Category

Synthesis of Natural Products and Drugs

Metal-Catalyzed Asymmetric Synthesis and Stereoselective Reactions

Key Words

aldols

alkenylsilanes

cross-coupling

B. M. TROST,* M. U. FREDERIKSEN, J. P. N. PAPILLON, P. E. HARRINGTON, S. SHIN, B. T. SHIREMAN (STANFORD UNIVERSITY, USA)

Dinuclear Asymmetric Zn Aldol Additions: Formal Asymmetric Synthesis of Fostriecin

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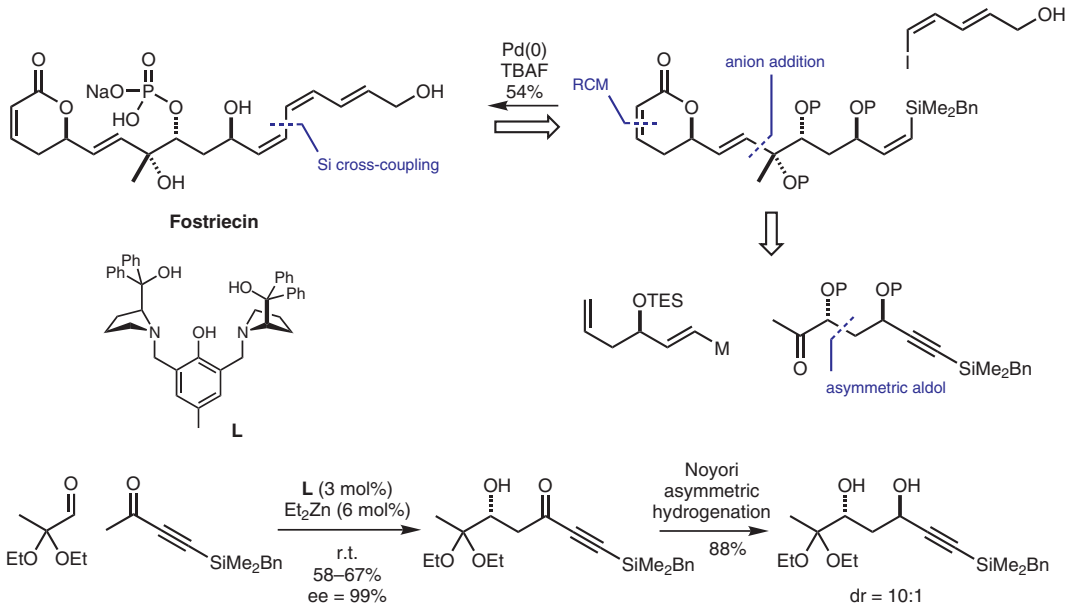
Asymmetric Zn Aldol Additions: Asymmetric Synthesis of Fostriecin



Significance: Fostriecin is a metabolite of *Streptomyces pulveraceous*. It is a potent inhibitor of protein phosphatase 2A and it is cytotoxic towards leukemia and many other cell lines.

Comment: The two markworthy steps in this short synthesis are (a) the large scale (49.6 mmol) direct asymmetric Zn-catalyzed aldol reaction illustrated and (b) a Pd-catalyzed alkenylsilane cross-coupling which installs the conjugated triene moiety. The synthesis was accomplished in 14 steps for the longest linear sequence and gave dephospho-fostriecin in 8.5% overall yield.

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