



**Tetrahedron: *Asymmetry* Vol. 20, Nos. 6–8, 2009**

Special Issue

**In Celebration of the 65<sup>th</sup> Birthday of Professor George Fleet**

Guest editor:

**Professor Antony Fairbanks**

University of Canterbury, Private Bag 4800, Christchurch 8140, New Zealand

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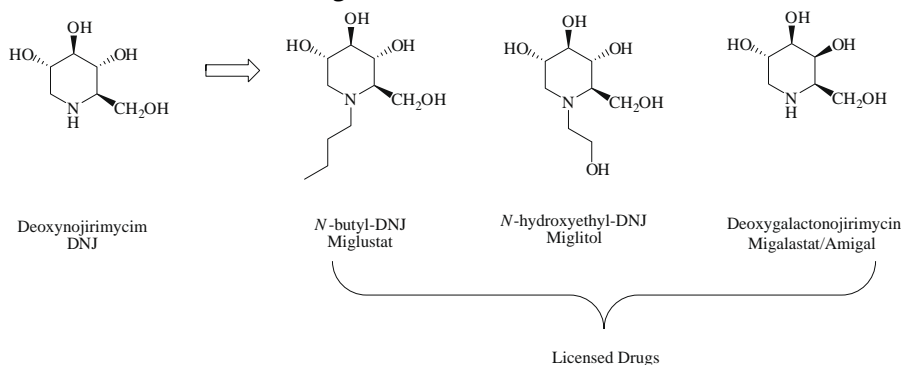
Antony Fairbanks

**Reports**

**Iminosugars: from botanical curiosities to licensed drugs**

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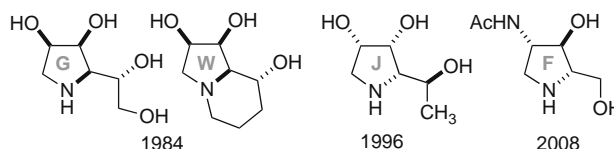
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**A silver-lined anniversary of Fleet iminosugars: 1984–2009, from DIM to DRAM to LABNac**

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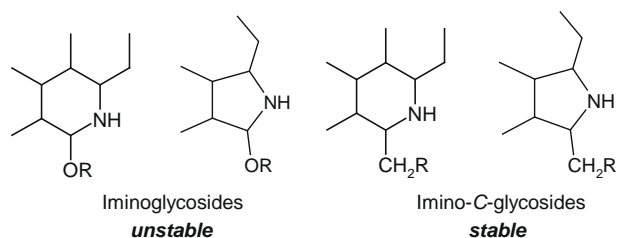
Benjamin G. Davis \*



## Tactics and strategies for the synthesis of iminosugar C-glycosides: a review

pp 672–711

Philippe Compain<sup>\*</sup>, Vincent Chagnault, Olivier R. Martin

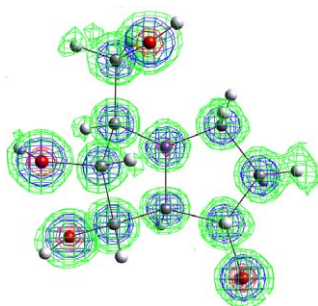


The purpose of this review is to provide an overview of the versatile strategies that have been developed to synthesize imino-C-glycosides as stable analogues of imino-glycosides and imino-glycoconjugates.

## X-ray crystallography and chirality: understanding the limitations

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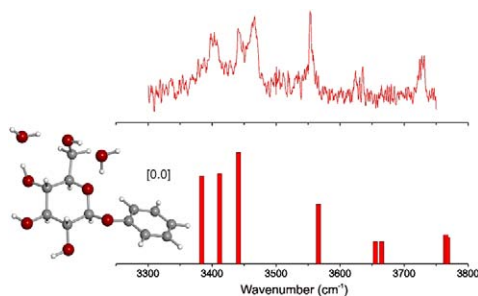
Amber L. Thompson, David John Watkin<sup>\*</sup>



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John P. Simons<sup>\*</sup>, Benjamin G. Davis<sup>\*</sup>, Emilio J. Cocinero, David P. Gamblin, E.Cristina Stanca-Kaposta

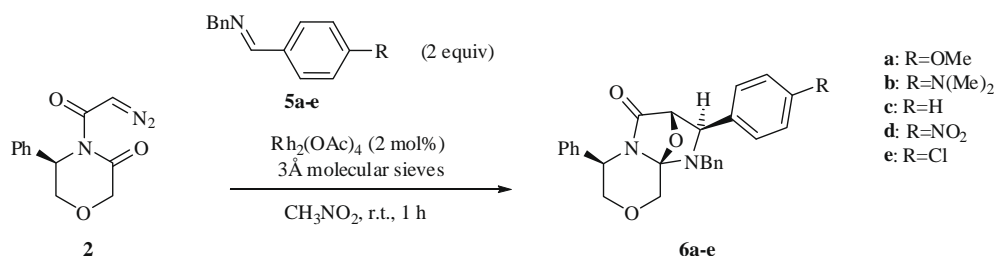


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### Cycloadditions of chiral carbonyl ylides with imine dipolarophiles as a route to enantiomerically pure $\alpha$ -amino- $\beta$ -hydroxy acids

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Yu Gan, Laurence M. Harwood<sup>\*</sup>, Simon C. Richards, Ian E.D. Smith, Victoria Vinader

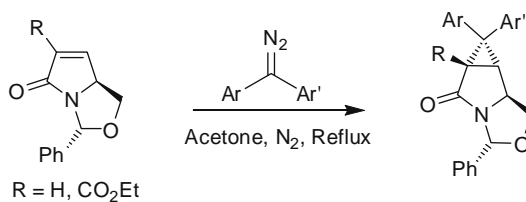


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**A novel class of azatricyclononanes: pentasubstituted cyclopropanes from an uncatalysed reaction**

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Lawrence Harris, Martin Gilpin, Amber L. Thompson, Andrew R. Cowley, Mark G. Moloney \*

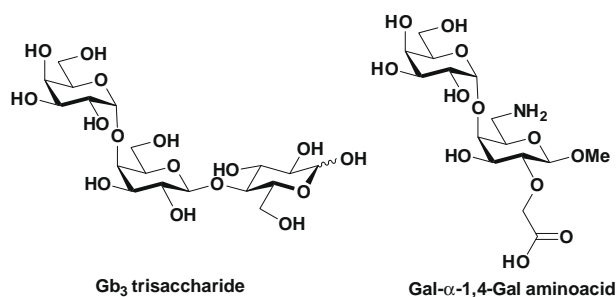


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**A sugar aminoacid for the development of multivalent ligands for *Escherichia coli* 0157 verotoxin**

pp 730–732

Darren Gibson, Steven W. Homans, Robert A. Field \*

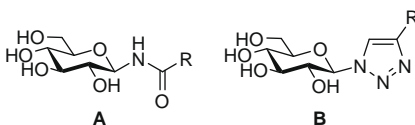


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**Amide-1,2,3-triazole bioisosterism: the glycogen phosphorylase case**

pp 733–740

Evangelia D. Chrysina \*, Éva Bokor, Kyra-Melinda Alexacou, Maria-Despoina Charavgi, George N. Oikonomakos, Spyros E. Zographos, Demetres D. Leonidas, Nikos G. Oikonomakos, László Somsák \*



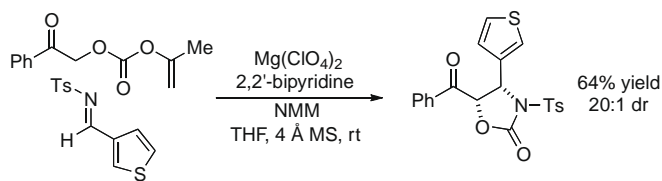
Kinetic measurements and X-ray crystallographic studies of rabbit muscle glycogen phosphorylase *b* enzyme-inhibitor complexes prove bioisosteric relationship of *N*-acyl- $\beta$ -D-glucopyranosylamines (A) and 1-( $\beta$ -D-glucopyranosyl)-4-substituted-1,2,3-triazoles (B).

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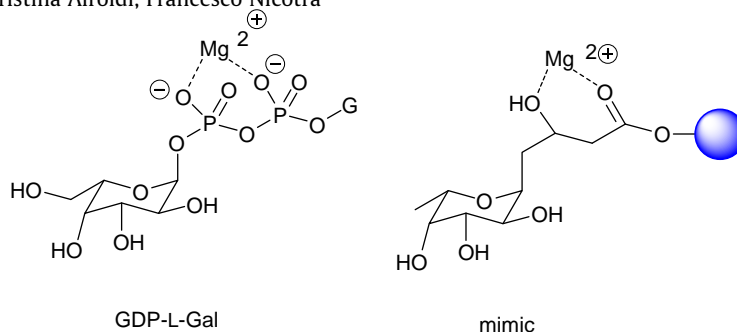
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## Solid-phase supported mimic of GDP-L-galactose

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Barbara La Ferla, Laura Russo, Cristina Airoidi, Francesco Nicotra \*

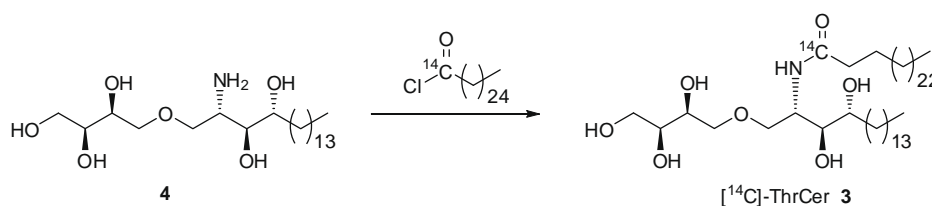


## Articles

### Synthesis of threitol ceramide and [<sup>14</sup>C]threitol ceramide, non-glycosidic analogues of the potent CD1d antigen $\alpha$ -galactosyl ceramide

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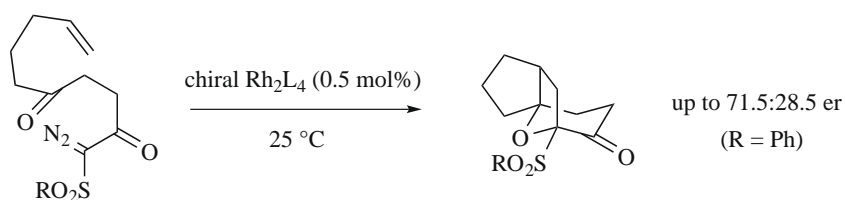
Yoel R. Garcia Diaz, Justyna Wojno, Liam R. Cox \*, Gurdyal S. Besra \*



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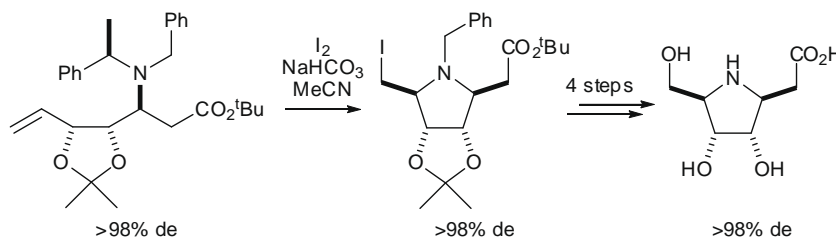
David M. Hodgson \*, Rebecca Glen, Alison J. Redgrave



### Iodine-mediated ring-closing iodoamination with concomitant N-debenzylation for the asymmetric synthesis of polyhydroxylated pyrrolidines

pp 758–772

Stephen G. Davies \*, Rebecca L. Nicholson, Paul D. Price, Paul M. Roberts, Angela J. Russell, Edward D. Savory, Andrew D. Smith, James E. Thomson

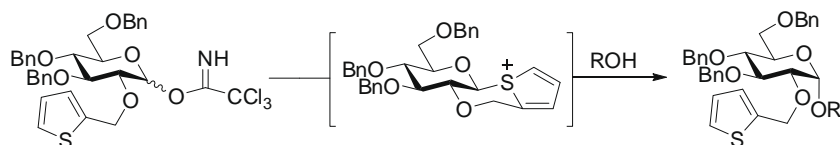


A novel ring-closing alkene iodoamination with concomitant N-debenzylation protocol provides a direct route for the asymmetric synthesis of polyhydroxylated pyrrolidines from homochiral  $\beta$ -amino esters.

**Stereoselective synthesis of  $\alpha$ -glucosides by neighbouring group participation via an intermediate thiophenium ion**

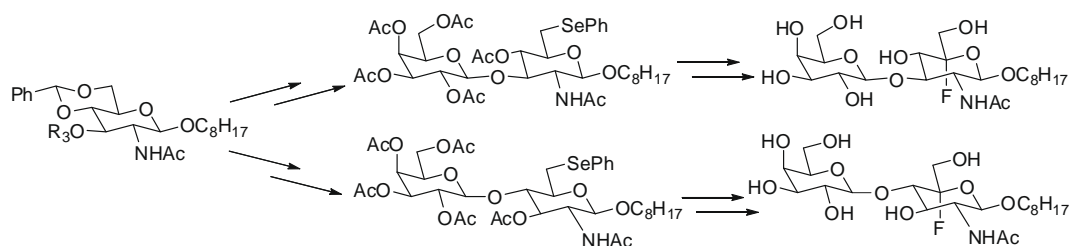
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Daniel J. Cox, Antony J. Fairbanks \*

**Fluoridolysis of 5,6-epoxy carbohydrates: application to the synthesis of 5-fluoro lactosamine and isolactosamine glycosides**

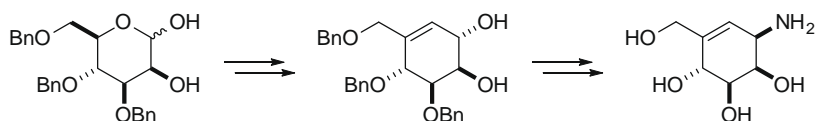
pp 781–794

Tara L. Hagena, James K. Coward \*

 **$\beta$ -Mannosidase and  $\beta$ -hexosaminidase inhibitors: synthesis of 1,2-bis-*epi*-valienamine and 1-*epi*-2-acetamido-2-deoxy-valienamine from *D*-mannose**

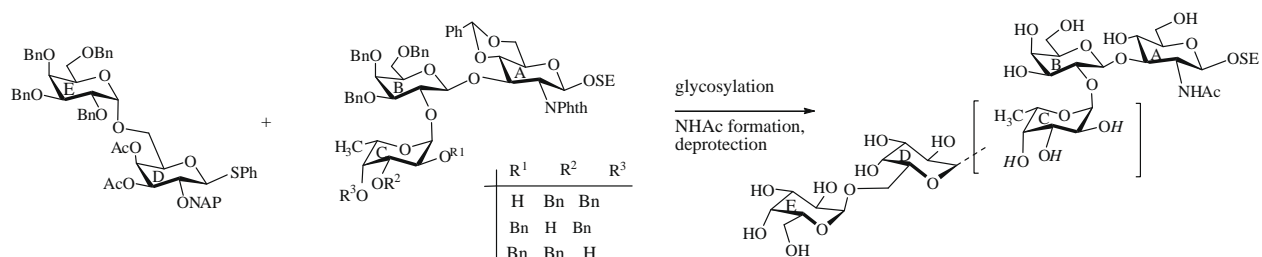
pp 795–807

Clinton Ramstadius, Omid Hekmat, Lars Eriksson, Henrik Stålbrand, Ian Cumpstey \*

**Synthesis of three regioisomers of the pentasaccharide part of the Skp1 glycoprotein of *Dictyostelium discoideum***

pp 808–820

Zoltán B. Szabó, Mihály Herczeg, Anikó Fekete, Gyula Batta, Anikó Borbás, András Lipták \*, Sándor Antus

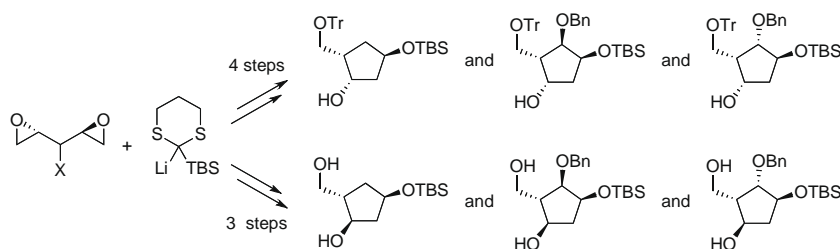


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**An enantioselective synthesis of carbafuranose sugars based on a linchpin carbacyclisation approach**

pp 821–831

Leo M.H. Leung, Mark E. Light, Vicky Gibson, Bruno Linclau \*



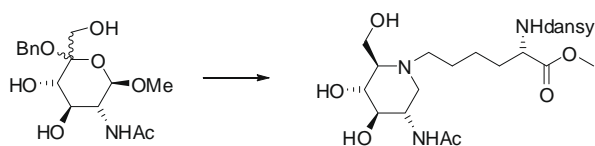
Enantiopure carbafuranose derivatives were synthesised via a linchpin carbacyclisation process starting from 1,4-bisepoxides. Both 2-deoxy and 2-deoxy-6-hydroxycarbafuranose derivatives were obtained, which were converted to suitably protected precursors for carbanucleoside synthesis.

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Andreas J. Steiner, Georg Schitter, Arnold E. Stütz \*, Tanja M. Wrodnigg, Chris A. Tarling, Stephen G. Withers, Don J. Mahuran, Michael B. Tropak

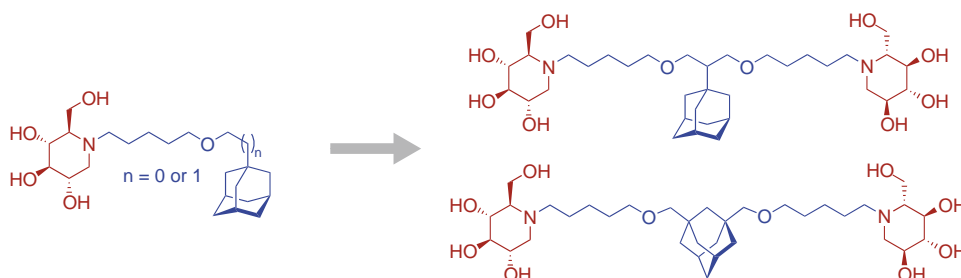


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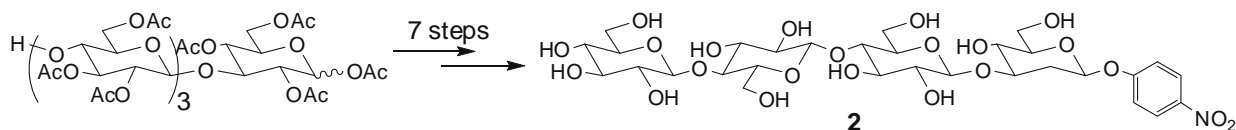


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Mireia Abel, Antoni Segade, Antoni Planas \*



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**Synthesis of a core trisaccharide building block for the assembly of N-glycan neoconjugates****pp 851–856**

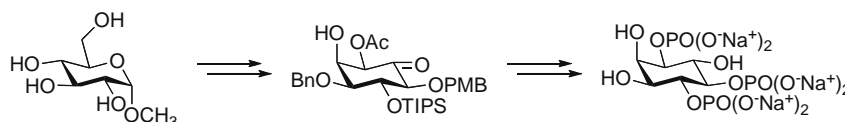
Sonia Serna, Bharat Kardak, Niels-Christian Reichardt, Manuel Martin-Lomas \*



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**A type 2 Ferrier rearrangement-based synthesis of D-myo-inositol 1,4,5-trisphosphate****pp 857–866**

Neil S. Keddie, Geert Bultynck, Tomas Luyten, Alexandra M.Z. Slawin, Stuart J. Conway \*



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**A unique approach to the synthesis of a dengue vaccine and the novel tetrasaccharide that results****pp 867–874**

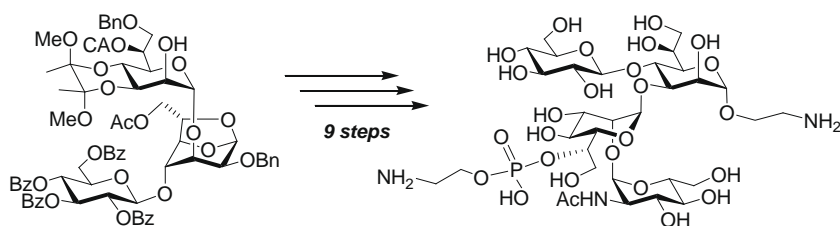
Nigel Kevin Jalsa, Gurdial Singh \*

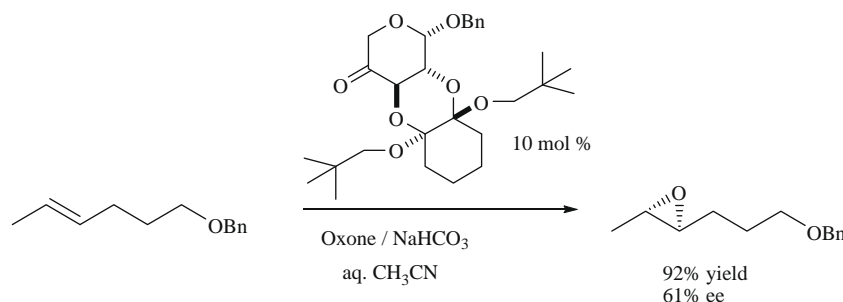
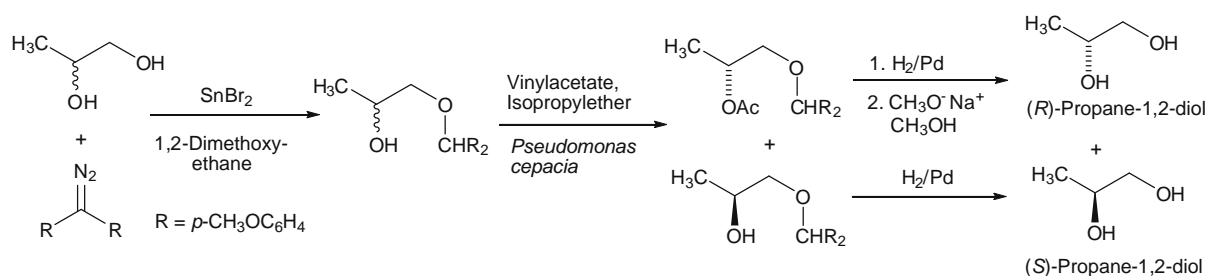
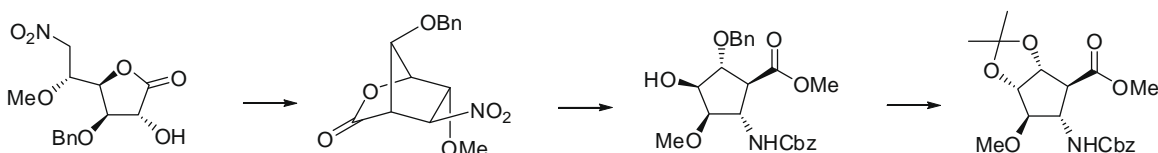
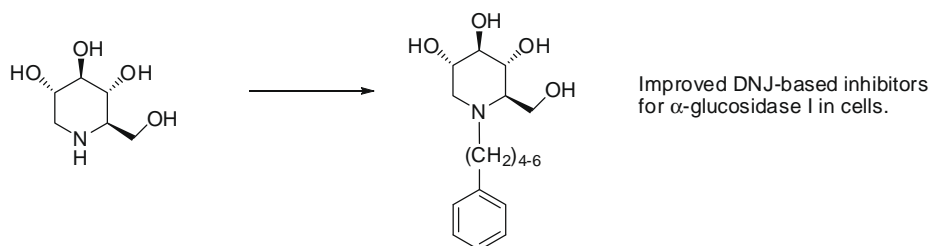


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**Synthesis of phosphorylated *Neisseria meningitidis* inner core lipopolysaccharide structures****pp 875–882**

Johan D.M. Olsson, Stefan Oscarson \*

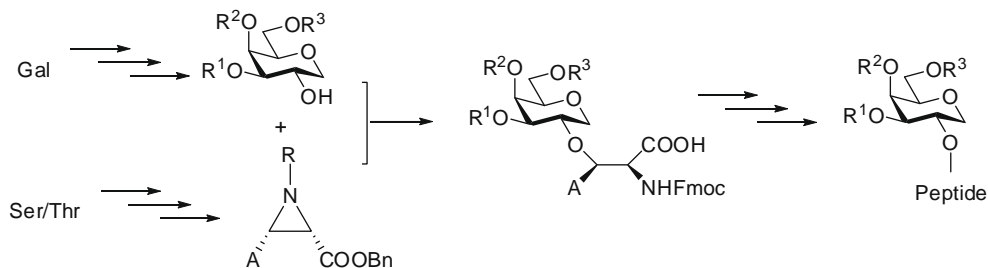


Tony K.M. Shing <sup>\*</sup>, To LukHighly regioselective primary etherification of racemic propane-1,2-diol by the tin(II) bromide-catalyzed reaction with diazo[bis(4-methoxyphenyl)]methane and the resolution of enantiomers with the help of *Pseudomonas cepacia* lipaseSigthor Petursson <sup>\*</sup>Stereocontrolled transformation of nitrohexofuranoses into cyclopentylamines via 2-oxabicyclo[2.2.1]heptanes. IV: Synthesis of enantiopure methyl (1*S*,2*R*,3*R*,4*R*,5*S*)-5-benzyloxycarbonylamino-2,3-isopropylidenedioxy-4-methoxycyclopentanecarboxylateFernando Fernández, Amalia M. Estévez, Juan C. Estévez <sup>\*</sup>, Ramón J. Estévez <sup>\*</sup>Improved cellular inhibitors for glycoprotein processing  $\alpha$ -glucosidases: biological characterisation of alkyl- and arylalkyl-N-substituted deoxynojirimycinsDominic S. Alonzi, Raymond A. Dwek, Terry D. Butters <sup>\*</sup>



**Aziridine ring opening as regio- and stereoselective access to O-glycosyl amino acids and their transformation into O-glycopeptide mimetics** pp 902–909

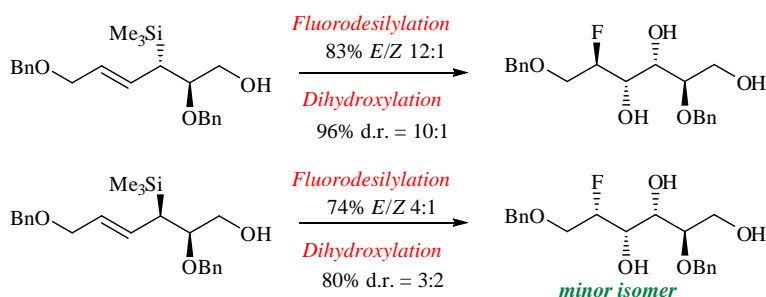
Andreas Schäfer, Dirk Henkensmeier, Lars Kröger, Joachim Thiem \*



**Asymmetric de novo synthesis of fluorinated D-glucitol and D-mannitol analogues**

pp 910–920

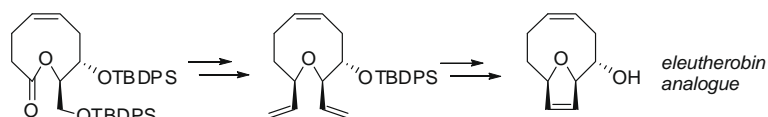
Guy T. Giuffredi, Sophie Purser, Marcin Sawicki, Amber L. Thompson, Véronique Gouverneur \*



**Synthesis of simplified analogues of eleutherobin via a Claisen rearrangement/RCM strategy**

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S.Y. Frankie Mak, Gary C.H. Chiang, James E.P. Davidson, John E. Davies, Andrew Ayscough, Gilles Pain, Jonathan W. Burton \*, Andrew B. Holmes \*

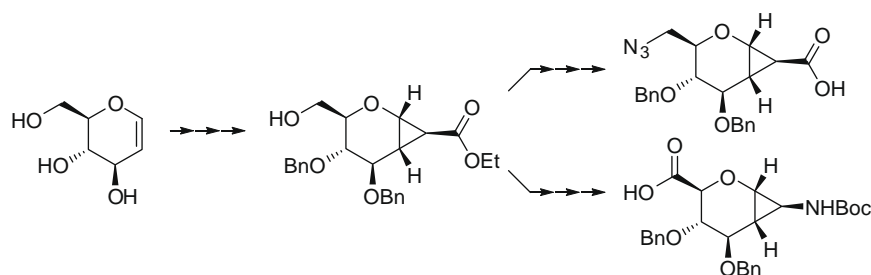


The enantioselective synthesis of a number of simplified analogues of the cytotoxic natural product eleutherobin is reported.

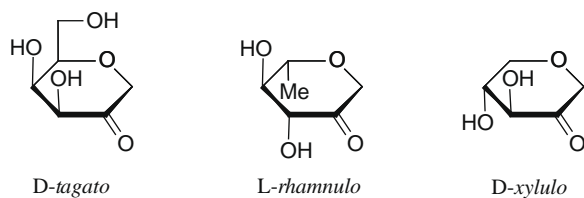
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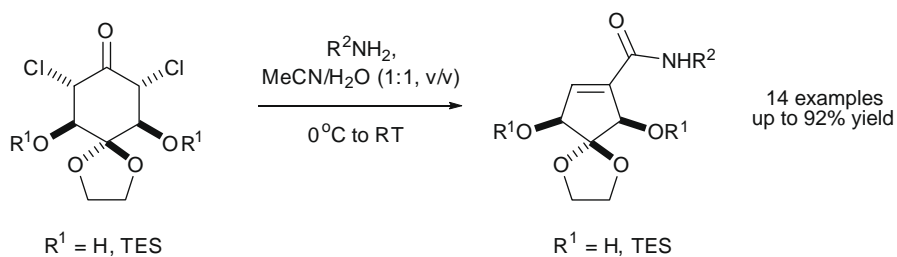
Martijn D.P. Risseuw, Gijs A. van der Marel, Herman S. Overkleeft, Mark Overhand \*



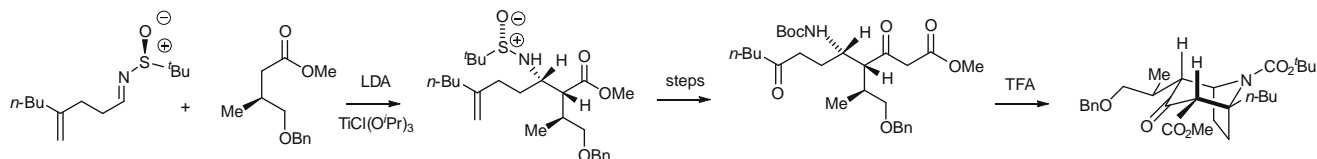
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Pan Jarglis, Volker Göckel, Frieder W. Lichtenthaler \*



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Paula M. Tomlin, David J. Davies, Martin D. Smith \*



**An approach to an asymmetric synthesis of stemofoline** pp 970–979  
Eric J. Thomas \*, Clare F. Vickers



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\*Corresponding author

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