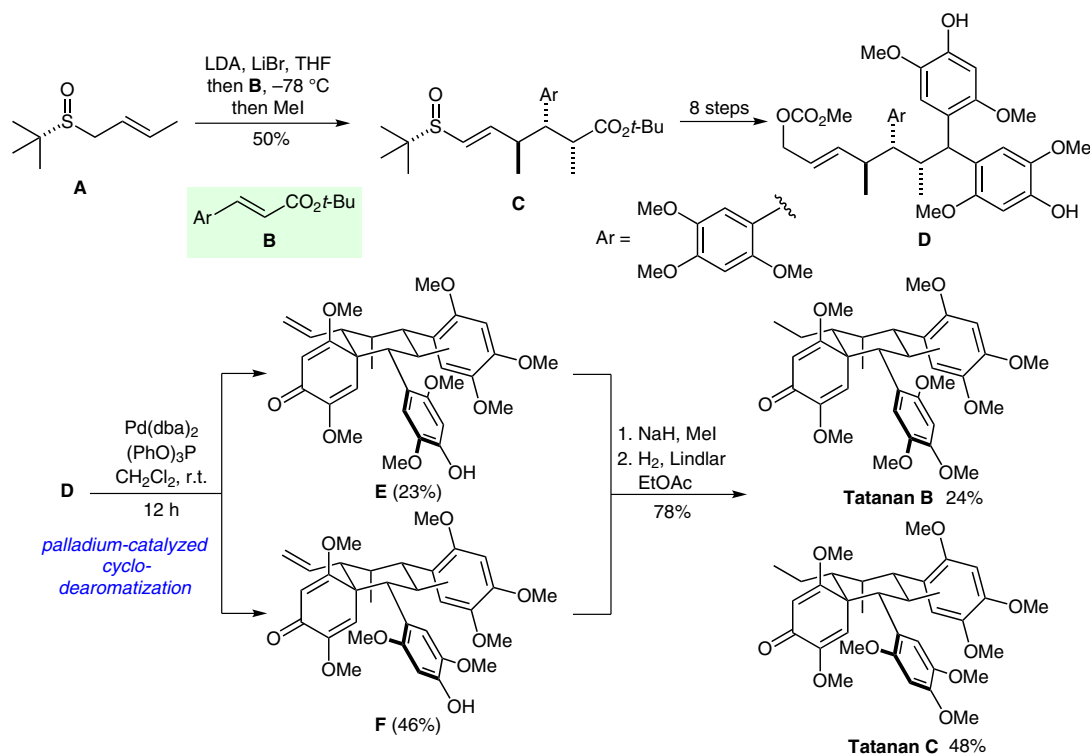


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 Enantioselective Synthesis of Tatanans A–C and Reinvestigation of Their Glucokinase-Activating Properties
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Synthesis of Tatanans A–C and Their Glucokinase-Activating Properties



Significance: The tatanans are sesquiglean natural products that have been reported to be powerful glucokinase activators, and thus potential antidiabetic agents (G. Ni et al. *J. Org. Chem.* **2011**, *76*, 2056). A. Zakarian, B. G. Miller and co-workers now report the first total syntheses of tatanans A–C and the re-evaluation of their biological activities. In contrast to the previous studies, however, they found that tatanans do not have any glucokinase-activating capabilities.

Comment: The synthesis of tatanans B and C commenced with a stereocontrolled conjugate addition–enolate trapping sequence that afforded C. Cleavage of the stereodirecting group was followed by addition of the aryl groups and further elaboration to afford allylic carbonate D. This underwent a remarkably selective palladium-catalyzed cyclodearomatization to give atropisomers E and F in 23 and 46% yield, respectively, along with another isomer in 15% yield (not shown). E and F could then be converted into the natural products by methylation and hydrogenation. The authors also accomplished the synthesis of tatanan A (not shown), an acyclic member of the family of natural products, by a sequence of Claisen rearrangements.

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