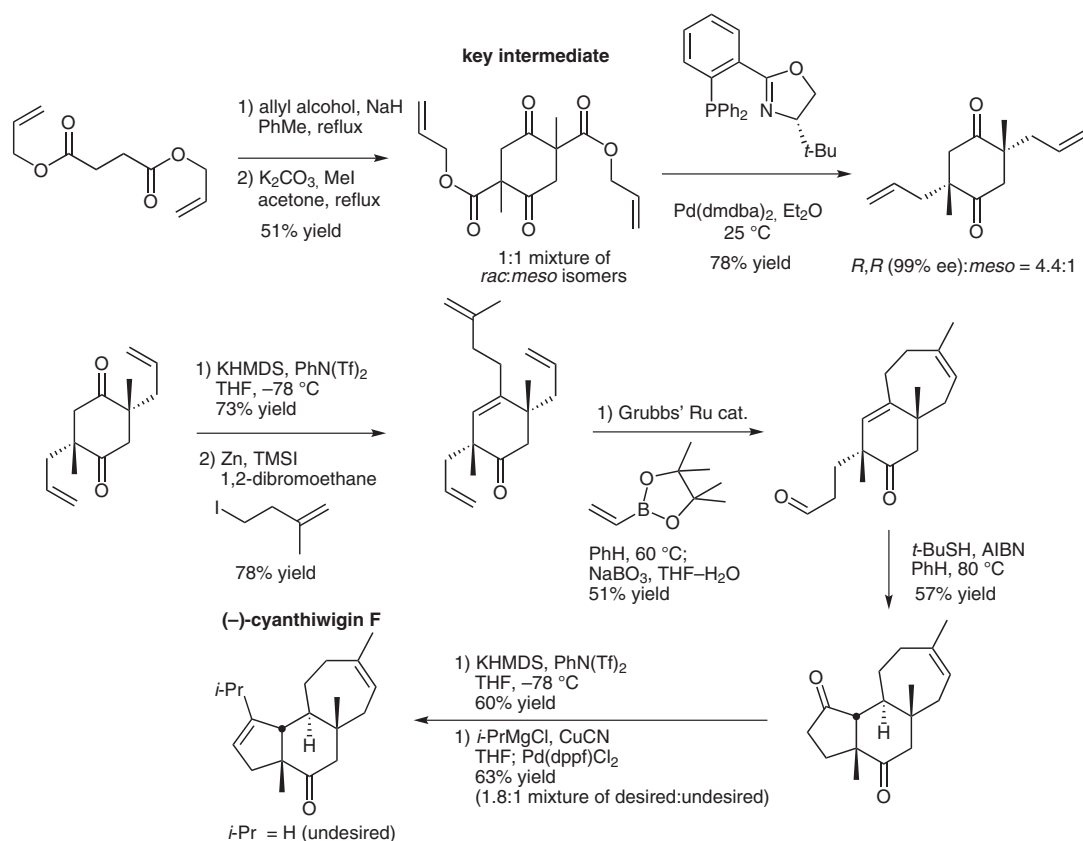


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The Total Synthesis of (–)-Cyanthiwigin F by Means of Double Catalytic Enantioselective Alkylation

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Double Catalytic Enantioselective Alkylation: Total Synthesis of (–)-Cyanthiwigin F



Significance: Double-catalytic transformations are efficient and interesting routes to construct highly complex and functionalized compounds rapidly. There are a number of examples of double-catalytic enantioselective reactions to date (see Reviews below). This report utilizes this unique approach to construct a key precursor to what is arguably the greatest challenge in the synthesis of this natural product.

Reviews: S. Masamune, W. Choy, J. S. Petersen, L. R. Sita *Angew. Chem. Int. Ed.* 1985, 24, 1-30; O. I. Kolodiazny *Tetrahedron* **2003**, 59, 5953-6018.

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Comment: While double-enantioselective catalytic reactions are well known, the authors have cleverly utilized this process to construct two all-carbon quaternary centers in a single step. This rapid approach gave way to the following efficient route to the desired product in a minimum number of steps. The overall transformation is interesting and quite efficient.