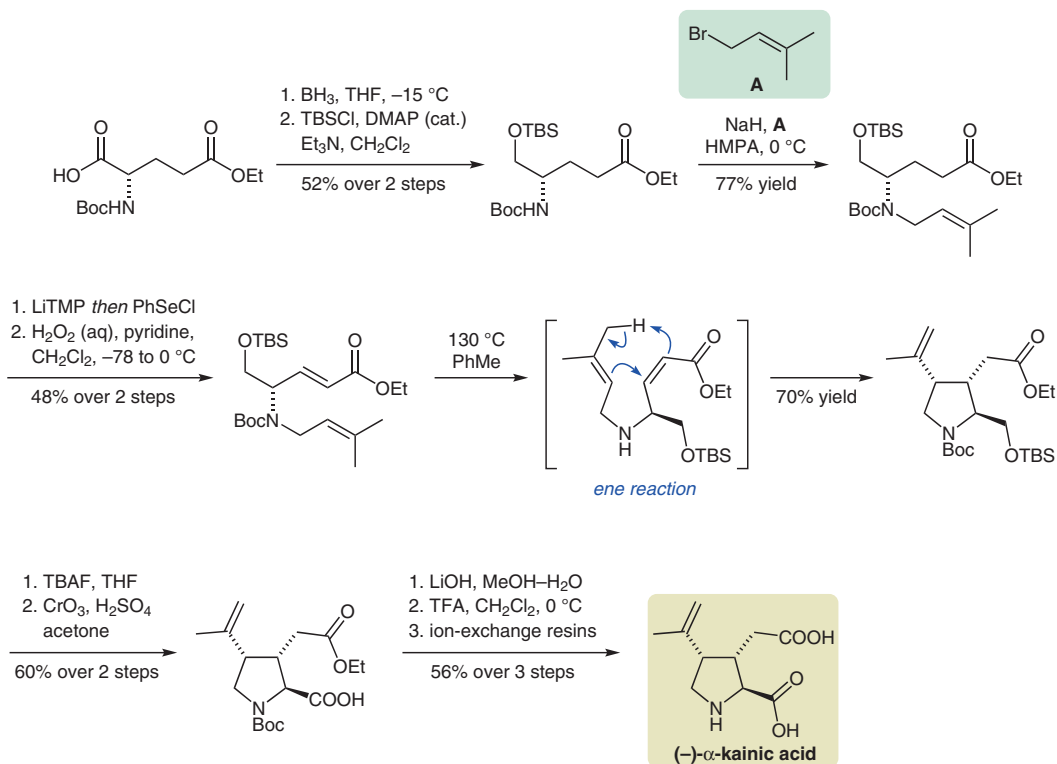


W. OPPOLZER*, K. THIRRING (UNIVERSITY OF GENEVA, SWITZERLAND)
 Enantioselective Synthesis and Absolute Configuration of (–)- α -Kainic Acid
J. Am. Chem. Soc. **1982**, *104*, 4978–4979, DOI: 10.1021/ja00382a054.

An Ene-reaction Ene-ables an α -Kainic Acid Synthesis



Significance: α -Kainic acid is isolated from the algae *Digenea simplex* and *Centrocerus clavulatum*. It is a central nervous system stimulant that acts via kainate receptor agonism and is used in epilepsy research to induce seizures in animals. The authors synthesized α -kainic acid in 5% overall yield and succeeded in verifying the absolute stereochemistry.

Comment: Starting from (S)-(+)-5-ethyl glutamate, a borane reduction chemoselectively affords a primary alcohol. This alcohol was protected as the TBS ether and the secondary amide was alkylated with **A**. Selenoxide elimination set the stage for the key diastereoselective intramolecular ene reaction, which yielded a single isomer. Silyl ether deprotection and oxidation via Jones' reagent unveiled the carboxylic acid. Finally, saponification and deprotection afford (–)- α -kainic acid.