

Tetrahedron: *Asymmetry* Vol. 16, No. 2, 2005

Special Issue

Carbohydrate Science

Part 2

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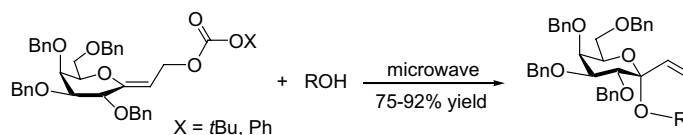
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COMMUNICATIONS

Stereoselective glycosylation of *exo*-glycals by microwave-assisted Ferrier rearrangement

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Hui-Chang Lin, Chih-Chun Chang, Jia-Yi Chen and Chun-Hung Lin*

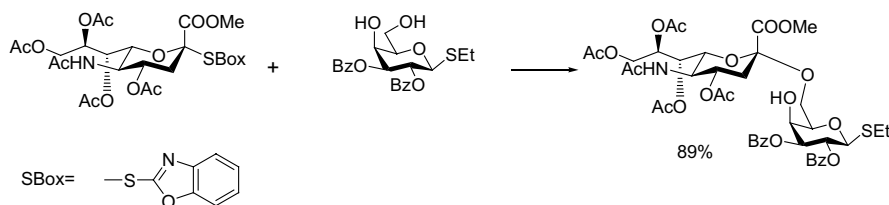


The reactions are also compared with those of *endo*-glycals and glycosides.

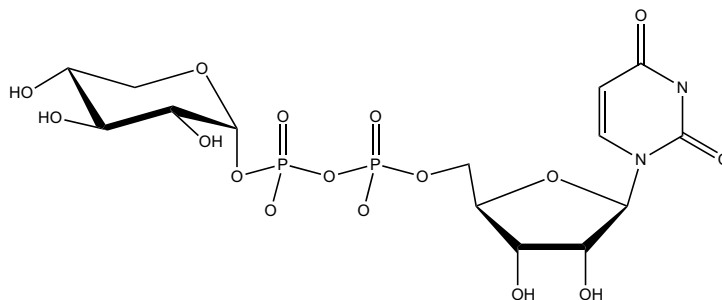
Thiomidoyl approach to the synthesis of α -sialosides

pp 303–307

Cristina De Meo* and Olivia Parker

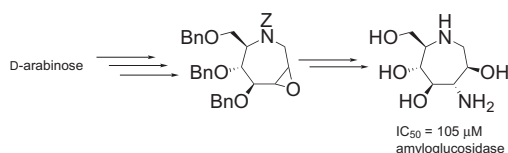


Takeshi Ishimizu, Takashi Uchida, Kyoko Sano and Sumihiro Hase*



New 1-amino-1-deoxy- and 2-amino-2-deoxy-polyhydroxyazepanes:
synthesis and inhibition of glycosidases

Hongqing Li, Yves Blériot,* Jean-Maurice Mallet, Eliazar Rodriguez-Garcia,
Pierre Vogel, Yongmin Zhang and Pierre Sinaÿ

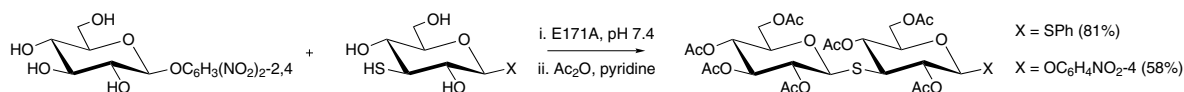


Eight new seven-membered ring iminoalditols, displaying an amino group and a hydroxymethyl group on the ring, have been synthesized from D-arabinose via epoxidation of a protected azacycloheptene and subsequent nucleophilic opening. Three of them show a potent glycosidase inhibition on amyloglucosidase.

ARTICLES

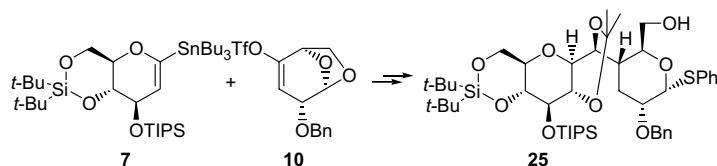
From glycoside hydrolases to thioglycoligases: the synthesis of thioglycosides

Robert V. Stick* and Keith A. Stubbs



C(1→4)-linked disaccharides through carbonylative Stille cross-coupling

Peter Steunenberg, Vincent Jeanneret, Yao-Hua Zhu and Pierre Vogel*

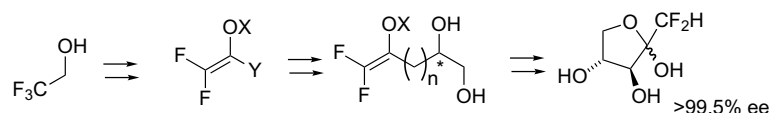


Efficient and stereoselective methods for the preparation of C-disaccharides through carbonylative Stille cross-coupling has been developed.

Applying asymmetric dihydroxylation to the synthesis of difluorinated carbohydrate analogues: a 1,1-difluoro-1-deoxy-D-xylulose

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Liam R. Cox, Gareth A. DeBoos, Jeremy J. Fullbrook, Jonathan M. Percy* and Neil Spencer

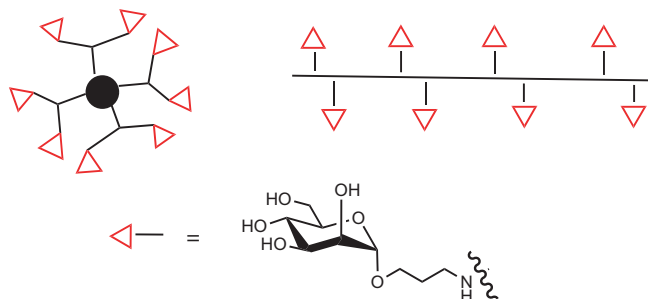


Scope and limitation of AD reactions of terminally difluorinated dienes illustrative of de novo asymmetric synthesis of a xylulose analogue.

Novel multivalent mannose compounds and their inhibition of the adhesion of type 1 fimbriated uropathogenic *E. coli*

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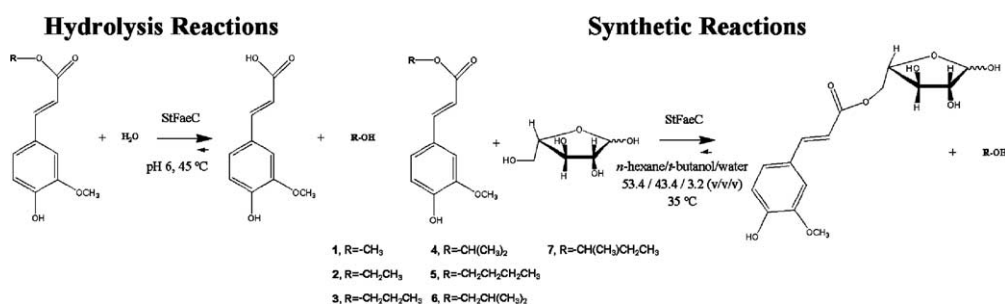
Chantal C. M. Appeldoorn, John A. F. Joosten, Fatna Ait el Maate, Ulrich Dobrindt, Jörg Hacker, Rob M. J. Liskamp, A. Salam Khan* and Roland J. Pieters*



Mapping the hydrolytic and synthetic selectivity of a type C feruloyl esterase (StFaeC) from *Sporotrichum thermophile* using alkyl ferulates

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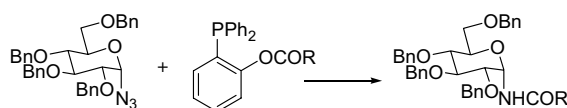
Christina Vafiadi, Evangelos Topakas, Ken K. Y. Wong, Ian D. Suckling and Paul Christakopoulos*



Neo-glycoconjugates: stereoselective synthesis of α -glycosyl amides via Staudinger ligation reactions

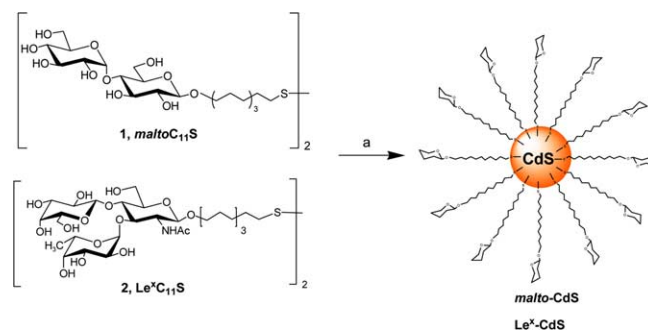
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Aldo Bianchi, Andrea Russo and Anna Bernardi*

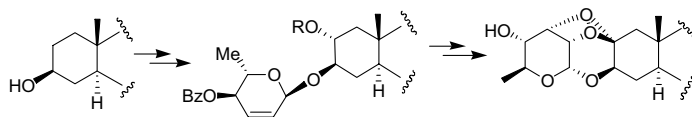


Jesús M. de la Fuente and Soledad Penadés*

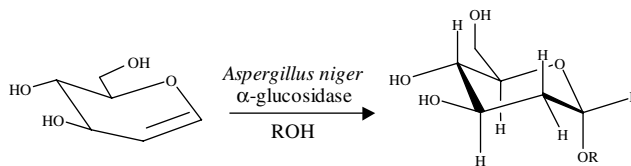
A straightforward synthetic strategy for the preparation of luminescent and water-soluble glyco-quantum dots by a single step procedure is reported. The nanometer-sized glyco-quantum dots have been characterized by TEM and ¹H NMR, UV-vis, and fluorescence spectroscopy.



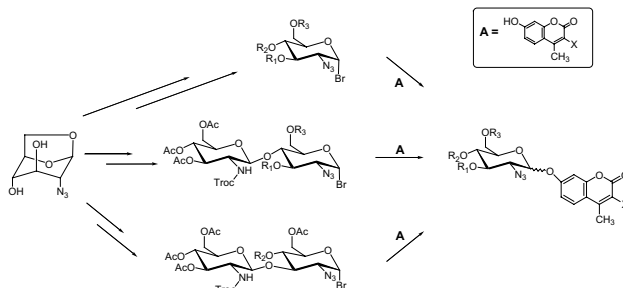
John T. Dixon, Fanie R. van Heerden* and Cedric W. Holzapfel



Young-Min Kim, Masayuki Okuyama, Haruhide Mori, Hiroyuki Nakai, Wataru Saburi, Seiya Chiba and Atsuo Kimura*



Anjali R. S. Ganguli and James K. Coward*



Synthetic studies toward the preparation of (4*R*,5*R*)-(-)-3-[(benzyloxy)methyl]-4,5-*O*-isopropylidene-cyclopenten-2-one: an important synthetic intermediate for carbanucleosides

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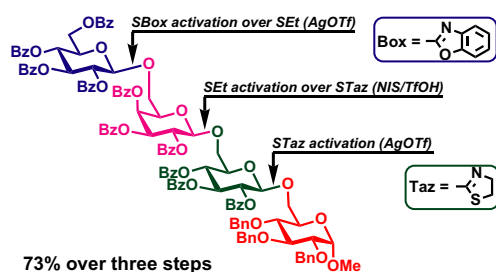
Eleonora Elhalem, María J. Comin, Julieta Leitofuter, Guadalupe García-Liñares and Juan B. Rodríguez*



Glycosyl thioimidates in a highly convergent one-pot strategy for oligosaccharide synthesis

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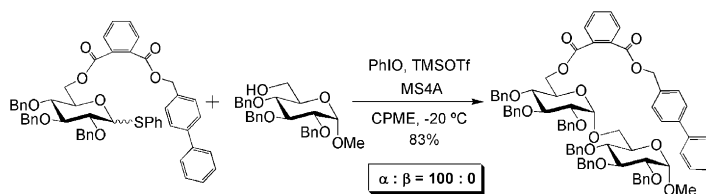
Papapida Pornsuriyasak and Alexei V. Demchenko*



Stereoselective glycosylation using the long-range effect of a [2-(4-phenylbenzyl)-oxycarbonyl]benzoyl group

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Hiroomi Tokimoto, Yukari Fujimoto, Koichi Fukase* and Shoichi Kusumoto



Synthesis and evaluation of two mannosamine-derived lactone-type inhibitors of snail β -mannosidase

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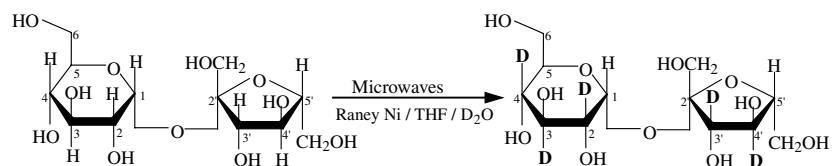
Miroslav Terinek and Andrea Vasella*

		$\Delta\Delta G_{\text{diss.}}$ [kcal/mol]	
Difference of the Inhibition of Snail β -Mannosidase for X = NH ₂ vs. X = OH	at pH 4.5	+ 4.2	+ 3.8
	at pH 5.5	+ 3.8	+ 2.6
		$\Delta\Delta G_{\text{diss.}}$ [kcal/mol]	
Difference of the Inhibition of <i>C. sacchar.</i> β -Glucosidase for X = NH ₂ vs. X = OH	at pH 4.6	+ 4.1	+ 0.7
	at pH 5.4	–	+ 0.04
	at pH 6.8	+ 4.8	– 1.3

Microwave-assisted C–H bond activation using a commercial microwave oven for rapid deuterium exchange labeling (C–H → C–D) in carbohydrates

pp 471–475

Eugene A. Cioffi,* Rebekah H. Bell and Baouyen Le

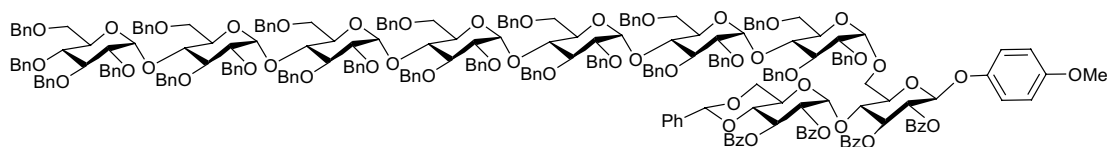


Facile hydrogen → deuterium exchange in two model carbohydrates via stereospecific C–H bond activation could be achieved using a pre-sonicated Raney Nickel[®] catalyst and a simple commercial microwave oven.

Exploiting an aromatic aglycone as a reporter of glycosylation stereochemistry in the synthesis of 1,6-linked maltooligosaccharides

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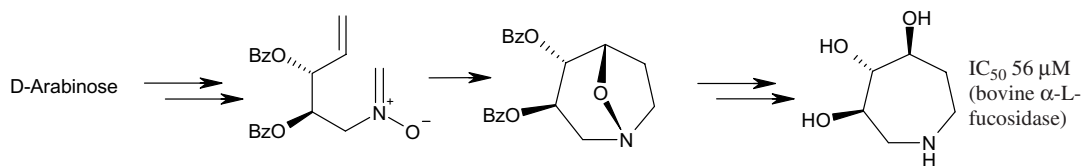
Laurence Marmuse, Sergey A. Nepogodiev and Robert A. Field*



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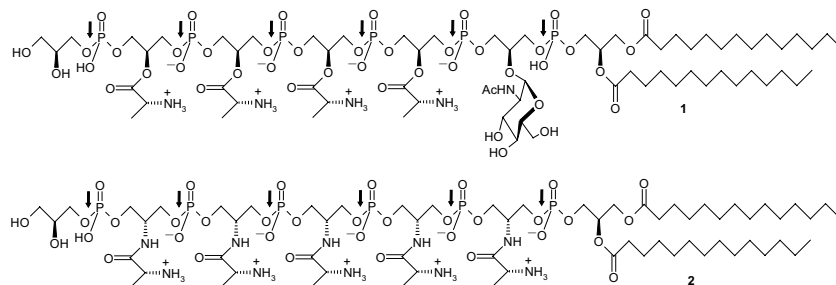
Stéphane Moutel, Michael Shipman,* Olivier R. Martin,* Kyoko Ikeda and Naoki Asano



Synthesis of structural variants of *Staphylococcus aureus* lipoteichoic acid (LTA)

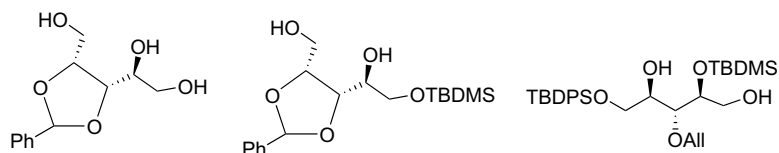
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Ignacio Figueroa-Perez, Andreas Stadelmaier, Siegfried Morath, Thomas Hartung and Richard R. Schmidt*



Synthesis of differentially protected ribitol derivatives from 3,4-*O*-benzylidene-D-ribo-1,5-lactone
Dirk J. Lefeber, Peter Steunenberg, Johannes F. G. Vliegthart and Johannes P. Kamerling*

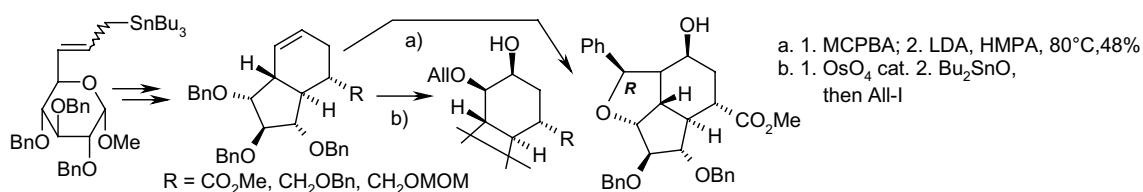
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Synthesis of complex carbobicyclic compounds from sugar allyltins: functionalization of the allylic position in bicyclo[4.3.0]nonene derivatives

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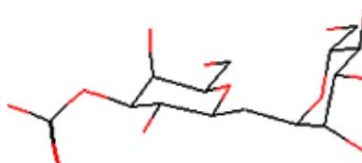
Sławomir Jarosz,* Bartosz Boryczko, Piotr Cmoch, Ana M. Gomez and Cristobal Lopez



The conformational behaviour of α,β -trehalose-like disaccharides and their *C*-glycosyl, imino-*C*-glycosyl and carbagalactose analogues depends on the chemical nature of the modification: an NMR investigation

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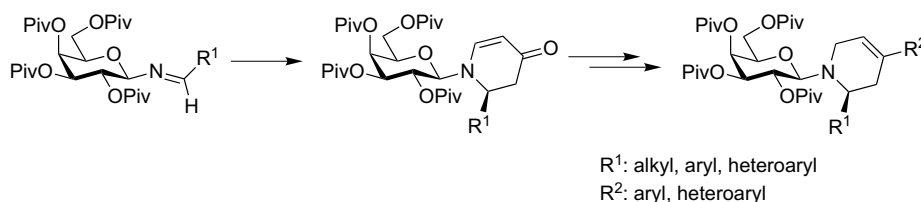
Víctor García-Aparicio, María del Carmen Fernández-Alonso, Jesús Angulo, Juan Luis Asensio, Fco. Javier Cañada, Jesús Jiménez-Barbero,* David R. Mootoo* and Xuhong Cheng



Palladium-catalysed C–C coupling reactions in the enantioselective synthesis of 2,4-disubstituted 4,5-dehydropiperidines using galactosylamine as a stereodifferentiating auxiliary

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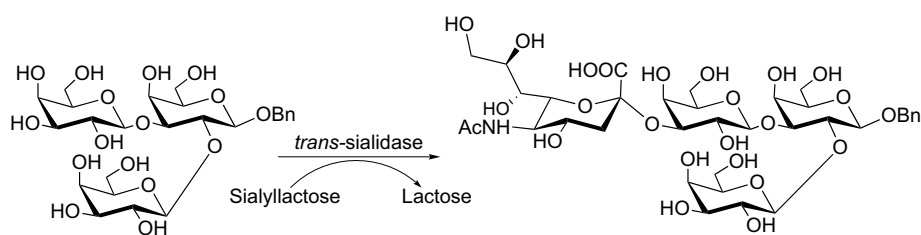
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Selective sialylation of 2,3-di-*O*-(β -D-galactopyranosyl)-D-galactose catalyzed by *Trypanosoma cruzi* trans-sialidase

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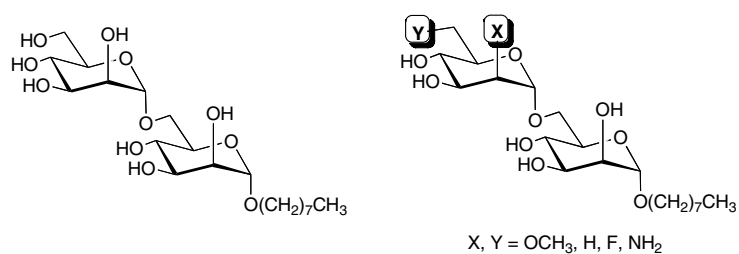
Rosalía Agusti, Verónica M. Mendoza, Carola Gallo-Rodriguez and Rosa M. de Lederkremer*



Synthetic disaccharide analogs as potential substrates and inhibitors of a mycobacterial polyprenol monophosphomannose-dependent α -(1 \rightarrow 6)-mannosyltransferase

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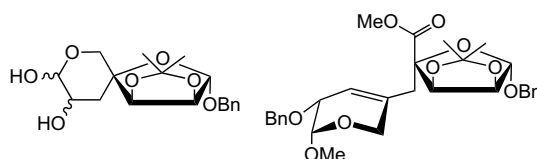
Vinodhkumar Subramaniam, Sudagar S. Gurcha, Gurdyaal S. Besra and Todd L. Lowary*



Synthesis of novel types of divalent saccharide structures by a ketene acetal Claisen rearrangement

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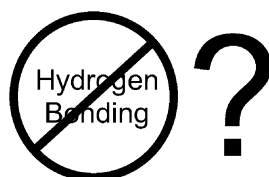
Barbara Werschkun and Joachim Thiem*



Fluorinated cellobiose and maltose as stand-ins for energy surface calculations

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Alfred D. French,* Glenn P. Johnson, Anne-Marie Kelterer and Gábor I. Csonka*

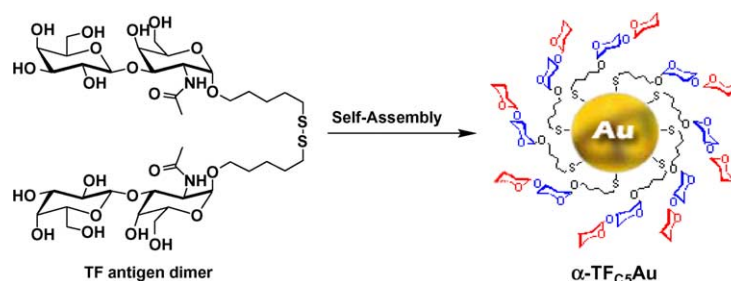


Is the loss of hydrogen bonding ability the only effect of substituting fluorine for hydroxyl groups? Can fluorinated disaccharides predict observed structures of cellobiose and maltose?

**Synthesis of gold nanoparticles bearing the Thomsen–Friedenreich disaccharide:
a new multivalent presentation of an important tumor antigen**

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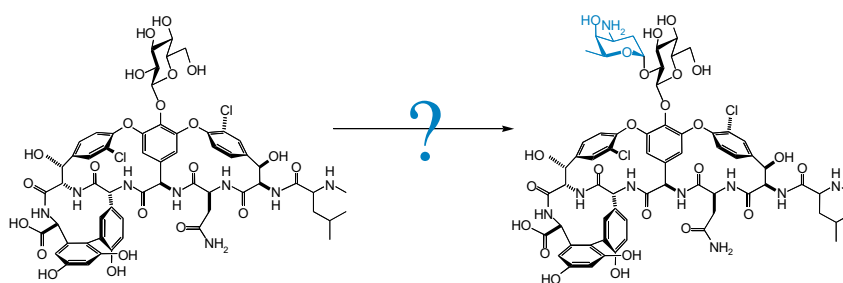
Sergei A. Svarovsky, Zoltan Szekely and Joseph J. Barchi, Jr.*



Glycosylation of glycopeptides: a comparison of chemoenzymatic and chemical methods

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Catherine Leimkuhler, Zhong Chen, Ryan G. Kruger, Markus Oberthür, Wei Lu,
Christopher T. Walsh and Daniel Kahne*



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*Corresponding author



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