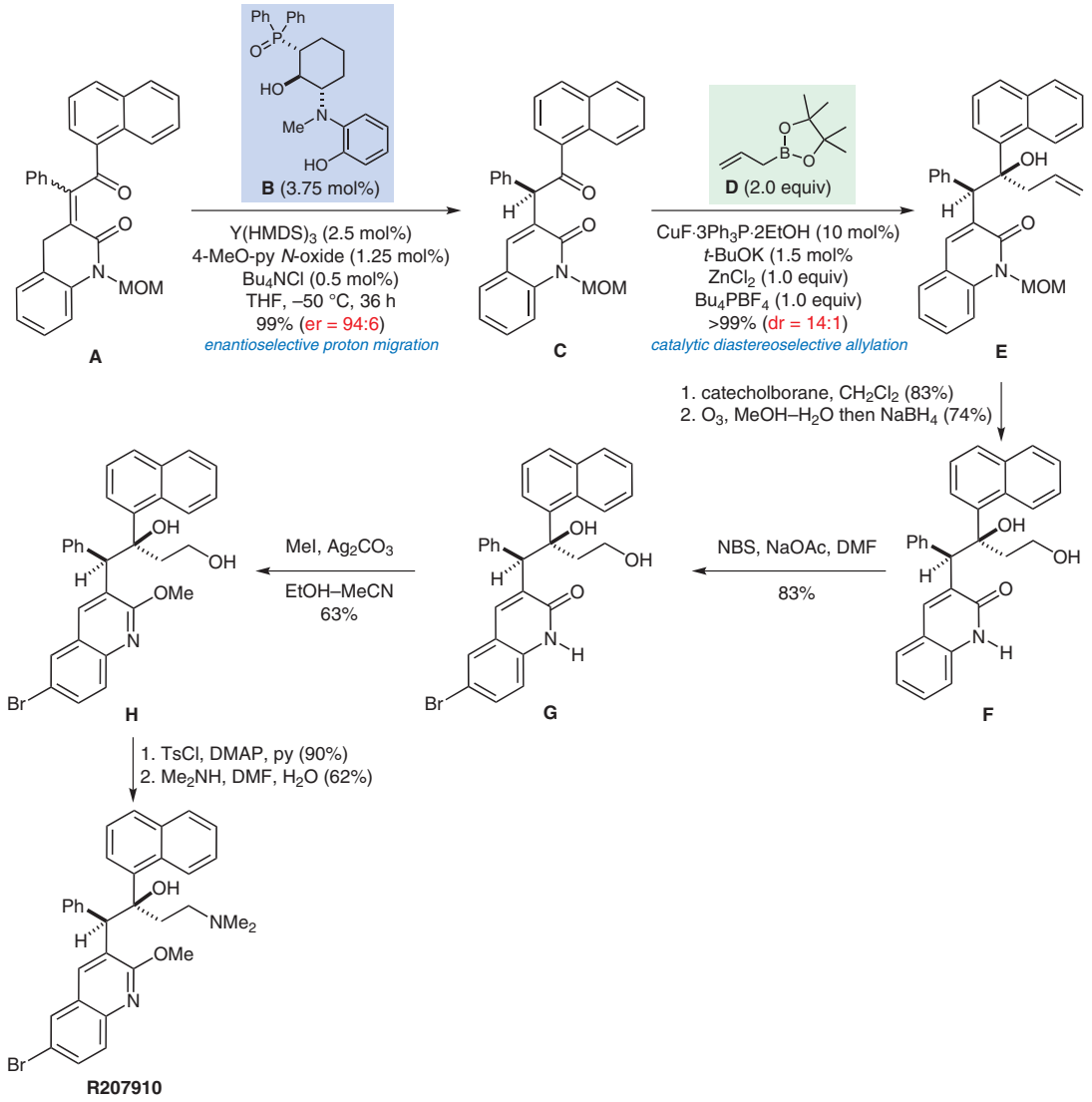
Y. SAGA, R. MOTOKI, S. MAKINO, Y. SHIMIZU, M. KANAI,* M. SHIBASAKI* (THE UNIVERSITY OF TOKYO, JAPAN)

Catalytic Asymmetric Synthesis of R207910
J. Am. Chem. Soc. **2010**, *132*, 7905-7907.

Synthesis of R207910



Significance: R207910 is a selective inhibitor of the ATP synthase proton pump of both drug-sensitive and drug-resistant *Mycobacterium tuberculosis*. The synthesis of R207910 depicted features two novel transformations: (1) a catalytic enantioselective proton migration using a bimetallic Y complex (**A** → **C**) and (2) a CuF-catalyzed diastereoselective allylation reaction (**C** → **E**).

Comment: Mass spectrometric evidence suggests that the active catalyst in the enantioselective proton migration reaction (**A** → **C**) is a ternary complex comprising two ytterbium atoms, three molecules of the ligand **B** and one molecule of 4-methoxypyridine *N*-oxide. A catalytic cycle for the reaction is postulated. The allylation step could be performed with as little as 1 mol% of the CuF complex at the expense of a diminished dr (5.6:1).

SYNFACTS Contributors: Philip Kocienski
Synfacts 2010, 9, 0971-0971 Published online: 23.08.2010
DOI: 10.1055/s-0030-1257880; **Reg-No.:** K05210SF

Category

Synthesis of Natural Products and Potential Drugs

Key words

R207910

catalytic enantioselective proton migration

allylation

ytterbium(III) hexamethyl-disilazide

copper(I) fluoride