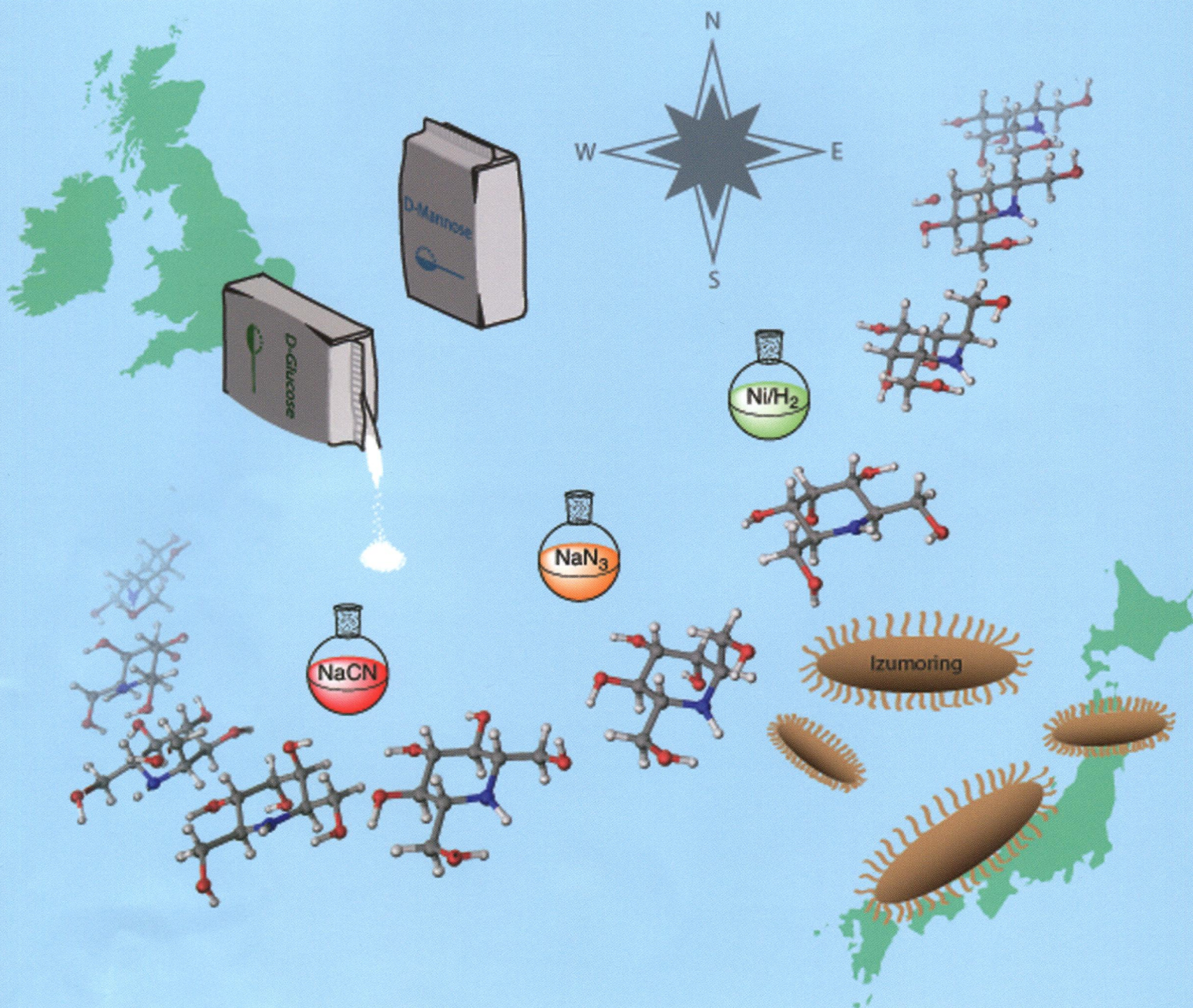


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PAPER

Atsushi Kato, George W. J. Fleet *et al.*

An approach to 8 stereoisomers of homonojirimycin from D-glucose via kinetic & thermodynamic azido- γ -lactones



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Organic & Biomolecular Chemistry

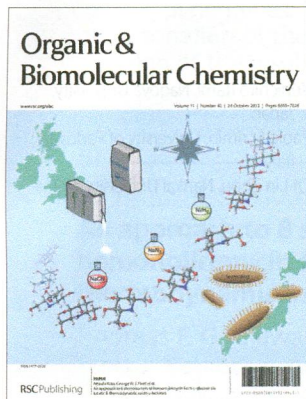
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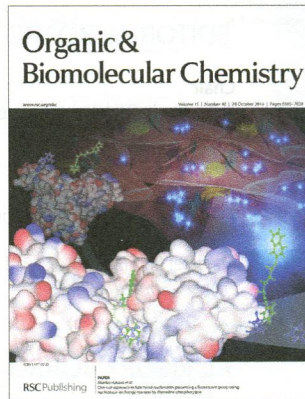
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Cover

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George W. J. Fleet *et al.*,
pp. 6886–6899.

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Inside cover

See Akihiko Hatano *et al.*,
pp. 6900–6905.

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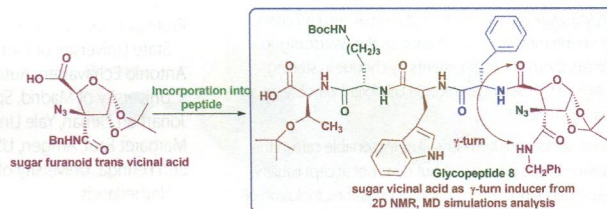
COMMUNICATIONS

6874

Sugar furanoid *trans*-vicinal diacid as a γ -turn inducer: synthesis and conformational study

Madhuri Vangala, Snehal A. Dhokale,
Rupesh L. Gawade, Rajamohanan R. Pattuparambil,
Vedavati G. Puranik and Dilip D. Dhavale*

A simple method for the synthesis of a sugar furanoid *trans*-vicinal diacid and its incorporation into the N-terminal tetrapeptide to get glycopeptide **8** has been described. The 2D NMR and MD simulation studies of **8** showed that the sugar diacid adopts a γ -turn towards the N-terminus.

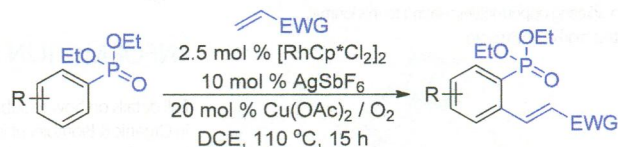


6879

Rhodium(III)-catalyzed *ortho*-olefination of aryl phosphonates

Bathoju Chandra Chary and Sunggak Kim*

Rh(III)-catalyzed *ortho*-olefination of aryl phosphonic esters is reported for the first time.

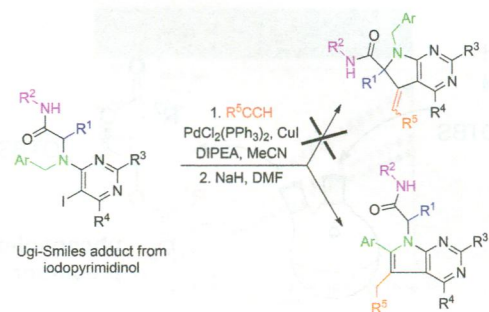


6883

Pyrrolo[2,3-*d*]pyrimidine synthesis through activation of *N*-benzyl groups by distal amides

Laurent El Kaim,* Laurence Grimaud* and Simon Wagschal*

A new activation mode of CH₂-benzylamino groups has been observed during the preparation of pyrrolopyrimidines from Ugi–Smiles adducts of hydroxypyrimidines. The cyclization proceeds via a formal deprotonation of the *N*-benzyl group followed by trapping of the resulting anion by the alkyne moiety.



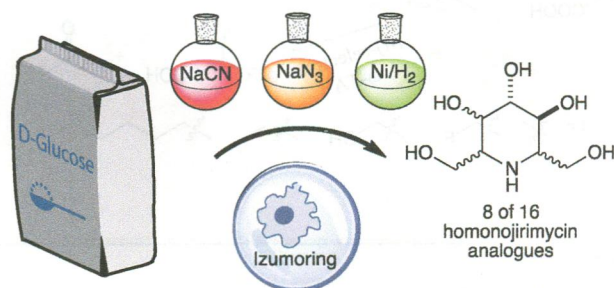
PAPERS

6886

An approach to 8 stereoisomers of homonojirimycin from *D*-glucose via kinetic & thermodynamic azido- γ -lactones

Andreas F. G. Glawar, Sarah F. Jenkinson, Scott J. Newberry, Amber L. Thompson, Shinpei Nakagawa, Akihide Yoshihara, Kazuya Akimitsu, Ken Izumori, Terry D. Butters, Atsushi Kato* and George W. J. Fleet*

A sweet combination of synthesis and biotechnology paves the way from *D*-glucose towards eight of the 16 stereoisomers of homonojirimycin.

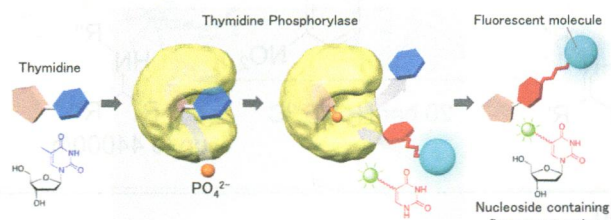


6900

One-pot approach to functional nucleosides possessing a fluorescent group using nucleobase-exchange reaction by thymidine phosphorylase

Akihiko Hatano,* Masayuki Kurosu, Susumu Yonaha, Munehiro Okada and Sanae Uehara

Thymidine phosphorylase mediates nucleobase-exchange reactions to convert unnatural nucleosides possessing a large functional group such as a fluorescent molecule, coumarin or pyrene, linked via an alkyl chain at the C5 position of uracil.

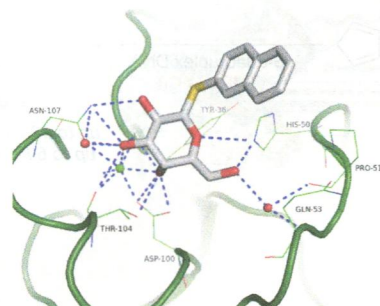


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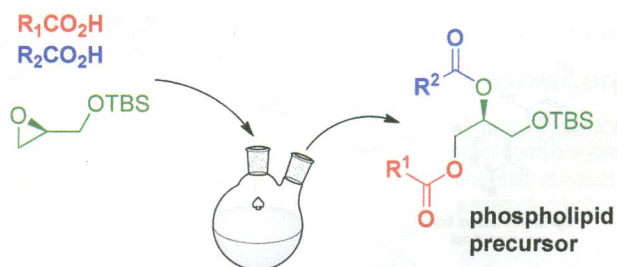
Aromatic thioglycoside inhibitors against the virulence factor LecA from *Pseudomonas aeruginosa*

Jacques Rodrigue, Géraldine Ganne, Bertrand Blanchard, Catherine Saucier, Denis Giguère, Tze Chieh Shiao, Annabelle Varrot, Anne Imberty* and René Roy*

Inhibitors of the LecA (PA-IL) virulence factor from the pathogenic *P. aeruginosa* were studied, which led to identification of compound **11** as the best inhibitor.



6919

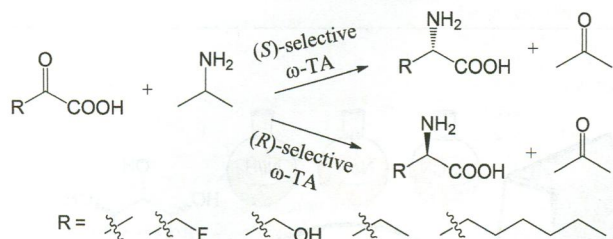


Catalytic synthesis of enantiopure mixed diacylglycerols – synthesis of a major *M. tuberculosis* phospholipid and platelet activating factor

Peter Fodran and Adriaan J. Minnaard*

An efficient catalytic one-pot synthesis of protected diacylglycerols has been developed, starting from enantiopure glycidol. Subsequent migration-free deprotection leads to stereo- and regiochemically pure diacylglycerols.

6929

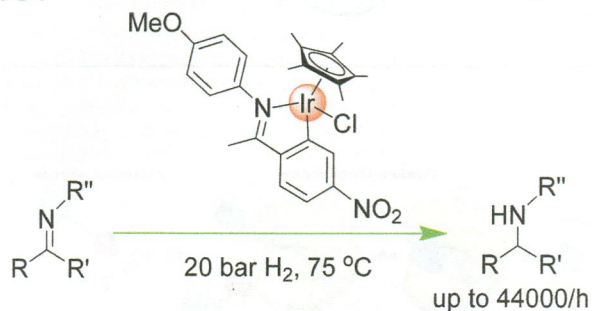


ω -Transaminase-catalyzed asymmetric synthesis of unnatural amino acids using isopropylamine as an amino donor

Eul-Soo Park, Joo-Young Dong and Jong-Shik Shin*

Isopropylamine, an ideal amino donor for ω -transaminase, was employed for asymmetric amination of α -keto acids to prepare unnatural amino acids including L-homoalanine.

6934

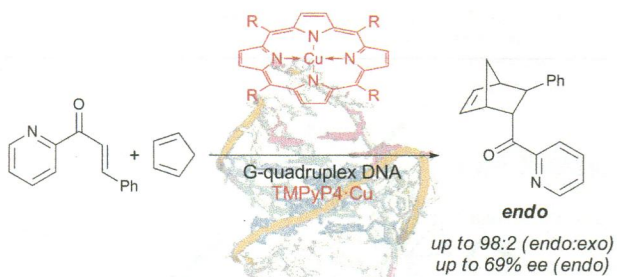


A highly active cyclometallated iridium catalyst for the hydrogenation of imines

Barbara Villa-Marcos, Weijun Tang, Xiaofeng Wu and Jianliang Xiao*

A cyclometallated iridium complex is shown to be highly active and selective for the hydrogenation of various imines.

6940



The influence of G-quadruplex structure on DNA-based asymmetric catalysis using the G-quadruplex-bound cationic porphyrin TMPyP4-Cu

Michael Wilking and Ulrich Hennecke*

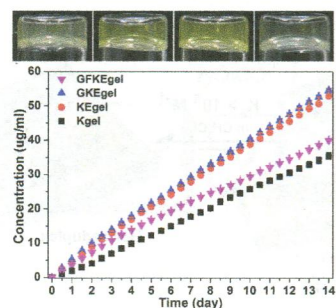
The DNA G-quadruplex-binding porphyrin TMPyP4-Cu was found to form efficient hybrid catalysts for DNA-based asymmetric catalysis when bound to DNA G-quadruplexes reaching enantioselectivities up to 69% ee.

6946

Disulfide bond reduction-triggered molecular hydrogels of folic acid–Taxol conjugates

Chengbiao Yang, Dongxia Li, Qianqi Feng Zhao, Lianyong Wang,* Ling Wang and Zhimou Yang*

Gels of FA–Taxol conjugates can sustain release of Taxol over 14 days.

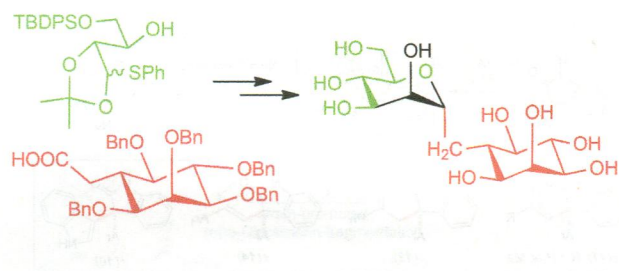


6952

Synthesis of the C-glycoside of α -D-mannose-(1 \rightarrow 6)-D-*myo*-inositol

Sunej Hans, Ahmad Altit and David R. Mootoo*

The C-glycoside of α -D-mannose-(1 \rightarrow 6)-D-*myo*-inositol was prepared from 1-thio-1,2-O-isopropylidene and C-branched inositol precursors via a *de novo* synthesis of the glycone segment.

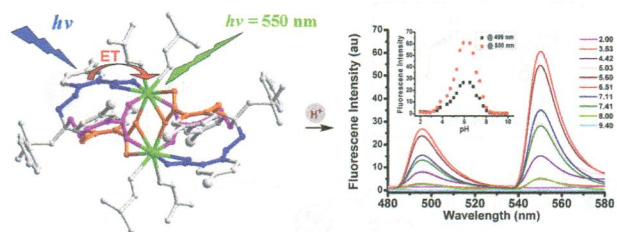


6960

Off–on–off fluorescent chemosensor for pH measurement with a terbium(III) complex based on a tripodal salicylic-acid derivative

Yan-Ling Yang, Ya-Wen Wang, Dong-Zhu Duan, Ai-Jiang Zhang, Jian-Guo Fang and Yu Peng*

This new **BSA-Tb** complex exhibits high sensitivity in the physiological pH range with significant “off–on–off” fluorescence switching in aqueous solution.

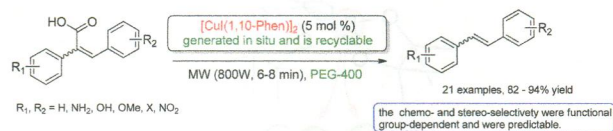


6967

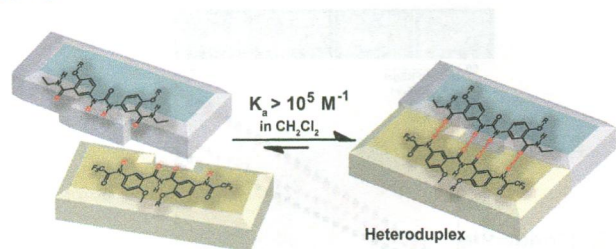
CuI/1,10-phen/PEG promoted decarboxylation of 2,3-diarylacrylic acids: synthesis of stilbenes under neutral and microwave conditions with an *in situ* generated recyclable catalyst

Yong Zou,* Qi Huang, Tong-kun Huang, Qing-chun Ni, En-sheng Zhang, Tian-long Xu, Mu Yuan and Jun Li

The *in situ* generated $[\text{CuI}(1,10\text{-phen})]_2$ could readily be recovered and showed excellent catalytic activity over the next runs. In addition, the chemo- and stereo-selectivity were functional group-dependent and were predictable.



6975

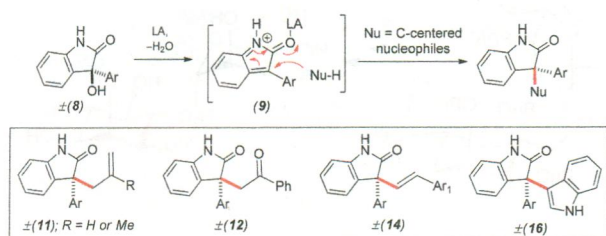


Quadruply hydrogen-bonded heteroduplexes based on imide and urea units arrayed with ADDA/DAAD sequences

Xianghui Li, Yiming Jia, Yi Ren, Youjia Wang, Jinchuan Hu, Teng Ma, Wen Feng and Lihua Yuan*

A new class of imide-urea heteroduplexes with ADDA/DAAD hydrogen-bond arrays provide K_a values from 10^3 to $>10^5 \text{ M}^{-1}$ in apolar solvents.

6984

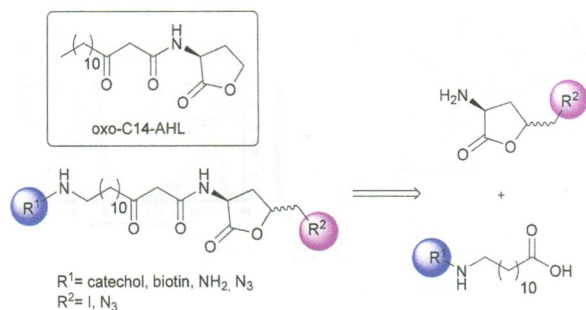


Acid-catalyzed reactions of 3-hydroxy-2-oxindoles with electron-rich substrates: synthesis of 2-oxindoles with all-carbon quaternary center

Lakshmana K. Kinthada, Santanu Ghosh, Subhadip De, Subhajit Bhunia, Dhananjay Dey and Alakesh Bisai*

A Lewis acid-catalyzed reaction of 3-hydroxy-2-oxindoles ± 8 with various 2π electron-rich substrates has been investigated. The methodology provides a straightforward approach to the 2-oxindoles sharing an all-carbon quaternary center in good yields.

6994

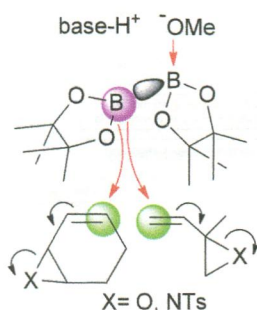


Modified *N*-acyl-homoserine lactones as chemical probes for the elucidation of plant-microbe interactions

Heike Thomanek, Sebastian T. Schenk, Elke Stein, Karl-Heinz Kogel, Adam Schikora* and Wolfgang Maison*

Small molecular probes are the key to deciphering the chemical communication between root bacteria and their plant hosts. In this paper, modified analogues of bacterial autoinducers are presented and their biological activity in bacteria and plants is demonstrated.

7004



Metal-free borylative ring-opening of vinyl epoxides and aziridines

Xavier Sanz, Graham M. Lee, Cristina Pubill-Ulldemolins,* Amadeu Bonet, Henrik Gulyás, Stephen A. Westcott, Carles Bo* and Elena Fernández*

We describe a chemoselective formation of polyfunctionalised allyl boronates through a convenient organocatalytic borylative ring opening reaction. A postulated theoretical and experimental S_N2' conjugated B addition has been suggested from the Lewis acid-base adduct $\text{MeO}^- \rightarrow \text{B}_2\text{pin}_2$.

