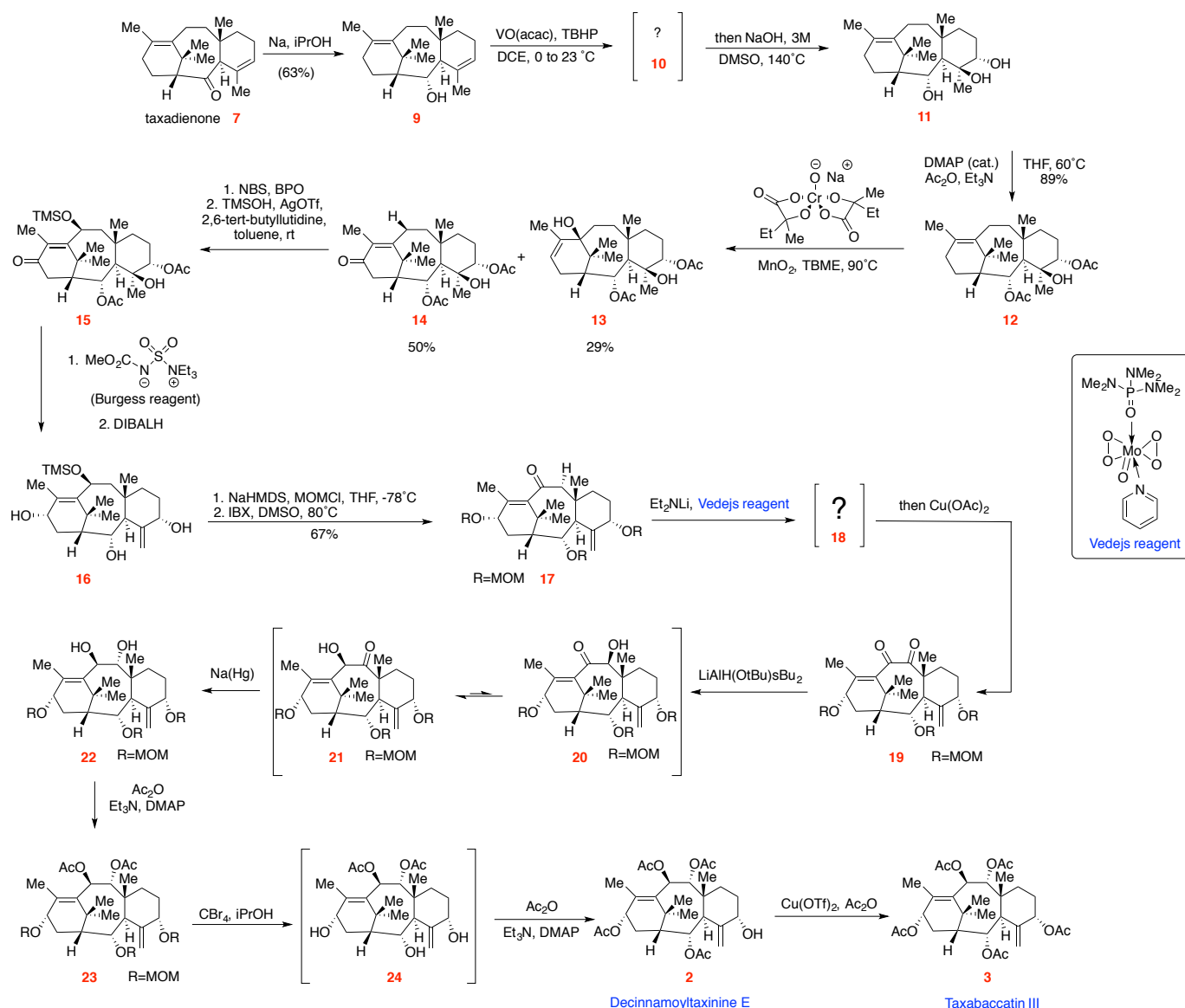


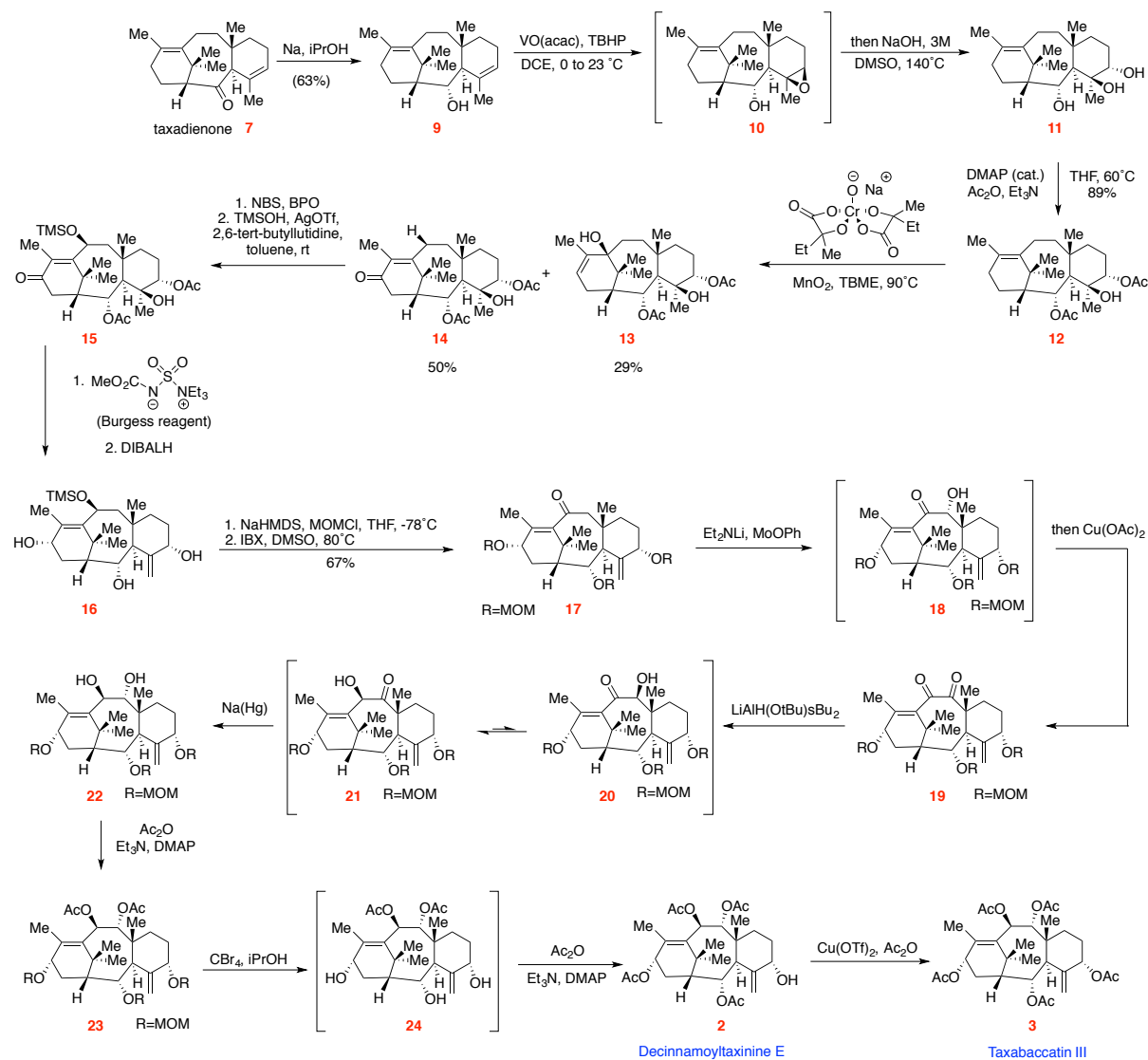
Enantioselective Total Synthesis of Taxanes



- Propose the mechanism for obtaining **9** from **7**.
- Propose the mechanism from **9** to **11**, involving intermediate **10**.
- Cr(V) based C-H oxidation was invented specifically for this oxidation. Can you propose the mechanism to get enone **14** along with **13**?
- 3a. (Mechanism from **14** to **15** we discussed already. You can write it for yourself, if you want/need.)
4. Please, propose mechanism to obtain **16** from **15**?
5. Propose the mechanism for obtaining **19** from **17** including structure of **18**. What would you propose as well for oxidation of activated C-H bonds?

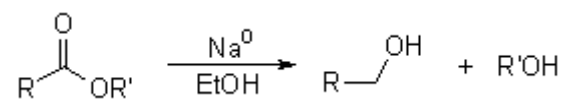
Solutions

Ref. *Angew. Chem. Int. Ed.* **2016**, *55*, 1-6

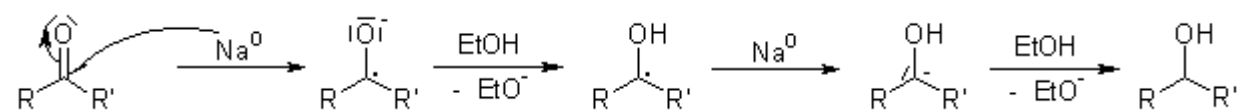


1. Propose the mechanism for obtaining **9** from **7**.

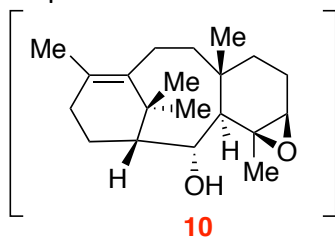
Bouveault-Blanc Reduction



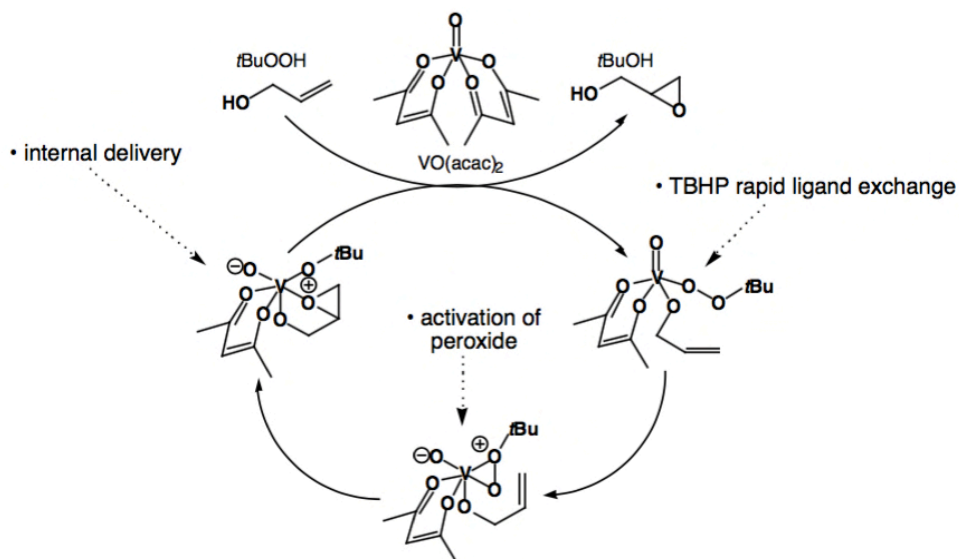
Mechanism of the Bouveault-Blanc Reduction



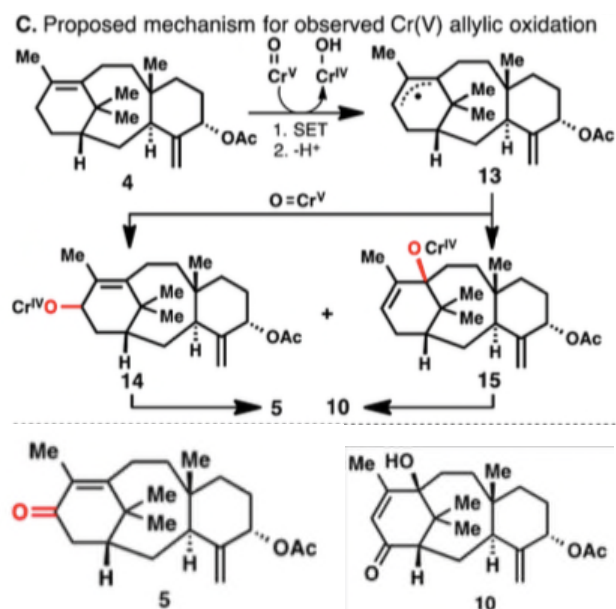
2. Propose the mechanism from **9** to **11**, involving intermediate **10**.



Sharpless vanadium catalyzed epoxidation

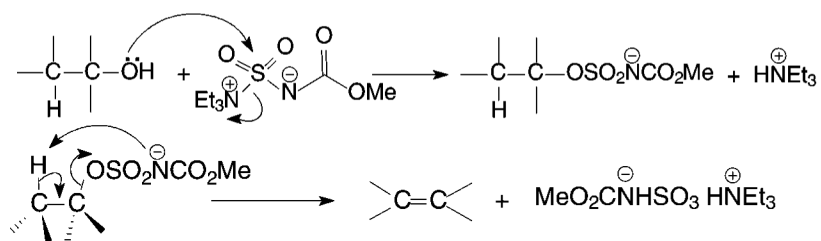


3. Cr(V) based C-H oxidation was invented specifically for this oxidation. Can you propose the mechanism to get enone **14** along with **13**?



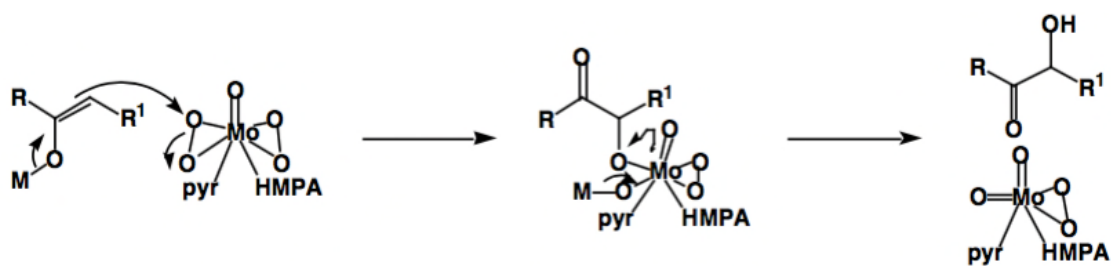
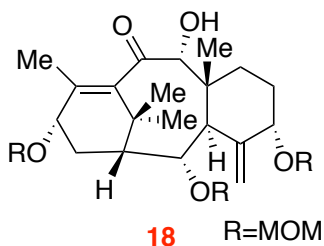
3a. (Mechanism from **14** to **15** we discussed already. You can write it for yourself, if you want/need.)

4. Please, propose mechanism to obtain **16** from **15**?



Then DIBALH reduces keton to an alcohol.

5. Propose the mechanism for obtaining **19** from **17** including structure of **18**. What would you propose as well for oxidation of activated C-H bonds?



For example, Davis' Oxaziridine