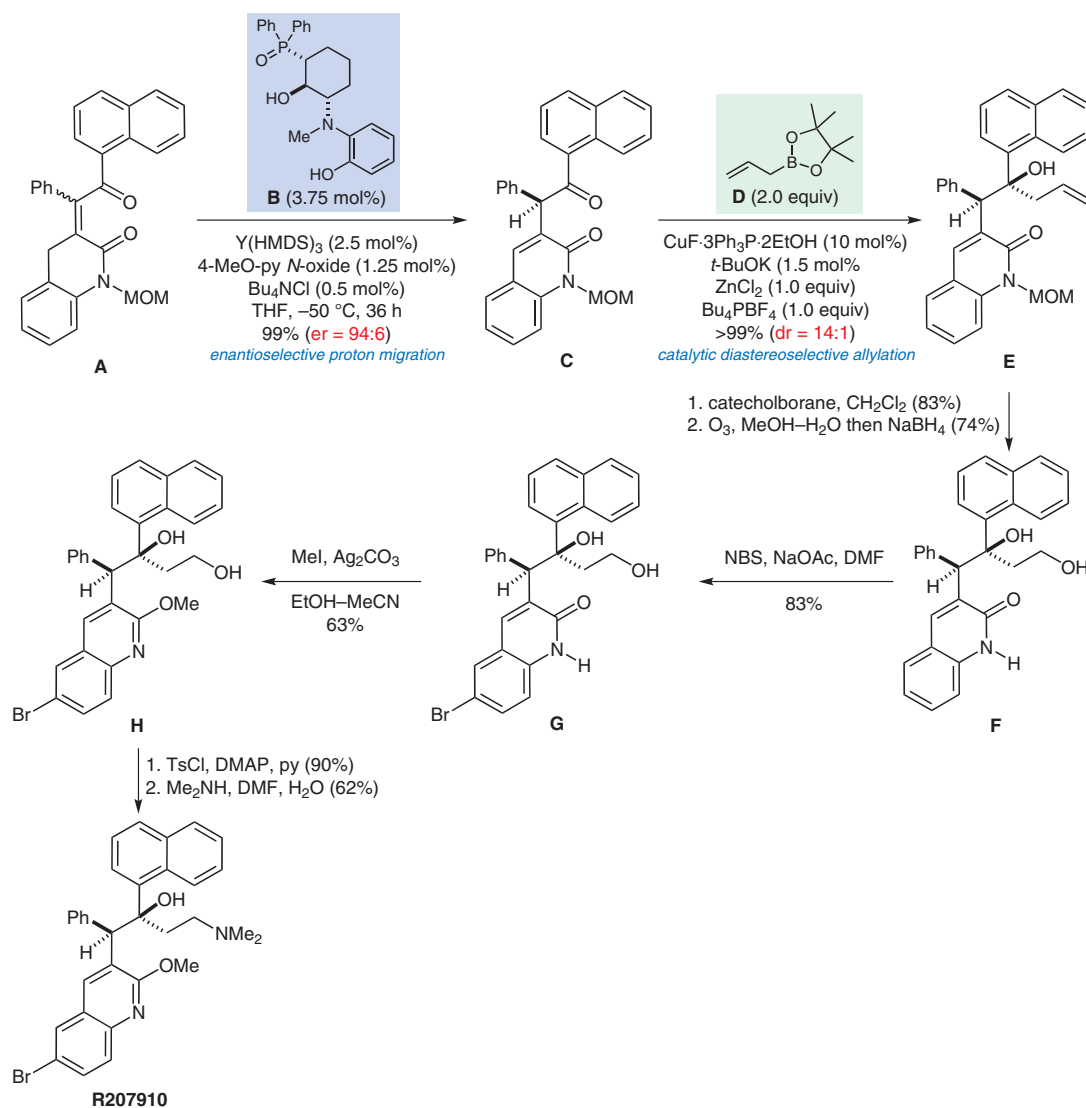


Synthesis of R207910



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** \rightarrow **C**) and (2) a CuF-catalyzed diastereoselective allylation reaction (**C** \rightarrow **E**).

Comment: Mass spectrometric evidence suggests that the active catalyst in the enantioselective proton migration reaction (**A** \rightarrow **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
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