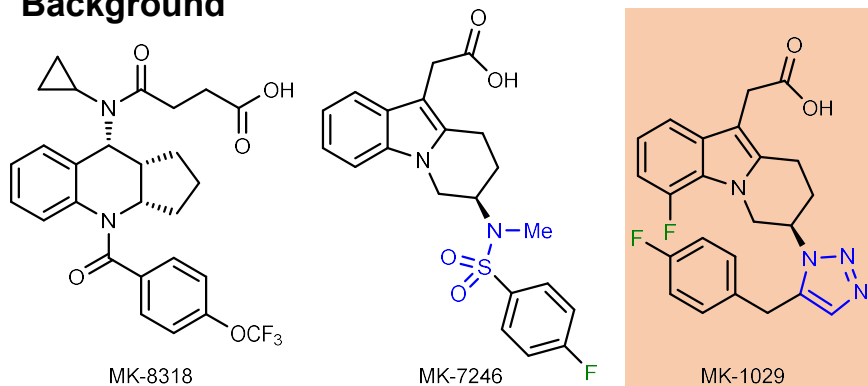


**Background**



- CRTH2 (Chemo-attractant receptor expressed on Th2 cells) antagonists for the treatment of respiratory disease (CRTH2: high-affinity receptors for prostaglandin d2)

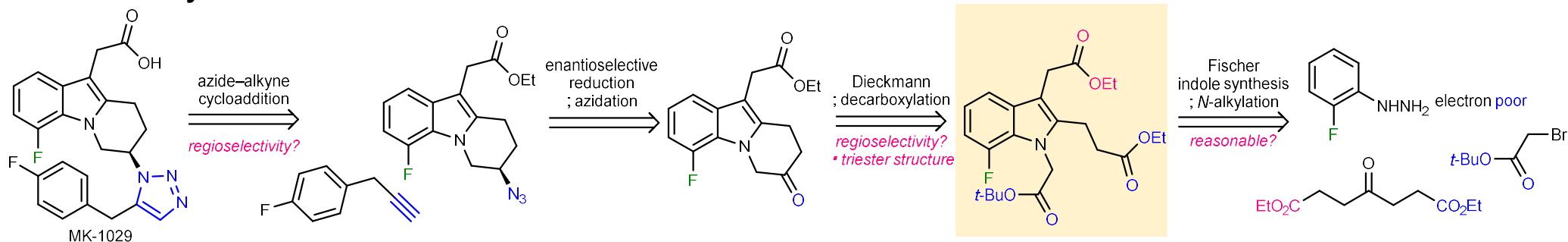
**Structure Features**

- Fluorine atom at indole ring
- 1,5-disubstituted 1,2,3-triazole side chain



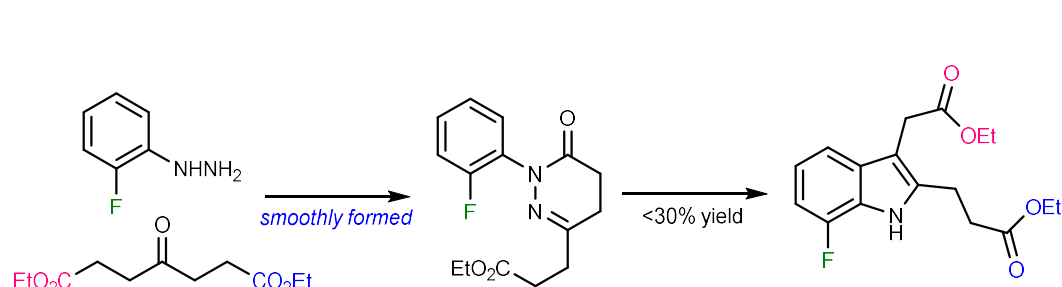
Ruck, R. T. et al. *Org. Process. Res. Dev.* **2022**, 26, 648.  
For the synthetic route to MK-7246, see  
Molinaro, C. et al. *J. Org. Chem.* **2012**, 77, 2299.

**Initial Retrosynthesis**

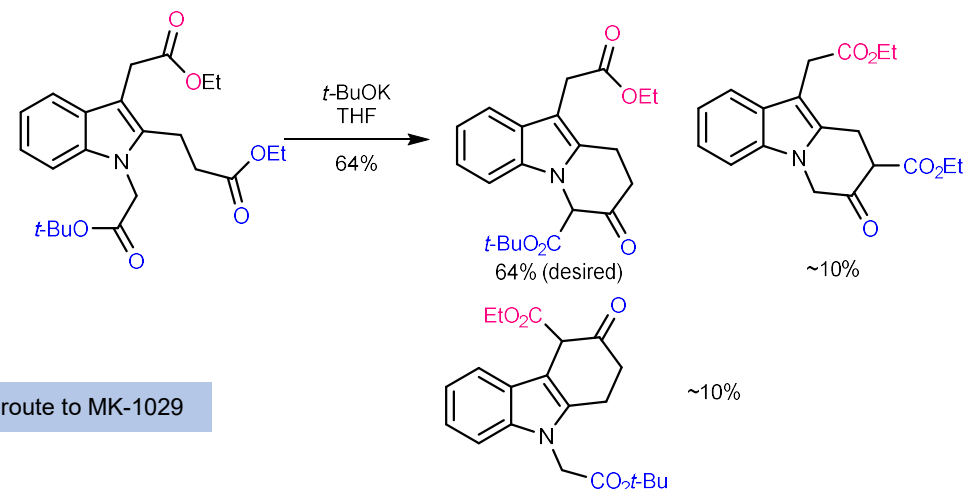


**Encountered and Potential Problems**

1. Fischer indole synthesis

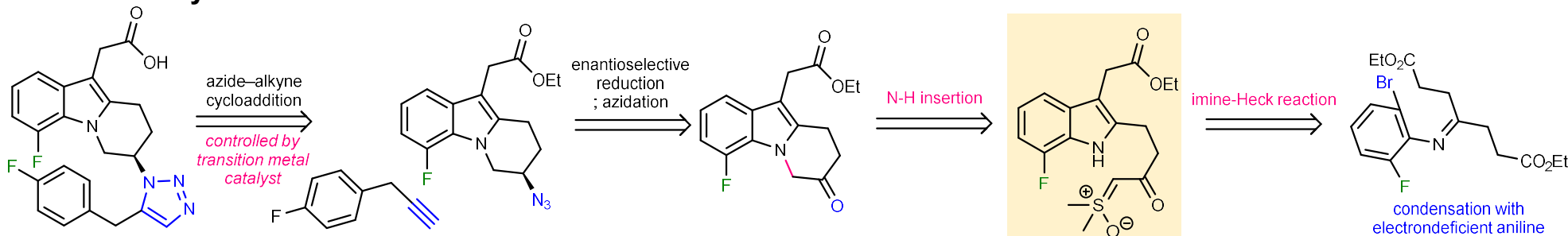


2. Dieckmann condensation (Molinaro, C. et al. *J. Org. Chem.* **2012**, 77, 2299.)



Need to devise a new synthetic route to MK-1029

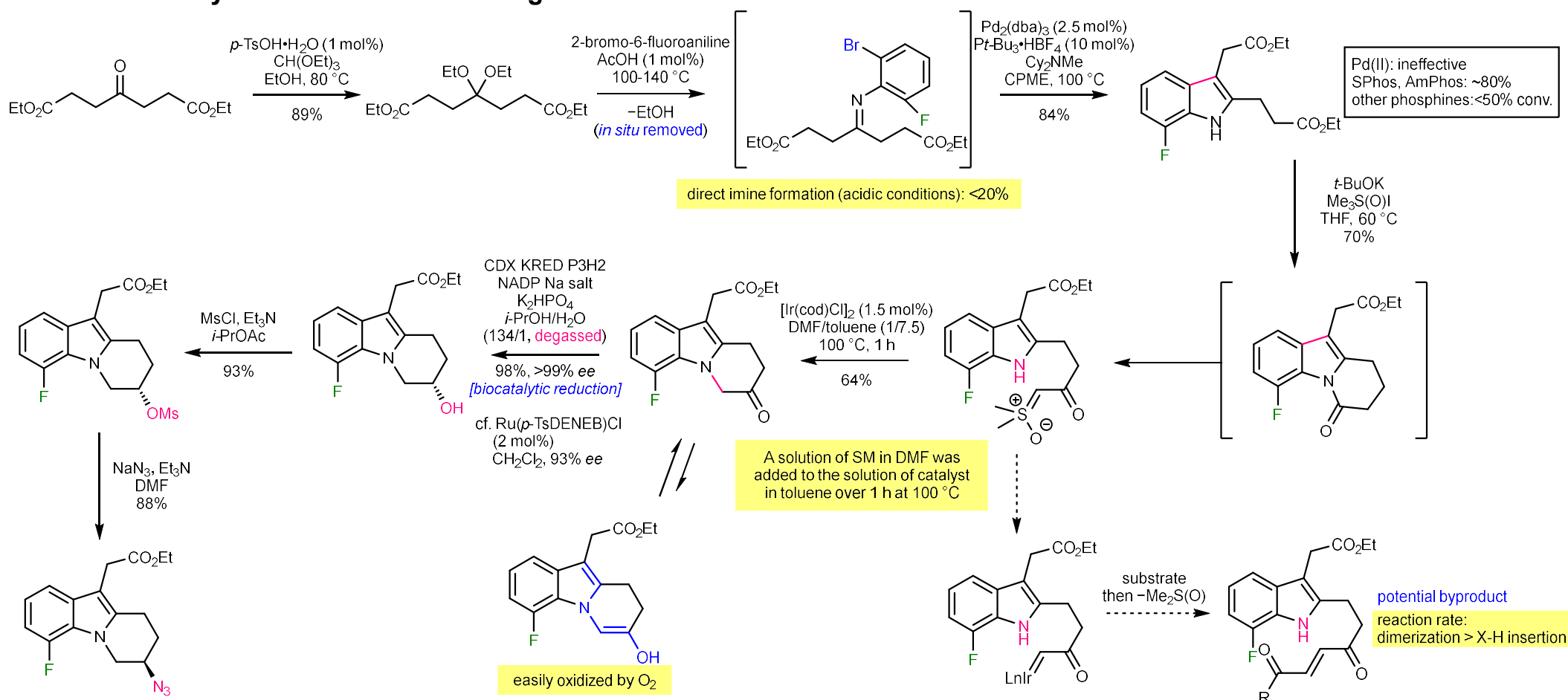
**Revised Retrosynthesis**



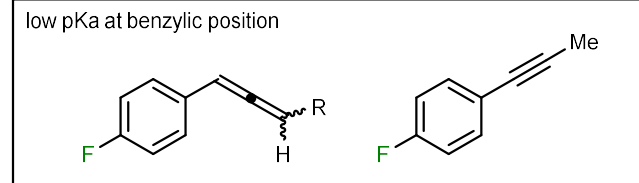
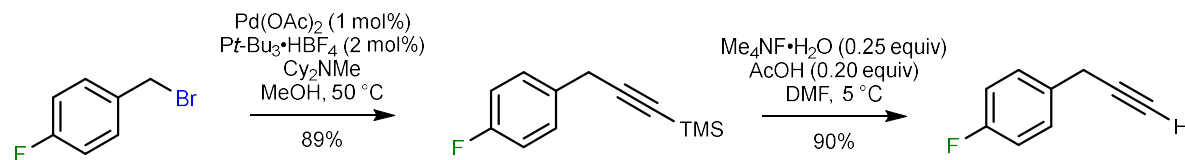
MK-1029

Mangion, I. K. et al. *Org. Lett.* **2009**, *11*, 3566.

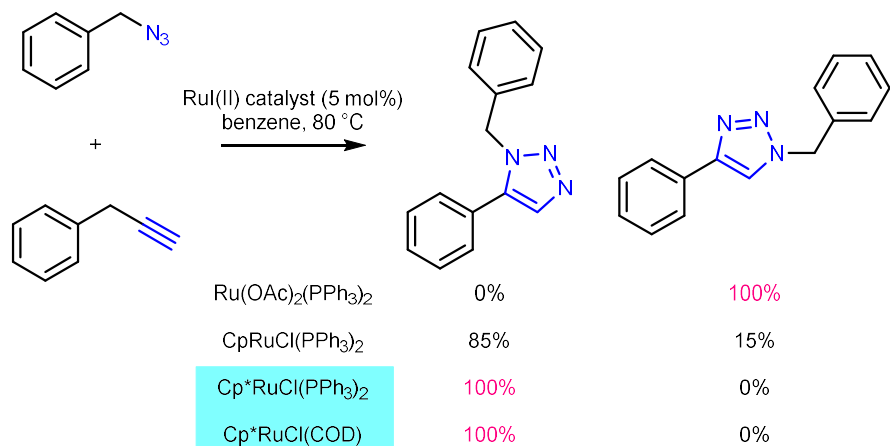
**Established Synthetic Route -Azide Fragment-**



**Established Synthetic Route -Alkyne Fragment-**



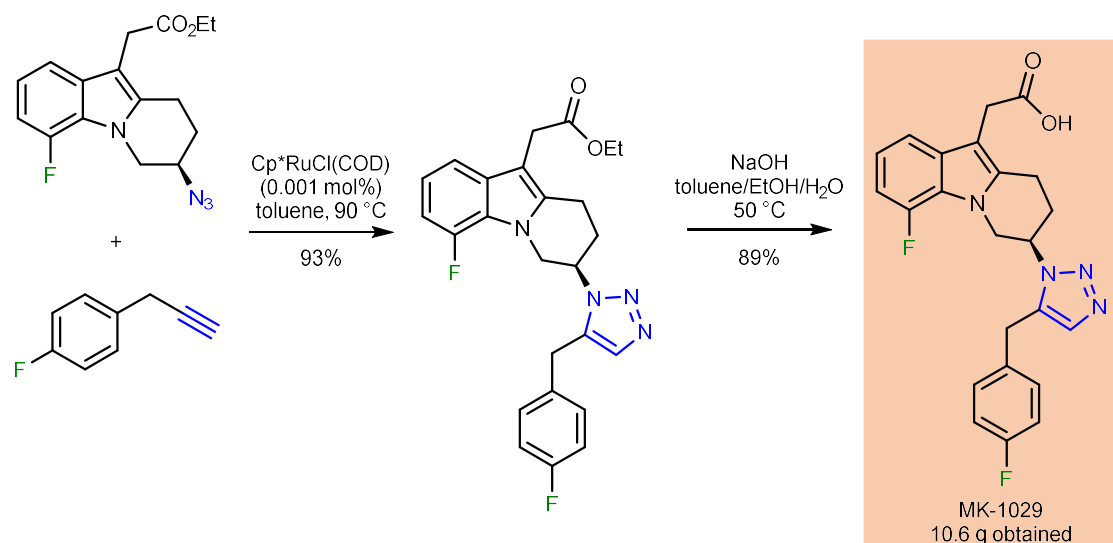
**Regioselective Azide-Alkyne Cycloaddition**



Cp\* = η<sup>5</sup>-pentamethylcyclopentadienyl

Fokin, V. V.; Jia, G. et al. *J. Am. Chem. Soc.* **2005**, *127*, 15998.  
Lin, Z.; Fokin, V. V. et al. *J. Am. Chem. Soc.* **2008**, *130*, 8923.

**Completion of the synthesis**



**Summary**

