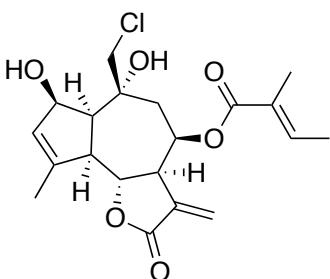


Progress in Total Synthesis: Synthesis of Eupalinilide E, a promoter of Human Hematopoietic Stem and Progenitor Cell Expansion

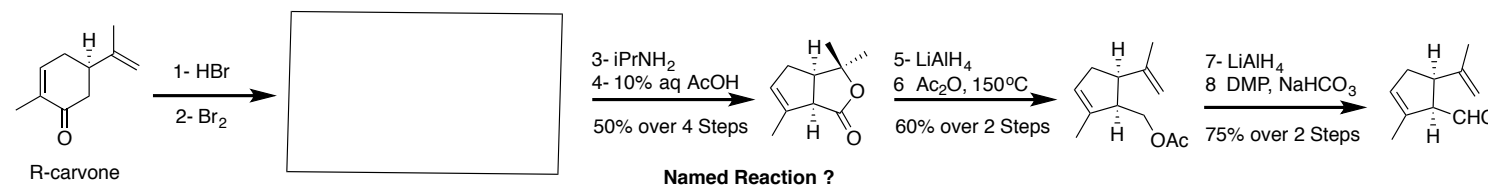
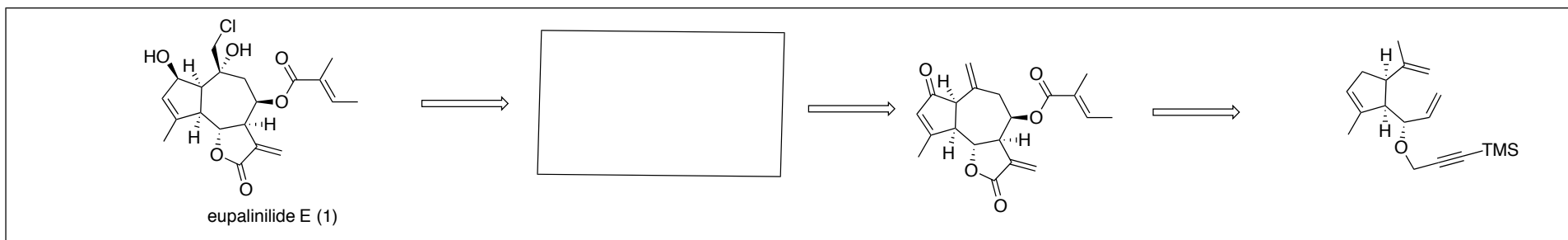
Trevor C. Johnson, Matthew R. Chin, Tianxu Han, John Paul Shen, Tariq Rana,

& Dionicio Siegel. *J. Am. Chem. Soc.* **2016**, *138*, 6068-6073



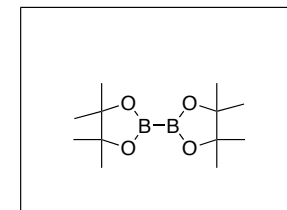
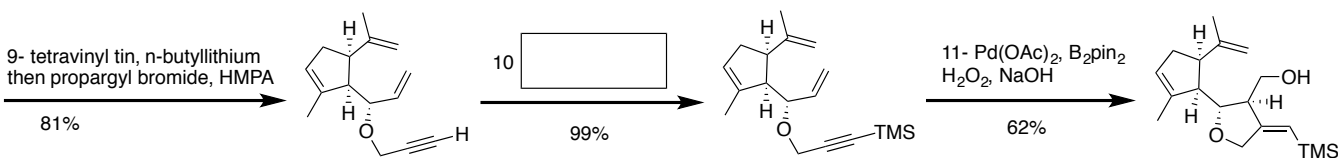
eupalinilide E (1)

- Was differentiated from the isolated gainolide-based compounds.
- It possesses selective cytotoxicity against A549 cells (lung cancer harboring KRAS mutation).
- IC₅₀ of 28 nM and no effect on P338 cells (Leukemia).
- Promotes the expansion of human HSPCs.
- Inhibits subsequent differentiation leading to increased numbers of clinically useful cells.
- In the process of investigating the mechanism, the natural product was consumed.

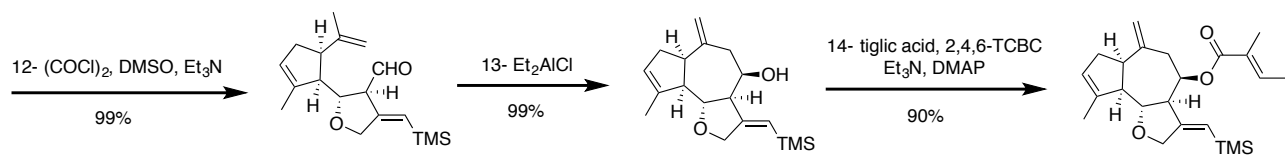


Named Reaction ?

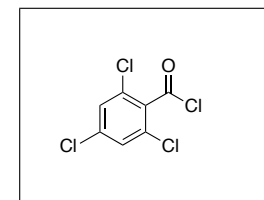
HMPA = Hexamethyl Phosphoramide



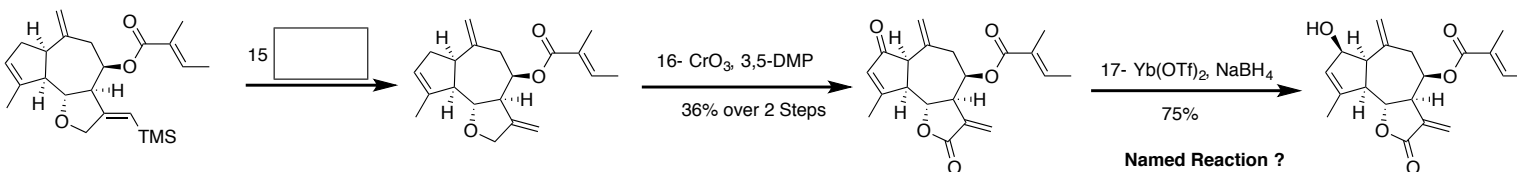
B₂Pin₂ = Bis(Pinacolato)diboron



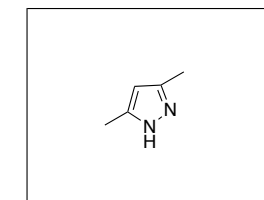
Named Reaction ?



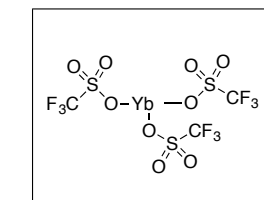
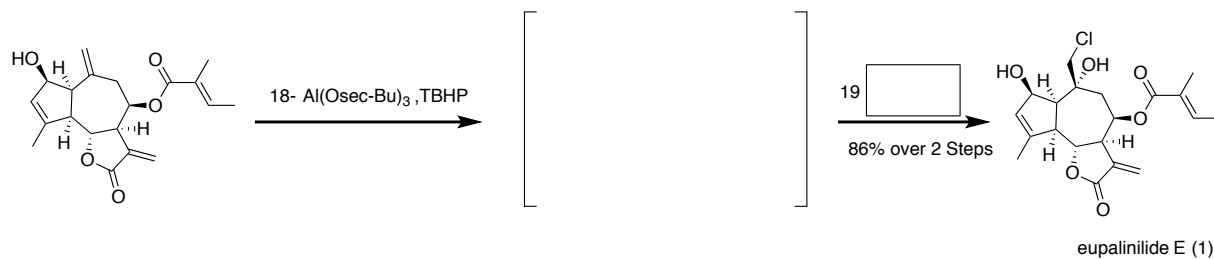
2,4,6-TCBC =



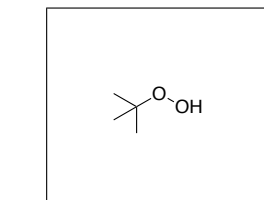
Named Reaction ?



3,5-DMP =



$\text{Yb}(\text{OTf})_2$ = Ytterbium 3 Trifluoromethanesulfonate



TBHP =