

Johan FENNETEAU
Doctorant 2^{ème} année
Pharmacognosie
D5-4

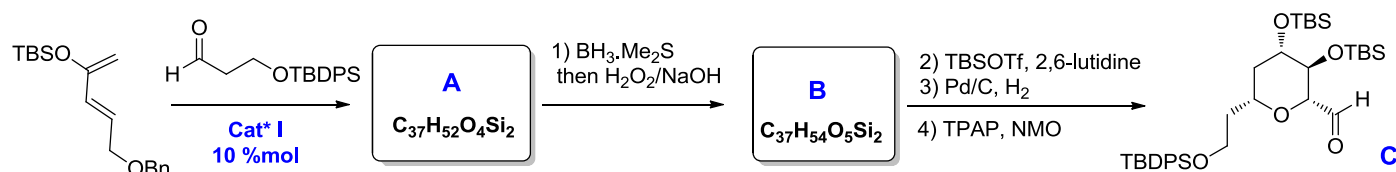
Total synthesis of (+)-Ambrucitin

(+)-Ambrucitin is a natural antifungal isolated from fermentation extract of *Polyangium cellulorum* in 1977.

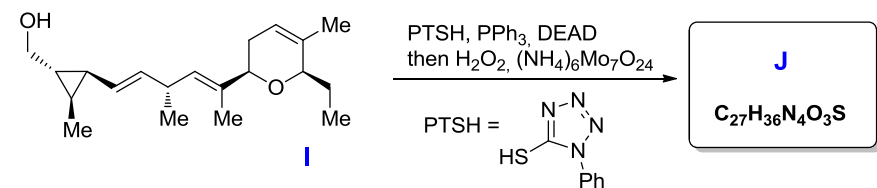
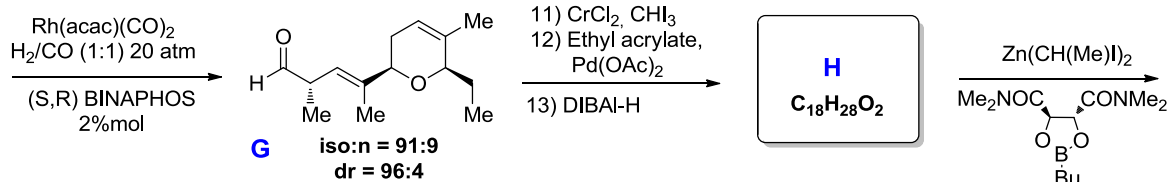
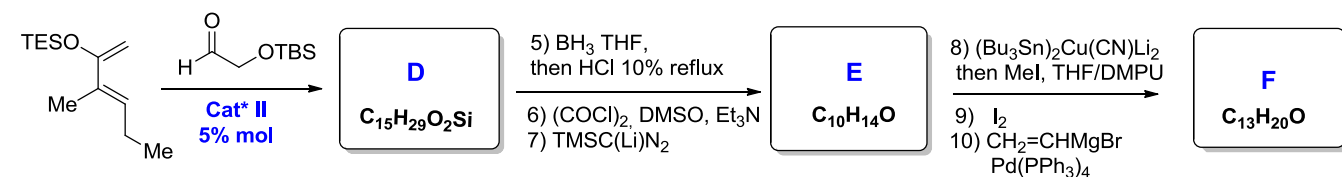
This compound has shown activity against various fungal strains, the mechanism of action is based on perturbations of the osmoregulation system.

- 1) Find structures from A to K.
- 2) Find the transition state for the formation of the adduct A or D
- 3) Explain the mechanism of formation of G, What is the name of this reaction?
- 4) Explain the mechanism of formation of K, What is the name of this reaction?
- 5) Explain the selectivity into the step 8?
- 6) What is the name of the reaction 10?

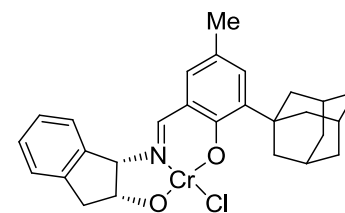
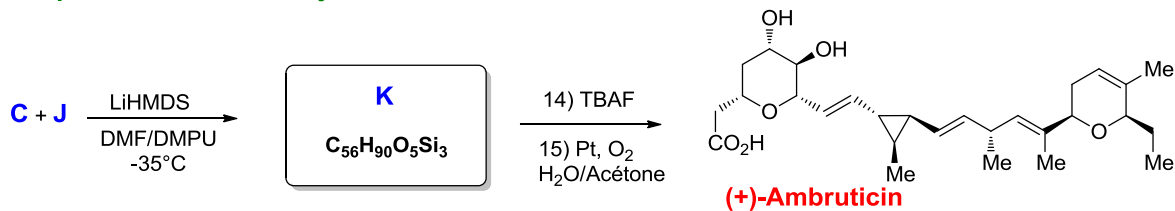
Synthesis of first fragment :



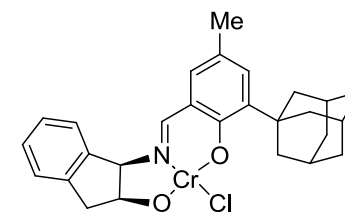
Synthesis of the second fragment :



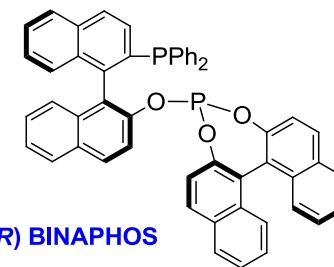
Completion of the total synthesis :



Cat* I



Cat* II



(S,R) BINAPHOS