Synthesis of Maxipost

Asymmetric fluorination of oxindole **D** on a gram scale:

Further examples of the asymmetric fluorination of oxindoles:

Significance: Maxipost is a post-stroke neuro-protective agent that acts by opening large conductance Ca^{2+} -activated (maxi-K) potassium channels. Previous syntheses of maxipost by asymmetric fluorination of oxindoles required protection of the oxindole nitrogen as the *N*-Boc derivative. The route depicted features the direct asymmetric catalytic fluorination of the oxindole **A** using *N*-fluorobenzenesulfonimide (**B**) in the presence of 10 mol% of a chiral complex derived from scandium triflate and the amine oxide ligand **C**.

SYNFACTS Contributors: Philip Kocienski
Synfacts 2013, 9(1), 0013 Published online: 17.12.2012
DOI: 10.1055/s-0032-1317721; Reg-No.: K09412SF

Comment: Attempts to perform the maxipost synthesis on a 3.5 mmol scale resulted in decreased yield and enantioselectivity (53% yield, 86% ee) due to the low solubility of the substrate. By contrast, the asymmetric fluorination of oxindole **D** on a 4.0 mmol scale gave **E** in 93% yield and 97% ee. The small selection of the 29 examples described, showed that yields and enantioselectivities are generally high.

Category

Synthesis of Natural Products and Potential Drugs

Key words

maxipost

asymmetric fluorination

scandium triflate

N-fluorobenzene-sulfonimide