

Original Publication

Hugelshofer, C. L.; Magauer, T. A Bioinspired Cyclization Sequence Enables the Asymmetric Total Synthesis of Dictyoxetane, *J. Am. Chem. Soc.* **2016**, *138*, 6520-6423.

Additional Literature

Surya Prakash Rao, H.; Subba Reddy, K. A Superior Method the Synthesis of 7a-Methyl-2,3,7,7a-tetrahydrinden-5-(6*H*)-one, *Org. Prep. Proced. Int.* 1994, *26*, 491-494.

Defaut, B; Parsons, T. B.; Spencer, N.; Male, L.; Kariuki, B. M.; Grainger, R. S. Synthesis of the *trans*-hydrindance core of dictyoxetane, *Org. Biomol. Chem.* **2012**, *10*, 4926-4932.

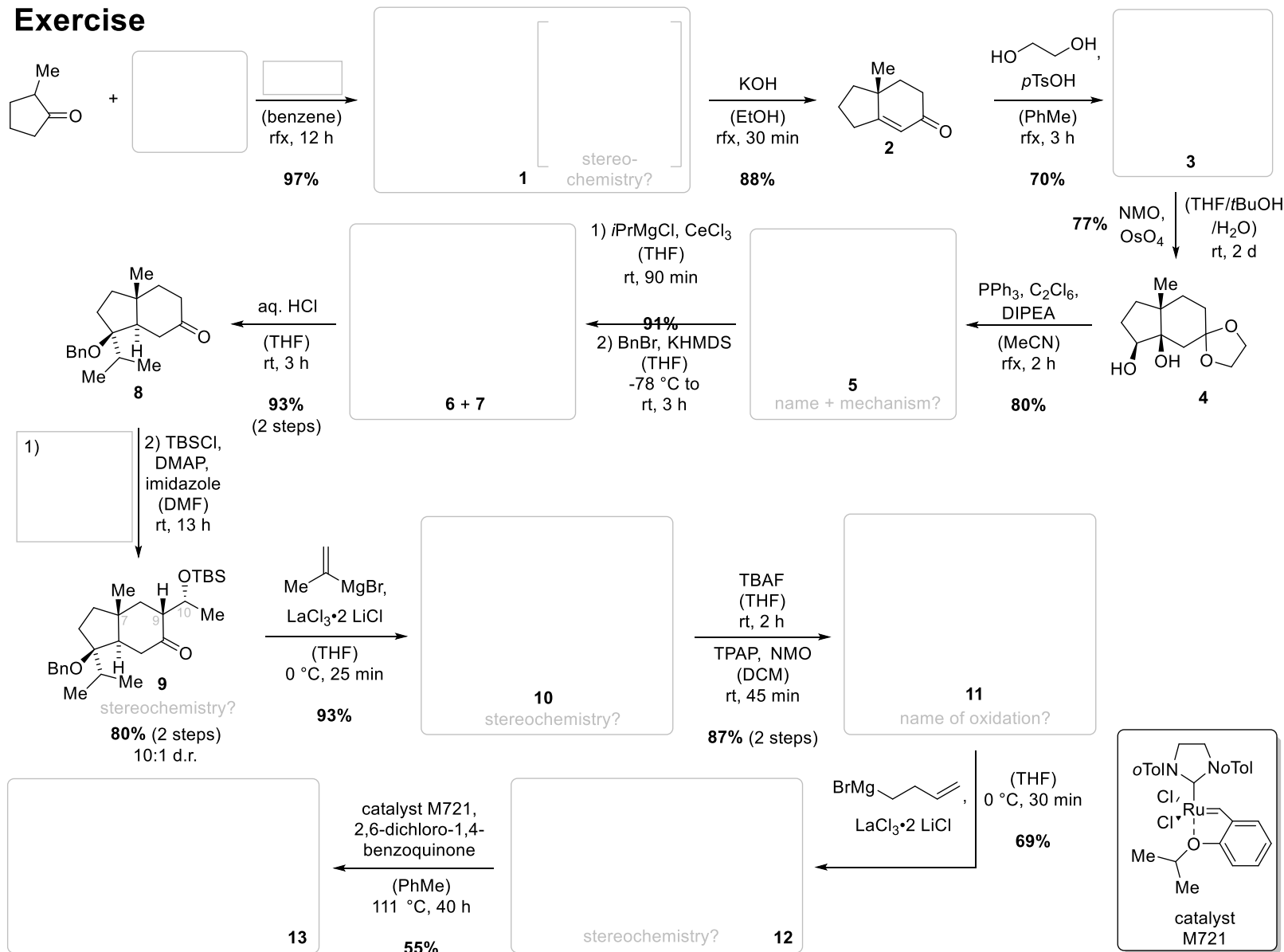
Interesting Facts

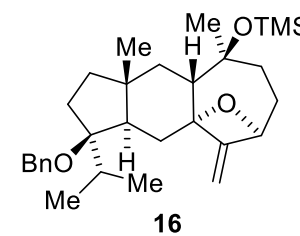
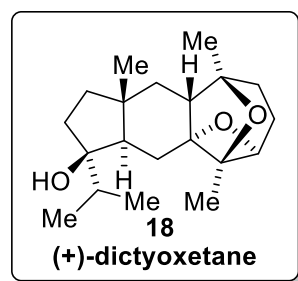
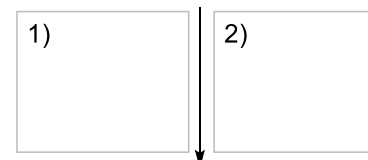
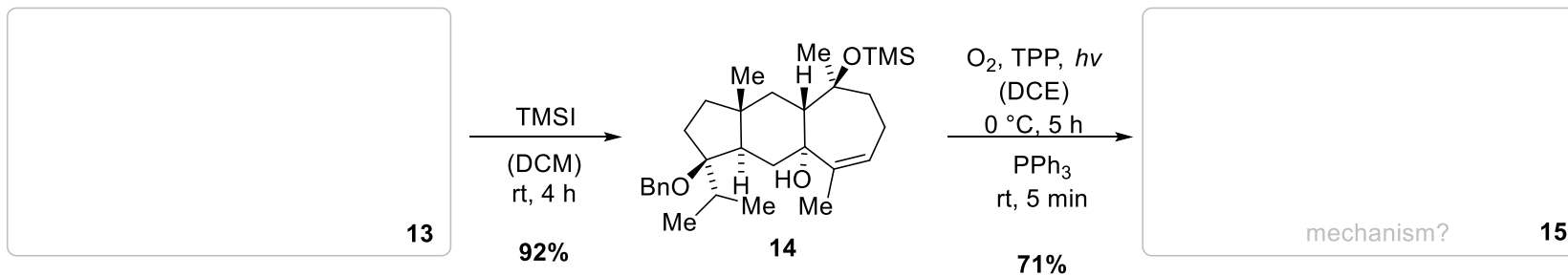
- natural product first isolated from brown alga *Dictyota dichotama* in 1985
- no biological activities known of the complete natural product
- substructures have promising antitumor activity (gastric and hepatocellular carcinoma)

Twitter: The Magauer Lab
@MagauerGroup

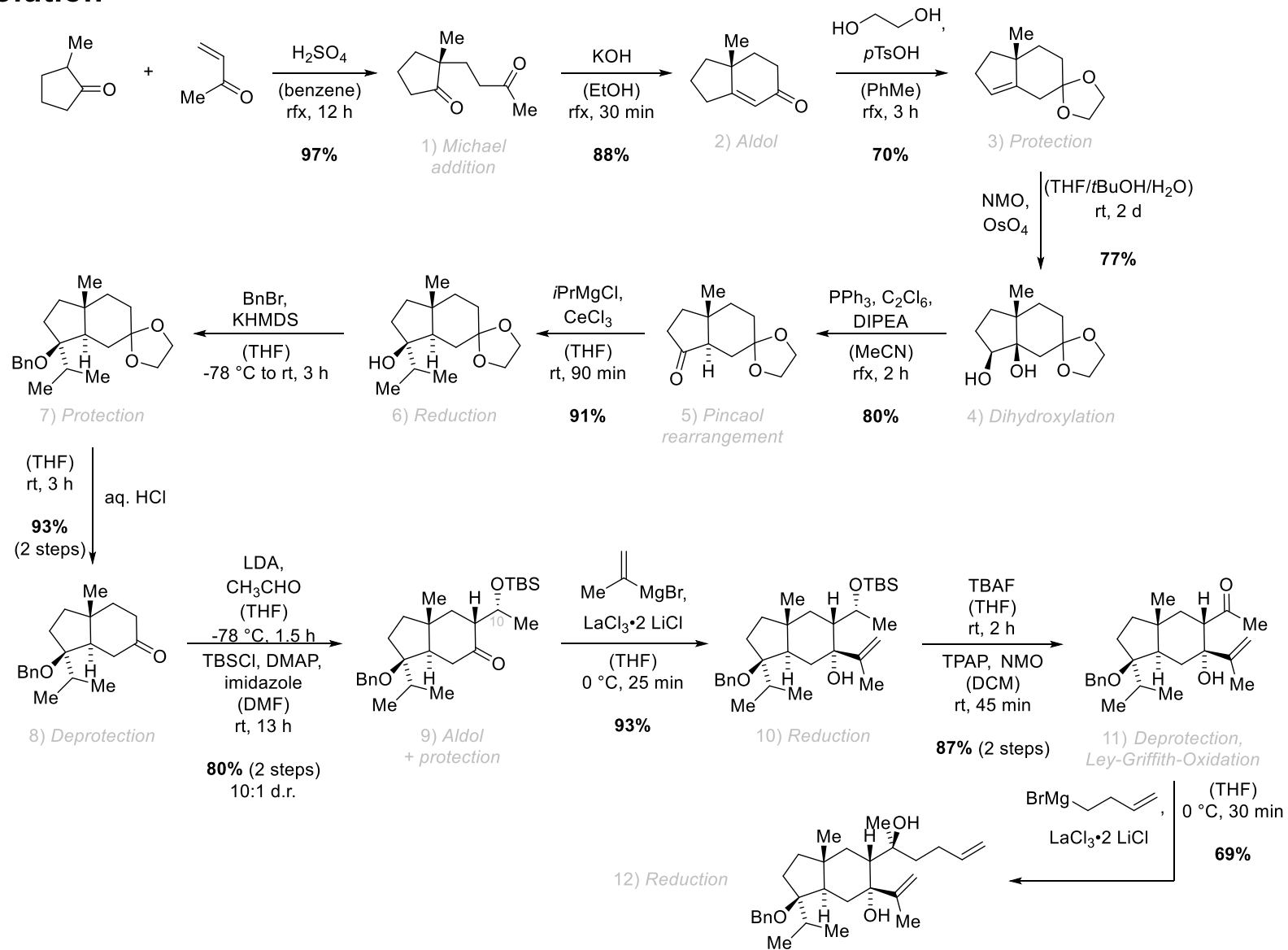
University of Innsbruck

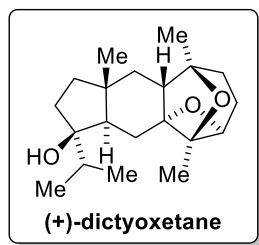
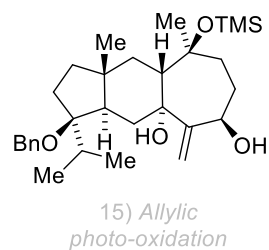
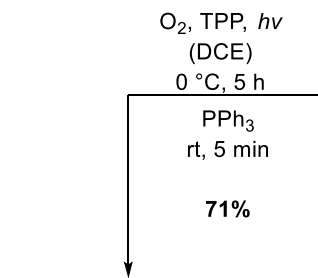
Exercise



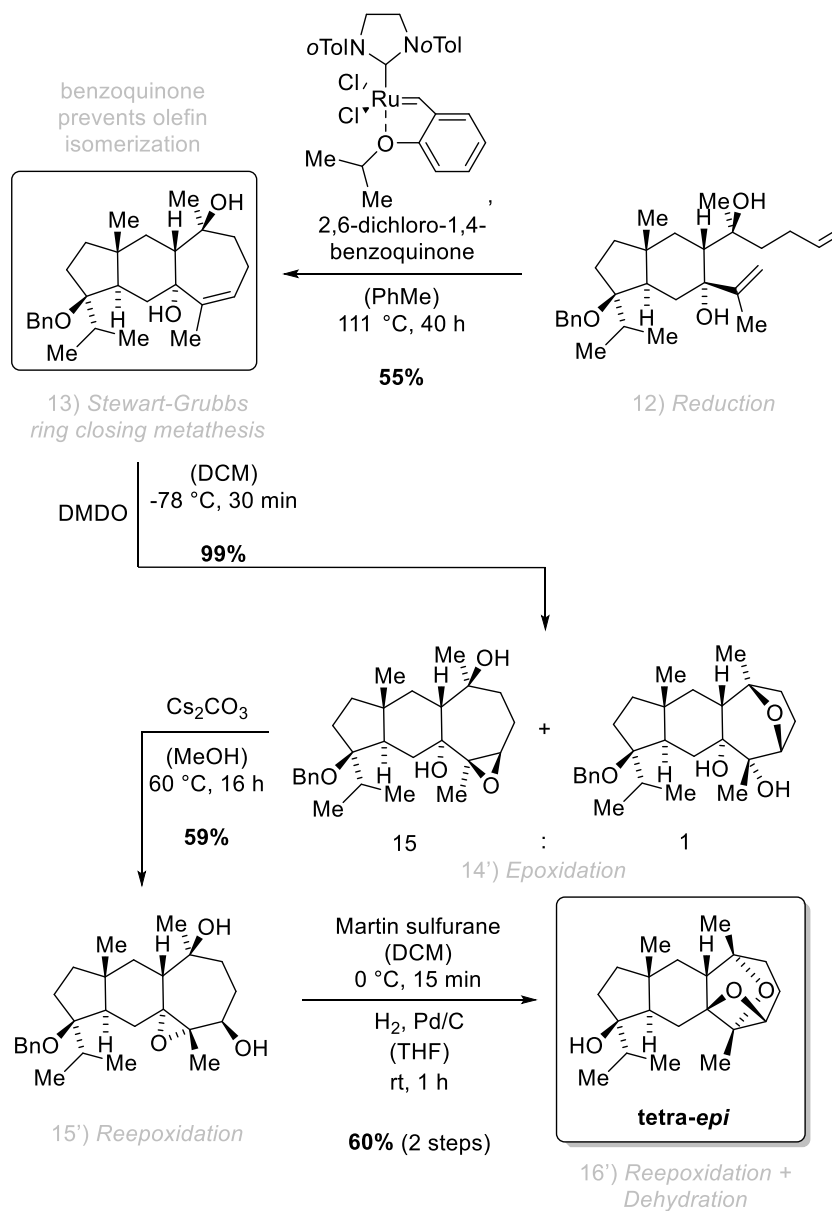
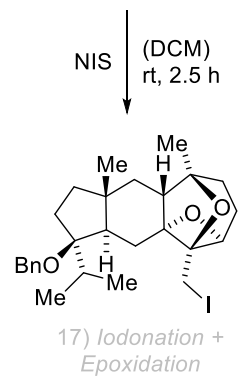
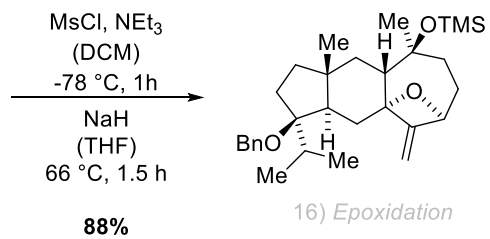
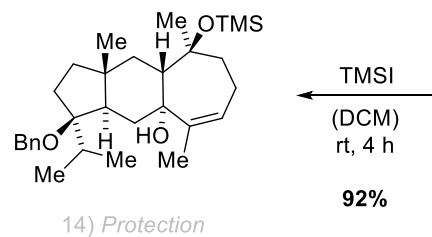


Solution

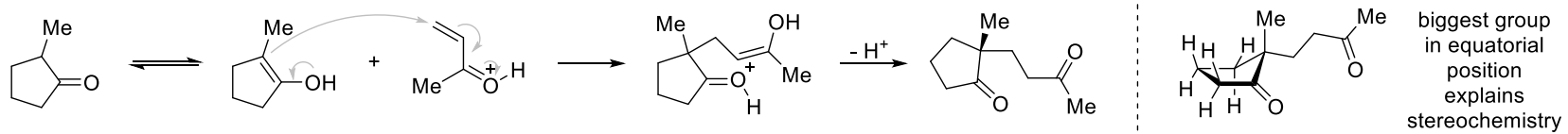




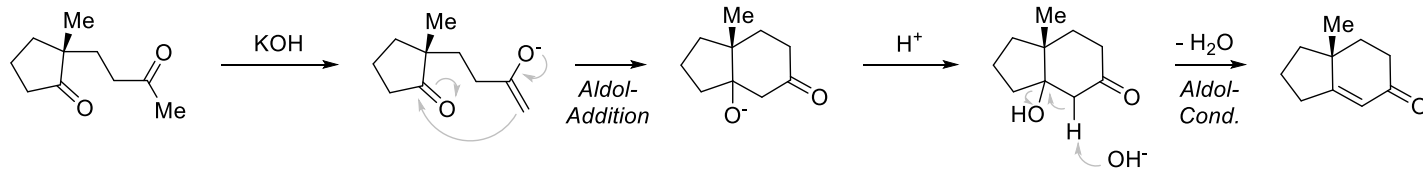
18) *Reduction*



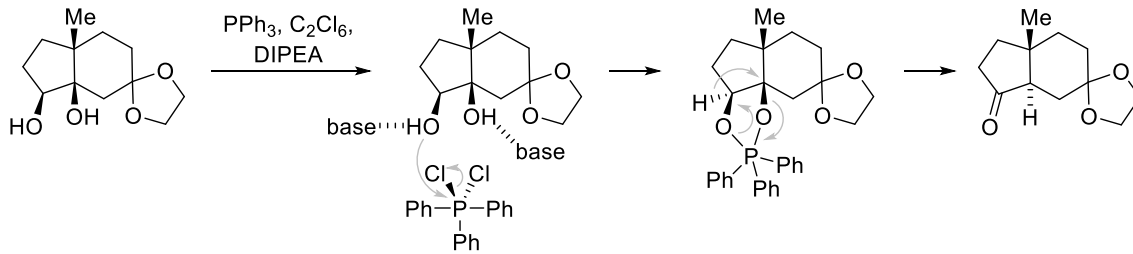
Mechanisms



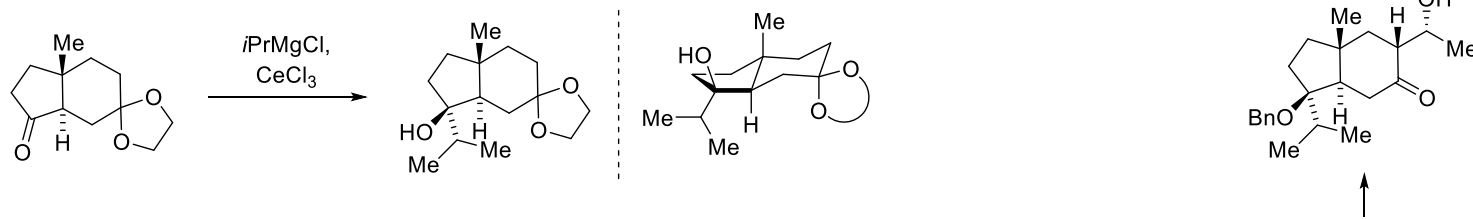
2) Aldol



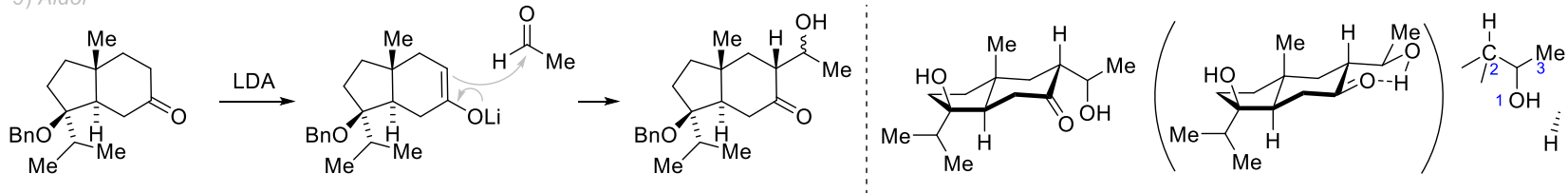
5) Pinacol rearrangement



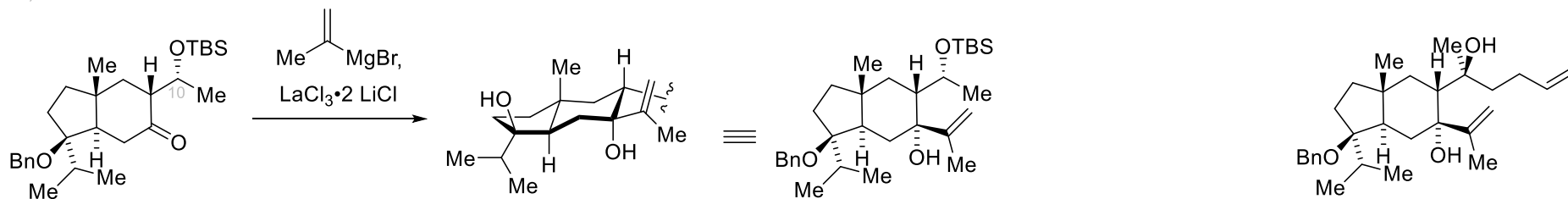
6) Reduction



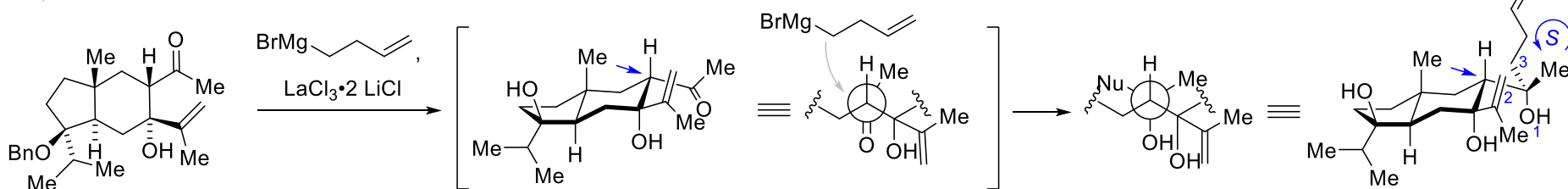
9) Aldol



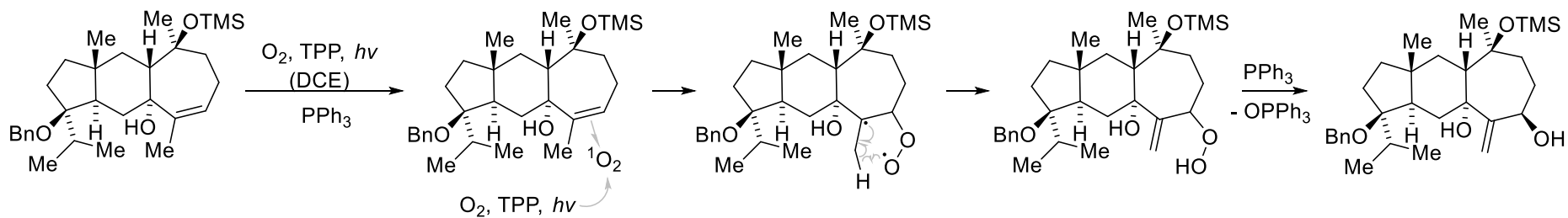
10) Reduction



12) Reduction



15) Allylic photo-oxidation



17) Iodination + Epoxidation

