SYNFACTS

Highlights in Current
Synthetic Organic
Chemistry

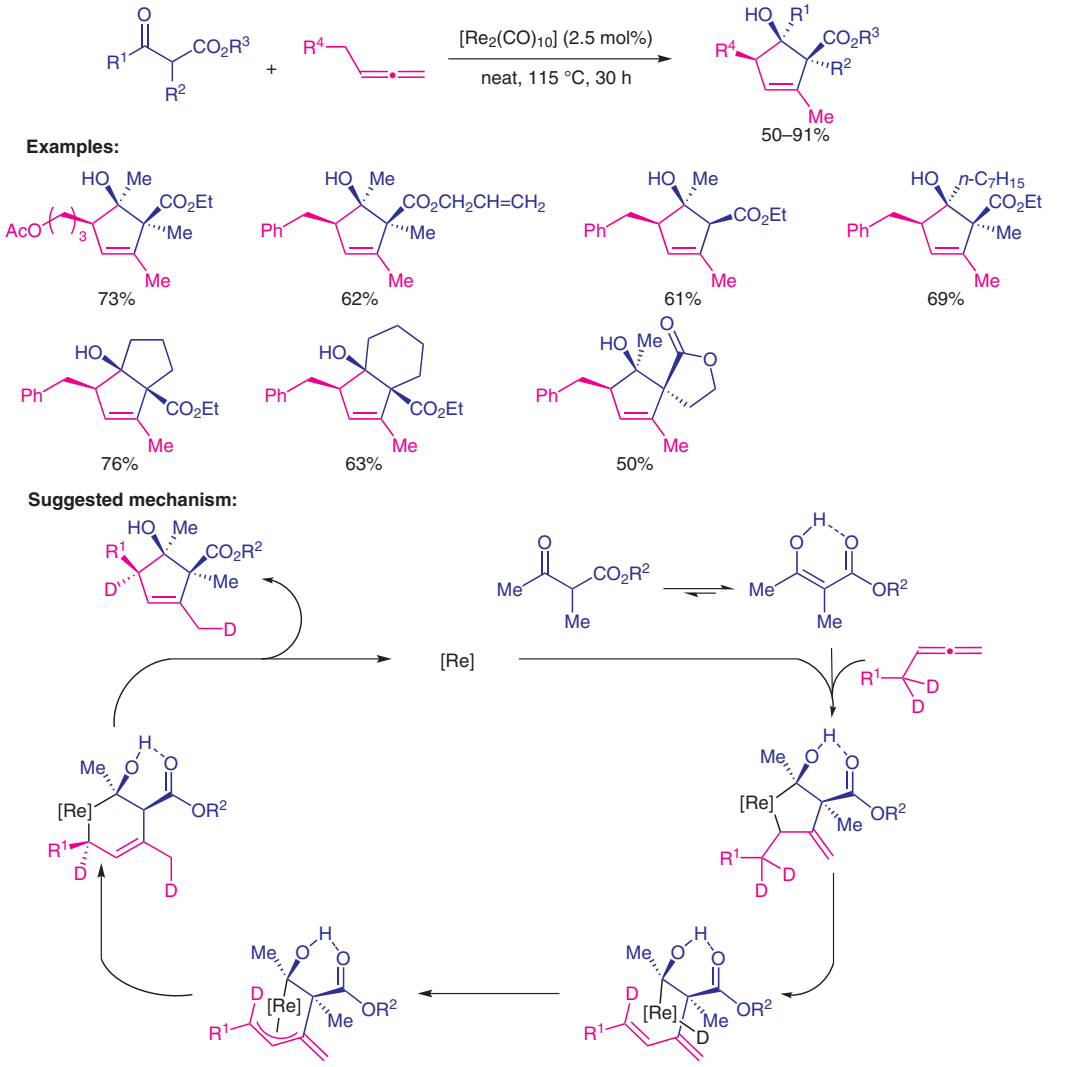
REPRINT

Thieme

S. S. YUDA, Y. KUNINOBU,* K. TAKAI* (OKAYAMA UNIVERSITY, JAPAN)

Rhenium-Catalyzed Synthesis of Stereodefined Cyclopentenes from β-Ketoesters and Aliphatic Allenes
Angew. Chem. Int. Ed. **2008**, *47*, 9318-9321.

Re-Catalyzed Cycloaddition of β-Keto Esters to Aliphatic Allenes



Significance: A novel diastereoselective annulation reaction between β-keto esters and aliphatic allenes is presented. The reaction leads to the formation of stereodefined cyclopentenes, in which three stereogenic centers are controlled, including an all-carbon quaternary center.

Comment: This article represents a major contribution to the use of Re-complexes in organic synthesis. The reaction is atom economical and is driven by the use of the commercially available $[Re_2(CO)_{10}]$. The fact that a number of stereocenters is controlled during the reaction makes the search for an enantioselective protocol an attractive target.

SYNFACTS Contributors: Paul Knochel, Tobias Thaler
Synfacts 2009, 2, 0199-0199 Published online: 22.01.2009
DOI: 10.1055/s-0028-1087657; **Reg-No.:** P17108SF