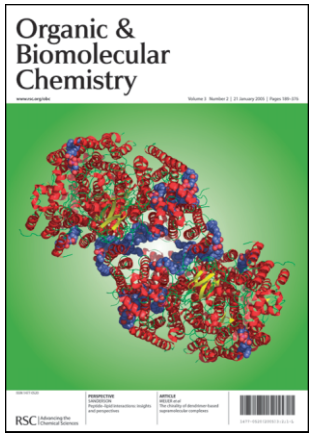
ISSN 1477-0520 CODEN OBCRAK 3(2) 189–376 (2005)

In this issue...

Synthesis and stereochemistry of musacins

Relative and absolute stereochemistry of several musacins unequivocally assigned. See Kinoshita *et al.* page 295.



Cover

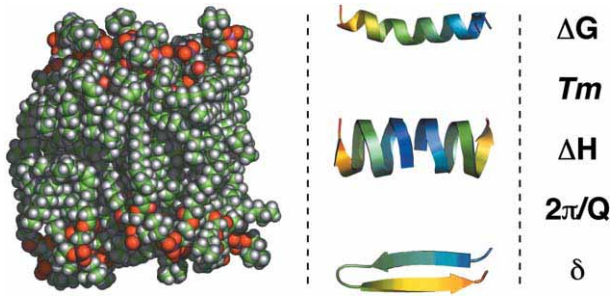
See John M. Sanderson, pp. 201–212.
The illustration depicts protein-bound lipid molecules in the x-ray crystal structure of the mitochondrial membrane protein Cytochrome C Oxidase (from pdb entry 1v54). The image was prepared using the program PyMol (DeLano Scientific, San Carlos, CA, USA. http://www.pymol.org).

PERSPECTIVE

Peptide–lipid interactions: insights and perspectives

John M. Sanderson*

Studies of peptide interactions with membrane lipids allow elucidation of the roles of lipid ordering and curvature strain in processes such as budding, fusion and antimicrobial activity.

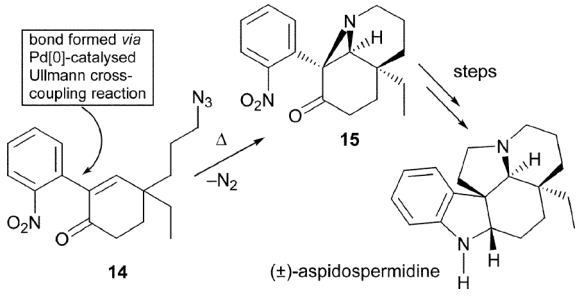


COMMUNICATIONS

Exploiting the palladium[0]-catalysed Ullmann cross-coupling reaction in natural products chemistry: application to a total synthesis of the alkaloid (±)-aspidospermidine

Martin G. Banwell* and David W. Lupton

Azide **14**, available through the title cross-coupling process, has been converted, *via* the ring-fused aziridine **15**, into the alkaloid aspidospermidine.



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COMMUNICATIONS

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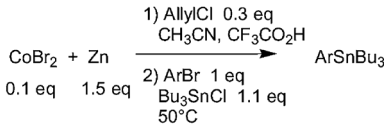
New and simple one-step cobalt-catalyzed preparation of functionalized arylstannanes from the corresponding aryl bromides or iodides

Corinne Gosmini* and Jacques Périchon

A variety of functionalized arylstannanes are obtained in moderate to excellent yields by a one-step chemical procedure from corresponding halides and tributylstannyl chloride *via* cobalt catalysis.



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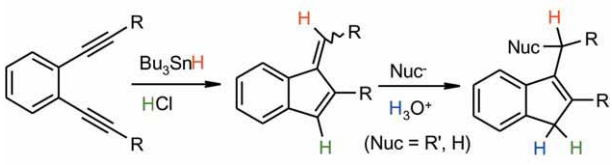
Synthesis of selectively deuterated fulvenes and indenes from enediynes

Scott W. Peabody, Boris Breiner, Serguei V. Kovalenko, Satish Patil and Igor V. Alabugin*

A facile enediyne→fulvene→indene transformation provides a route to all possible isotopomers of substituted fulvenes and indenes.



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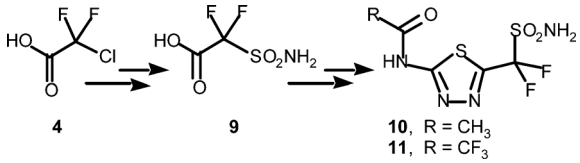
A new synthesis of difluoromethanesulfonamides–a novel pharmacophore for carbonic anhydrase inhibition

Nicholas A. Boyle, W. Richard Chegwidden and G. Michael Blackburn*

A novel, efficient synthesis of carboxydifluoromethanesulfonamide makes available a new range of inhibitors for carbonic anhydrase.



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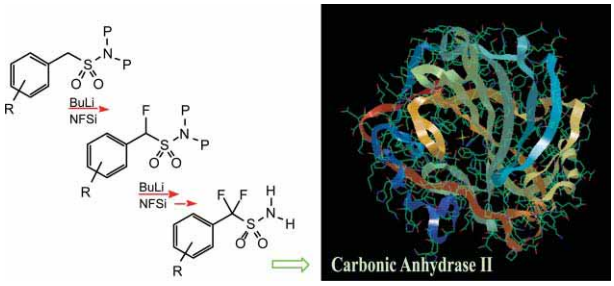
Synthesis of α-fluoro- and α,α-difluoro-benzenemethane-sulfonamides: new inhibitors of carbonic anhydrase

G. Michael Blackburn* and Hasan Türkmen

Direct fluorination of arenemethanesulfonamide anions under mild conditions and in high yield has been accomplished using *N*-fluorobisbenzenesulfonimide.



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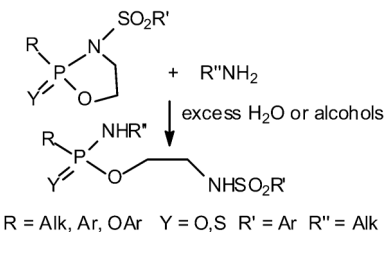
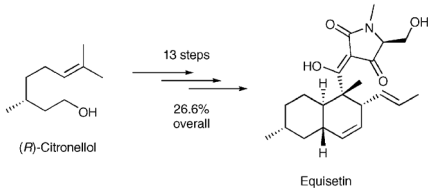
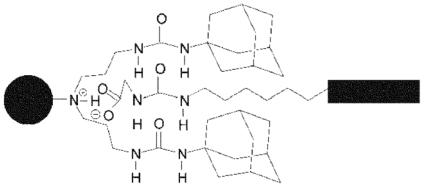
Phospholidines incorporating a β *N*-sulfonylaminoalcohol moiety: first observed selectivity of phosphorus heterocycle aminolysis in the presence of water

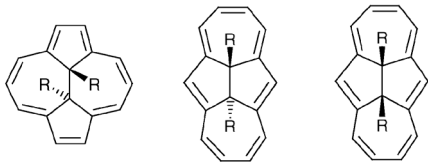
Frédéric Dujols, Laurence Marty and Michel Mulliez*

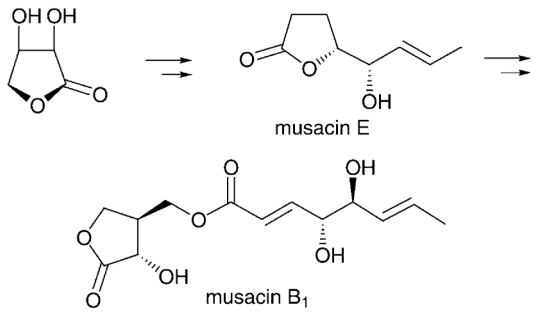
The good sulfonamide leaving group enables selective phosphorylation of primary aliphatic amines.

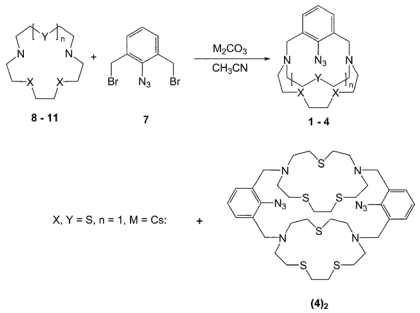












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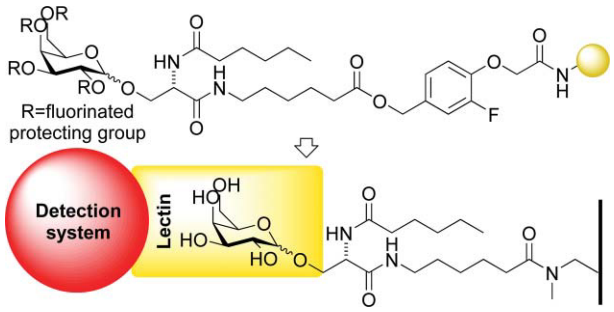

Solid-phase synthesis of serine-based glycosphingolipid analogues for preparation of glycoconjugate arrays

Fredrik K. Wallner, Henrik A. Norberg, Annika I. Johansson, Mickael Mogemark and Mikael Elofsson*

Glycoconjugate arrays were prepared with galactosylceramide analogues obtained by solid-phase synthesis using a fluorinated linker and ^{19}F-NMR spectroscopy as monitoring technique.

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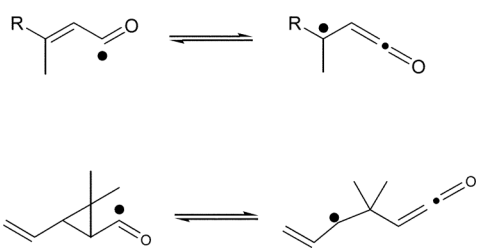

α,β-Unsaturated and cyclopropyl acyl radicals, and their ketene alkyl radical equivalents. Ring synthesis and tandem cyclisation reactions

Christopher J. Hayes, Nicola M. A. Herbert, Nicole M. Harrington-Frost and Gerald Pattenden*

Substituted α,β-unsaturated acyl and cyclopropyl acyl radical intermediates undergo separate cyclisations *via* their equivalent ketene alkyl radical species leading to a range of interesting ring structures.

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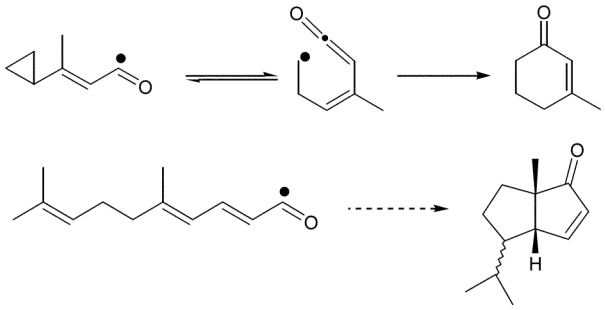

Vinylcyclopropylacyl and polyeneacyl radicals. Intramolecular ketene alkyl radical additions in ring synthesis

Benoît De Boeck, Nicola M. A. Herbert, Nicole M. Harrington-Frost and Gerald Pattenden*

Substituted conjugated polyene acyl and vinylcyclopropyl acyl radical intermediates undergo separate rearrangement and intramolecular cyclisations *via* their ketene alkyl radical equivalents, leading to cyclohexenones, cyclopentenones and diquinanes.

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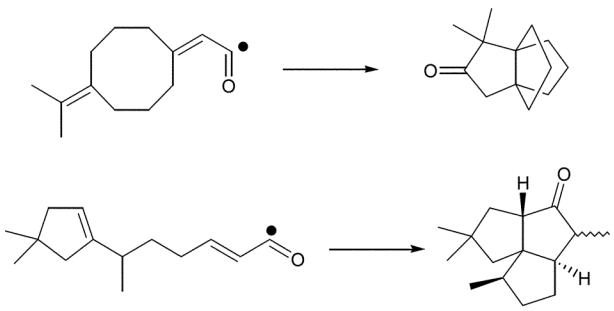

Tandem cyclisations involving α-ketenyl alkyl radicals. New syntheses of the natural triquinanes pentalenene and modhephene

Benoît De Boeck, Nicole M. Harrington-Frost and Gerald Pattenden*

New syntheses of the triquinanes pentalenene and modhephene, based on tandem cyclisations involving α-ketene alkyl radical intermediates derived from α,β-unsaturated acyl precursors, are described.

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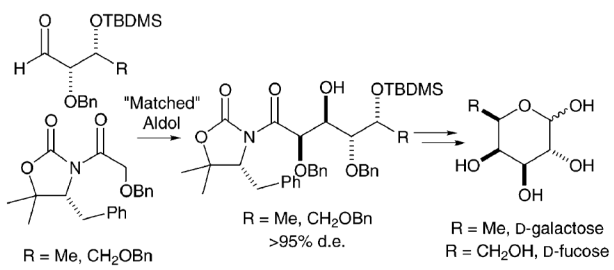
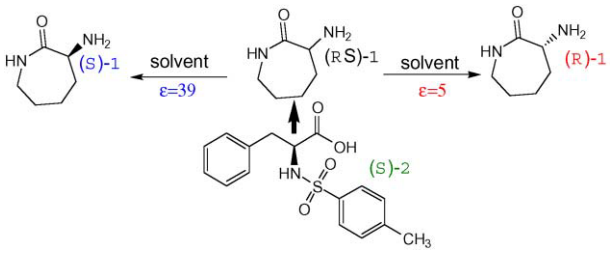
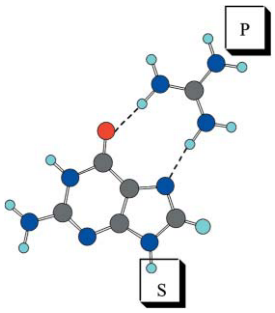


A SuperQuat glycolate aldol approach to the asymmetric synthesis of hexose monosaccharides

Stephen G. Davies,* Rebecca L. Nicholson and Andrew D. Smith

The asymmetric synthesis of the hexose monosaccharides D-galactose, D-fucose, D-idose, D-6-deoxyidose, D-talose and D-6-deoxytalose *via* an iterative double diastereoselective aldol approach is described.





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Anja Hoffmann-Röder and Norbert Krause (**DOI**: 10.1039/b416516k)

Stereoselective oxidation of protected inositol derivatives catalyzed by inositol dehydrogenase from *Bacillus subtilis*
Richard Daniellou, Christopher P. Phenix, Pui Hang Tam, Michael C. Laliberte and David R. J. Palmer
(**DOI**: 10.1039/b417757f)

Subtle factors are important: radical formation and transmetallation in reactions of butyl cuprates with cyclohexyl iodide
Steven H. Bertz, Jason Human, Craig A. Ogle and Paul Seagle (**DOI**: 10.1039/b416612d)

Antioxidant activity of olive phenols: mechanistic investigation and characterization of oxidation products by mass spectrometry
Marjolaine Roche, Claire Dufour, Nathalie Mora and Olivier Dangles (**DOI**: 10.1039/b416101g)

Role of the peri-effect in synthesis and reactivity of highly substituted naphthaldehydes: a novel backbone amide linker for solid-phase synthesis
Michael Pittelkow, Ulrik Boas, Mikkel Jessing, Knud J. Jensen, and Jørn B. Christensen (**DOI**: 10.1039/b412971g)

Synthesis and metal complexation properties of Ph-DTPA and Ph-TTHA: novel radionuclide chelating agents for use in nuclear medicine
Sébastien G. Gouin, Jean-François Gestin, Laurence Monrandeau, Fabienne Segat-Dioury, Jean Claude Meslina and David Deniaud (**DOI**: 10.1039/b413758b)

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