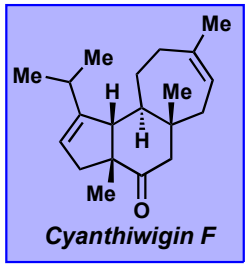
SOTW: Cyanthiwigin F

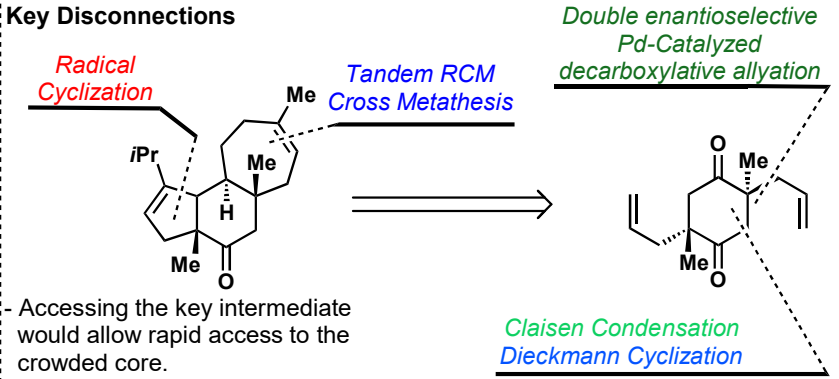
Background



Cyanthiwigin F

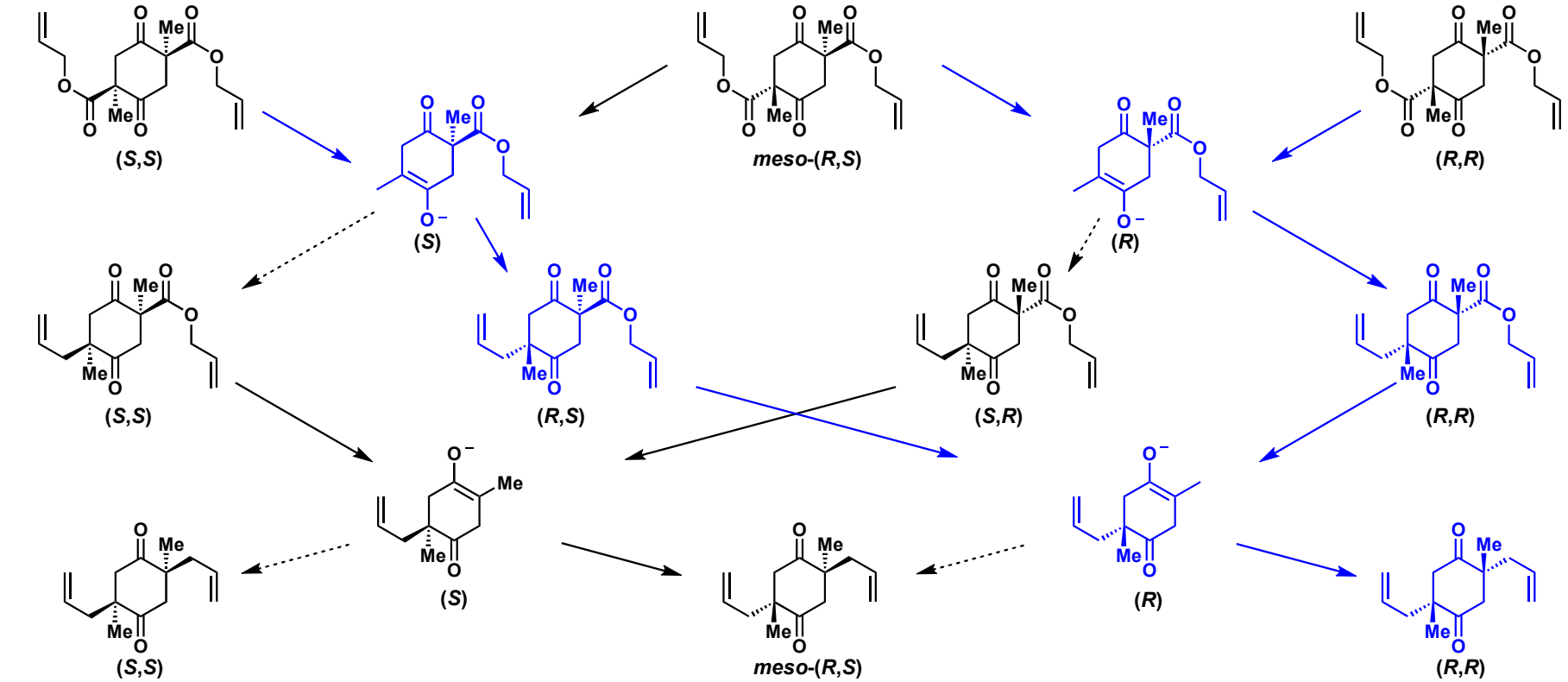
- The Cyanthiwigins are a series of diterpinoids isolated from marine sponges *Epipolasis reiswigi* and *Mermekioderma styx*. Over 30 have been isolated.
- Most of these compounds contain a [5-6-7] fused core
- Cyanthiwigin A, B, C, F, G, H, U, W, Z, and AC have been synthesized:
  - Stoltz: B, F, G: *Nature* **2008**, *456*, 1228-31. *Chem. Eur. J.* **2011**, *17*, 9957-9.
  - Wang: A, C, G, H: *Org. Lett.* **2013**, *15*, 4402-5.
  - Phillips: U, W, Z: *JACS* **2005**, *127*, 5334-5. *Tetrahedron Lett.* **2008**, *49*, 6860-1.
  - Reddy: AC: *Org. Lett.* **2006**, *8*, 5585-8.
- Cyanthiwigins C and F are cytotoxic:
  - C: P-388 human leukemia cells; A459 lung cells
  - F: Primary tumor cells

Key Disconnections

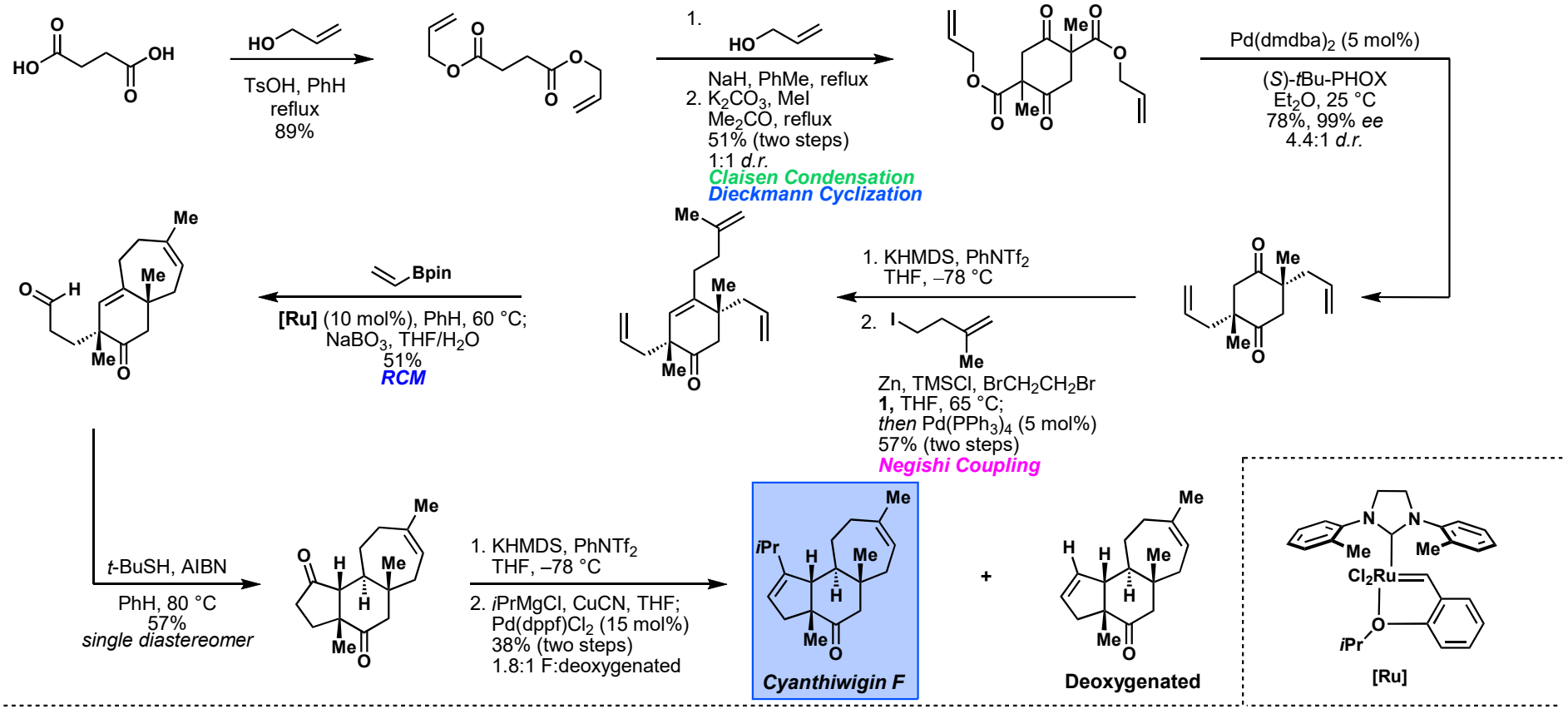


- Accessing the key intermediate would allow rapid access to the crowded core.

Key Step: On the Horeau Principle



SOTW: Cyanthiwigin F



Completion of B and G