. Müller,
I. Reis-Corrêa, Jr., A. Giannis,
H. Waldmann

Indoloquinolizidine Derivatives as Novel
and Potent Apoptosis Inducers and
Cell-Cycle Blockers

ChemBioChem

DOI: 10.1002/cbic.200700558

A view to a kill: 11 000 natural-product-derived and -inspired compounds were screened for potential apoptosis inducers in three human tumour cell lines. Seven indoloquinolizidine derivatives, one of which is shown in the figure, were identified. These compounds had IC₅₀ values as low as 2 μmol L^{–1} for inhibiting cell proliferation. Further analysis indicated that these effects were related to an arrest of cells in the G₂M phase of the cell cycle.



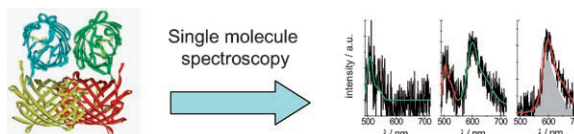
Fluorescent Proteins

C. Blum,* A. J. Meixner,
V. Subramaniam*

Spectral Versatility of Single Reef Coral
Fluorescent Proteins Detected by
Spectrally-Resolved Single Molecule
Spectroscopy

ChemPhysChem

DOI: 10.1002/cphc.200700784



Exciting chromophores: Spectrally resolved single-molecule spectroscopy of members of the DsRed family of fluorescent proteins enables identification and characterization of different spectral

forms for all variants (see picture). The transitions between different spectral forms are also followed, drawing conclusions on the underlying molecular origins of the various spectral species.

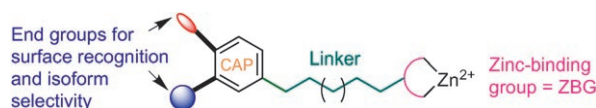
Drug Design

A. P. Kozikowski,* Y. Chen,
A. M. Gaysin, D. N. Savoy,
D. D. Billadeau, K. H. Kim

Chemistry, Biology, and QSAR Studies of
Substituted Biaryl Hydroxamates and
Mercaptoacetamides as HDAC
Inhibitors—Nanomolar-Potency
Inhibitors of Pancreatic Cancer Cell
Growth

ChemMedChem

DOI: 10.1002/cmdc.200700314



Isoform selectivity: structurally unique HDAC inhibitors are equipped with an amino acid residue that serves as a potential isoform-differentiating, surface-recognition element. The surface-recog-

nition group is connected through the usual carbon linker to either a hydroxamate or a mercaptoacetamide group that chelates the catalytic site zinc ion.



Three different structural motifs were obtained by the reactions of methylhydrazine with the trimethyl compounds of aluminum, gallium, and indium: a simple adduct $\text{Me}_3\text{Ga} \leftarrow \text{N}(\text{H})(\text{Me})\text{-NH}_2$, a sesqui compound $(\text{Me}_2\text{Al})_3[\mu\text{-NH-N}(\text{H})\text{Me}]_3\text{Al}$ together with its dissociated dinuclear form, and bicyclic compounds of the general composition $(\text{EMe}_2)_4(\text{HN-NMe})[\text{N}(\text{H})\text{-N}(\text{H})\text{-Me}]_2$ ($\text{E} = \text{Ga}, \text{In}$).

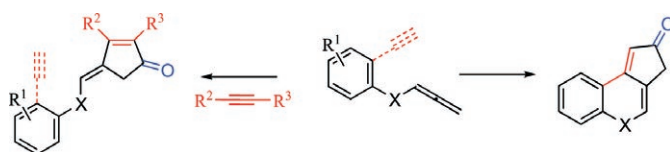
Third Main Group Hydrazides

W. Uhl,* T. Abel, A. Hepp, S. Grimme, M. Steinmetz

Different Reactivity Patterns in the Reactions of the Homologous Trimethylelement Compounds EMe_3 ($\text{E} = \text{Al}, \text{Ga}, \text{In}$) with Methylhydrazine

Eur. J. Inorg. Chem.

DOI: 10.1002/ejic.200700954



Pauson-Khand reactions of functionalized allenes with different alkynes give monocyclic cyclopentenones with generally high regio- and stereoselectivities. The allenes react with the external double bonds, giving cyclopentenones

with exocyclic double bonds at their β positions, mainly with *E* stereochemistry. Some intramolecular reactions with allenes connected through aromatic rings are described.

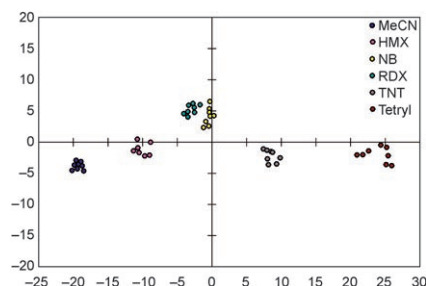
Allenic Pauson-Khand Reactions

Á. González-Gómez, L. Añorbe, A. Poblador, G. Domínguez, J. Pérez-Castells*

Intermolecular and Intramolecular Pauson-Khand Reactions of Functionalized Allenes

Eur. J. Org. Chem.

DOI: 10.1002/ejoc.200701038



Sensing with suds: Using pattern recognition, commercially available fluorophores and surfactants are able to sense nitrated explosives with a detection limit of 19 μm (see figure).

Explosive Detection

A. D. Hughes, I. C. Glenn, A. D. Patrick, A. Ellington, E. V. Anslyn*

A Pattern Recognition Based Fluorescence Quenching Assay for the Detection and Identification of Nitrated Explosive Analytes

Chem. Eur. J.

DOI: 10.1002/chem.200701546



From biomass to tomorrow's biofuels: Pyrolysis oils, obtained by fast pyrolysis of solid biomass, comprise a wide range of oxygenated compounds. It is proposed that after adequate upgrading, these oils may be fed into large-scale

refinery units to obtain fuels. Thus, the co-feeding of a model hydrocarbon (C_8) and model oxygenated molecules was studied in a fixed-bed catalytic reactor using an industrial fluid catalytic cracking catalyst.

Sustainable Fuels

M. E. Domine, A. C. van Veen, Y. Schuurman,* C. Mirodatos

Coprocessing of Oxygenated Biomass Compounds and Hydrocarbons for the Production of Sustainable Fuel

ChemSusChem

DOI: 10.1002/cssc.200700049