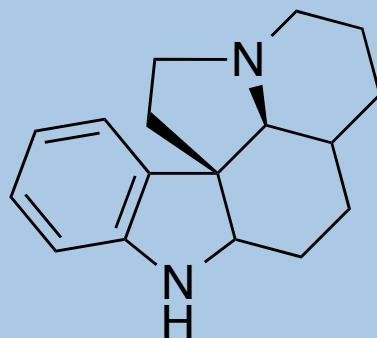


# Asymmetric Total Syntheses of *Kopsia* Indole Alkaloids

Leng, L.; Zhou, X.; Liao, Q.; Wang, F.; Song, H.\*; Zhang, D.; Liu, X.-Y.;  
Qin, Y.\* *Angew. Chem. Int. Ed. Engl.* **2017**, Early View

DOI : 10.1002/anie.201700831



# Yong Qin



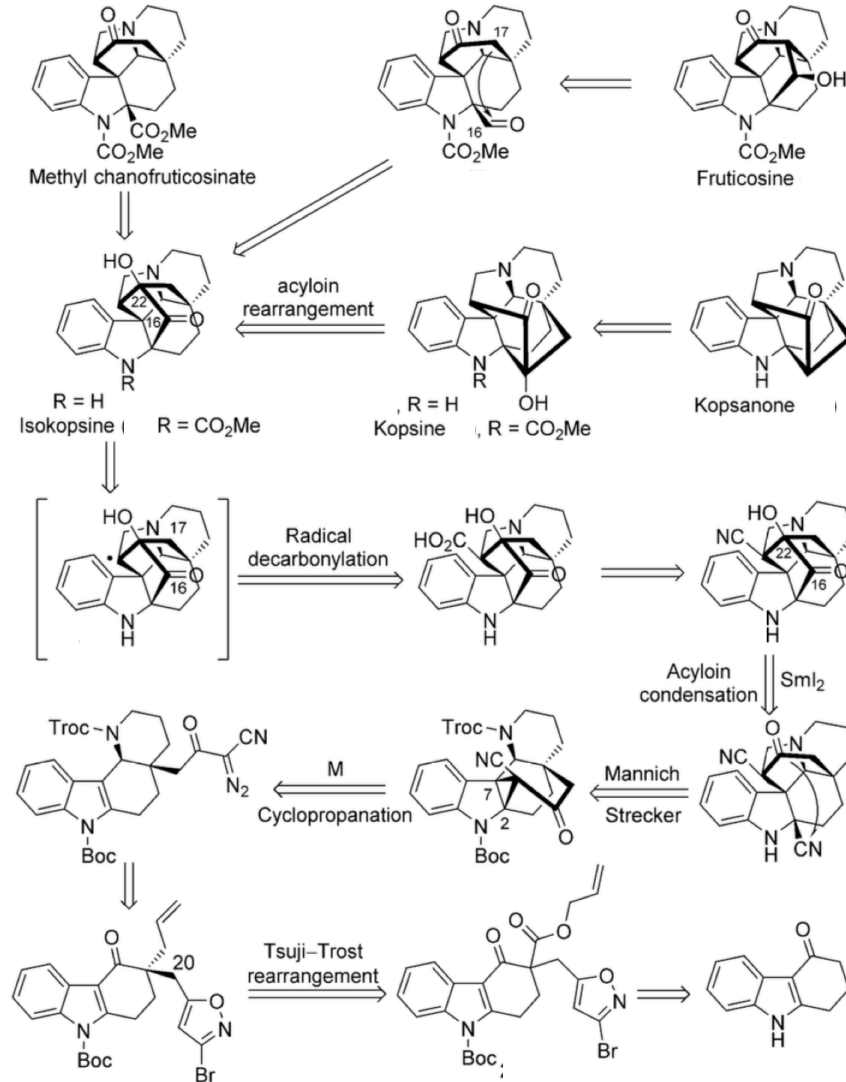
- > Ph.D. Institute of Chemistry, Chinese Academy of Sciences with Prof. Zhitang Huang
- > Assistant professor in Chengdu Institute of Organic Chemistry 1995
- > Postdoc associate, University of Vermont with Prof. Martin E. Kuehne 1996-2000
- > Research Scientist, Triad Therapeutics Inc., San Diego 2000-2003
- > Professor in Sichuan University since 2003
- > Research interest :Total synthesis of bioactive natural products and medicinal chemistry

# Introduction

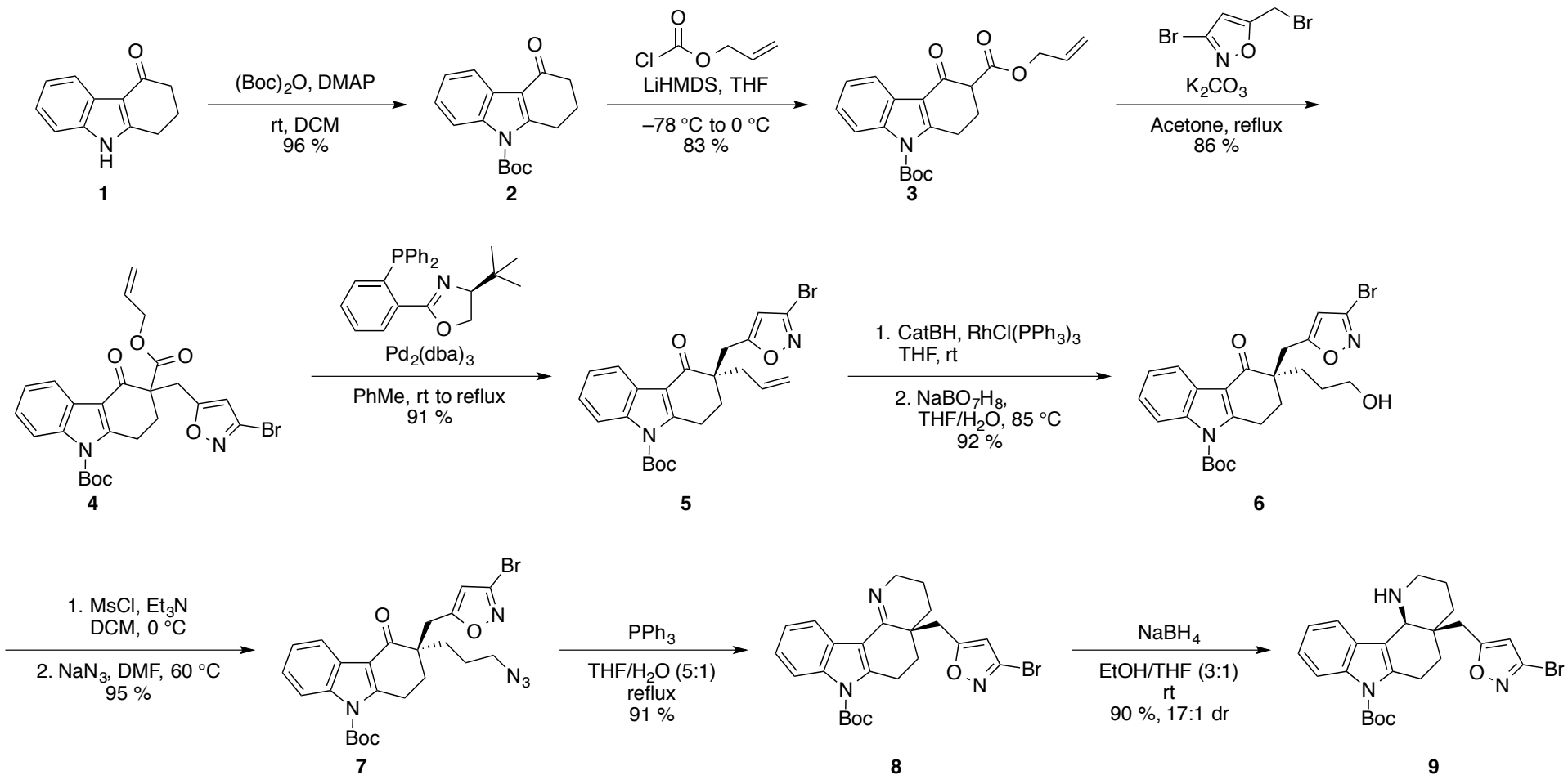
---

- > *Kopsia* indole alkaloids
- > Isolated from various *Kopsia* species (Apocynaceae Family)
- > Different types of biological activity : Cholinergic, antirheumatism, anti-inflammation effects

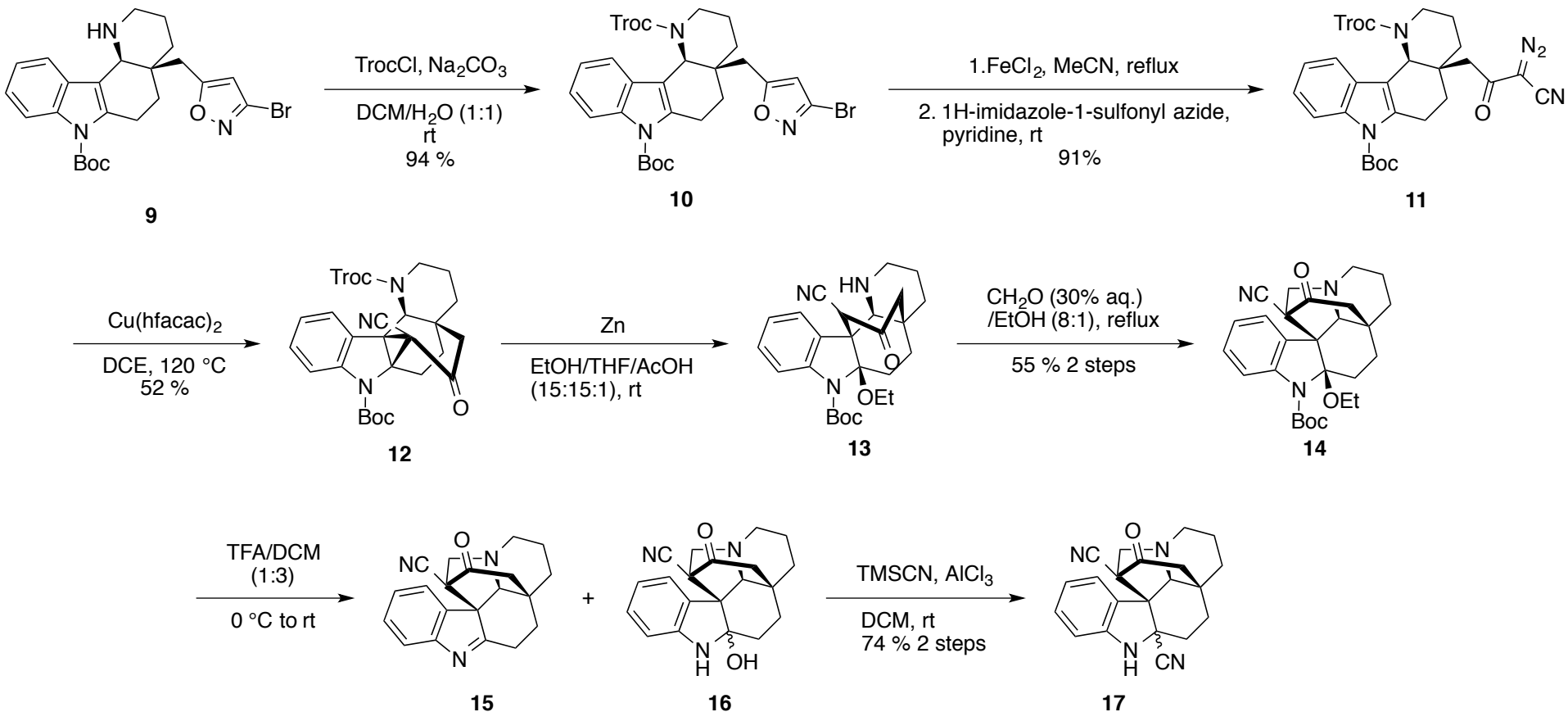
# Retrosynthetic Approach



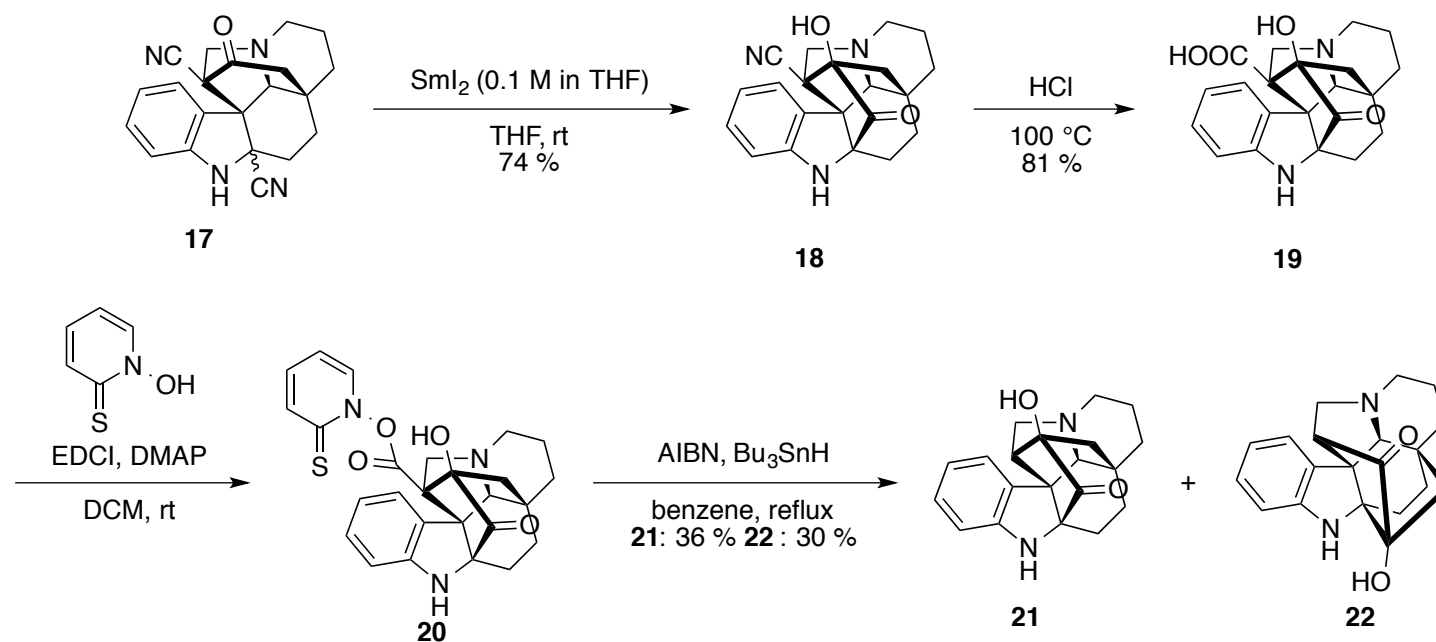
# Preparation of the Key Intermediate



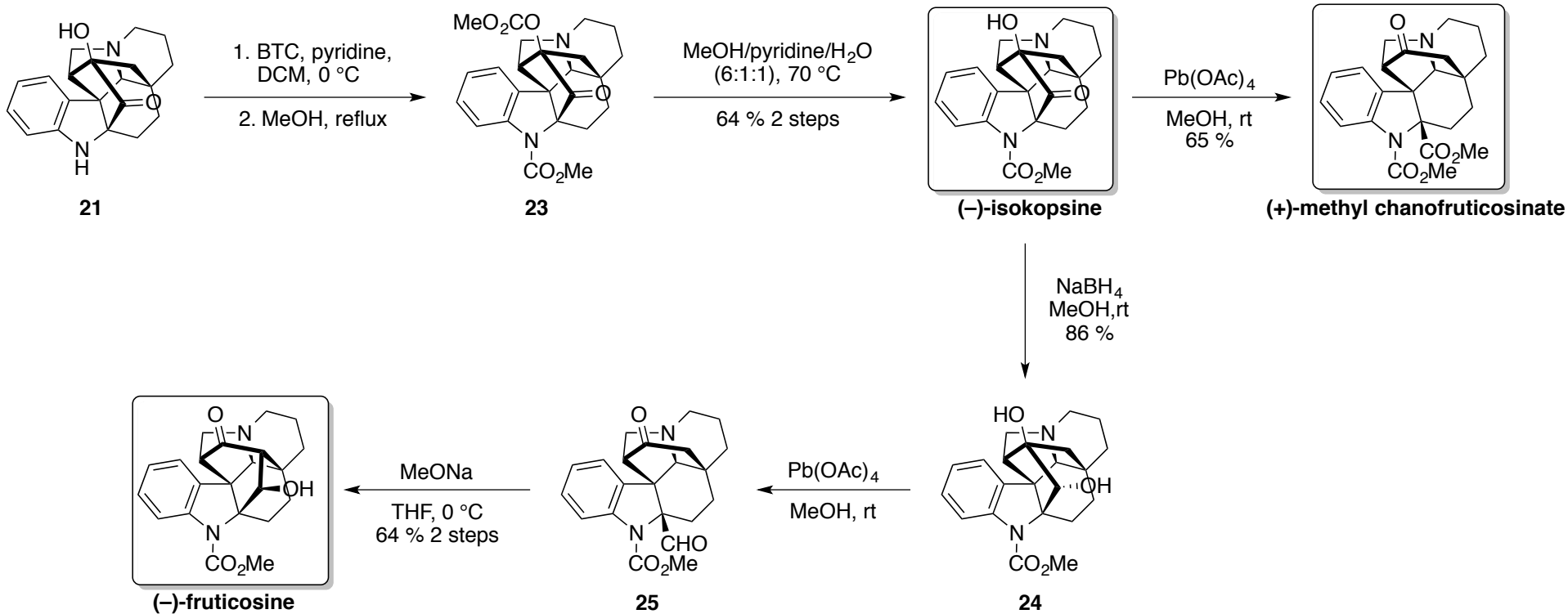
# Preparation of the Key Intermediate



# Preparation of the Key Intermediate

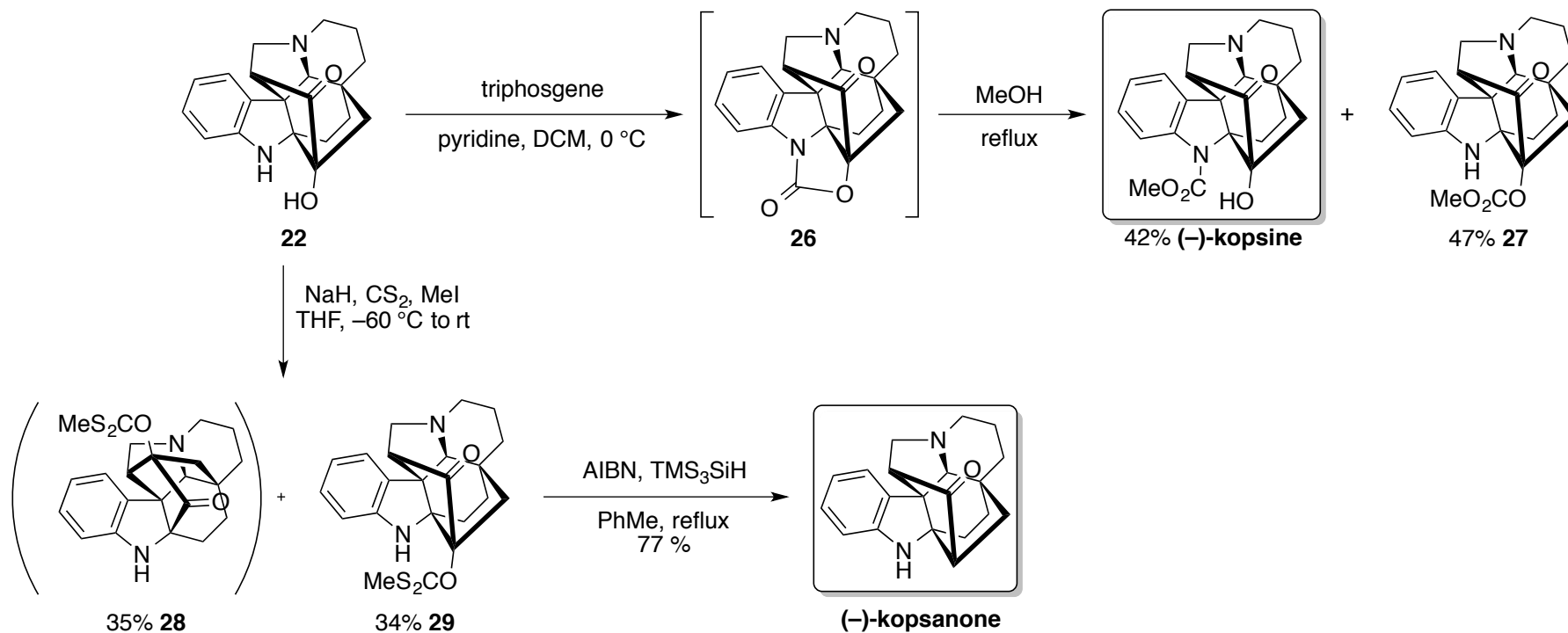


# End Game





## End Game



# Conclusion

---

- > Key Steps : Tsuji-Trost rearrangement, intramolecular cyclopropanation,  $\text{SmI}_2$ -promoted acyloin condensation and radical decarboxylation
- > Common route to access 5 different natural products in 23 to 25 Steps

**Thank you for your attention**