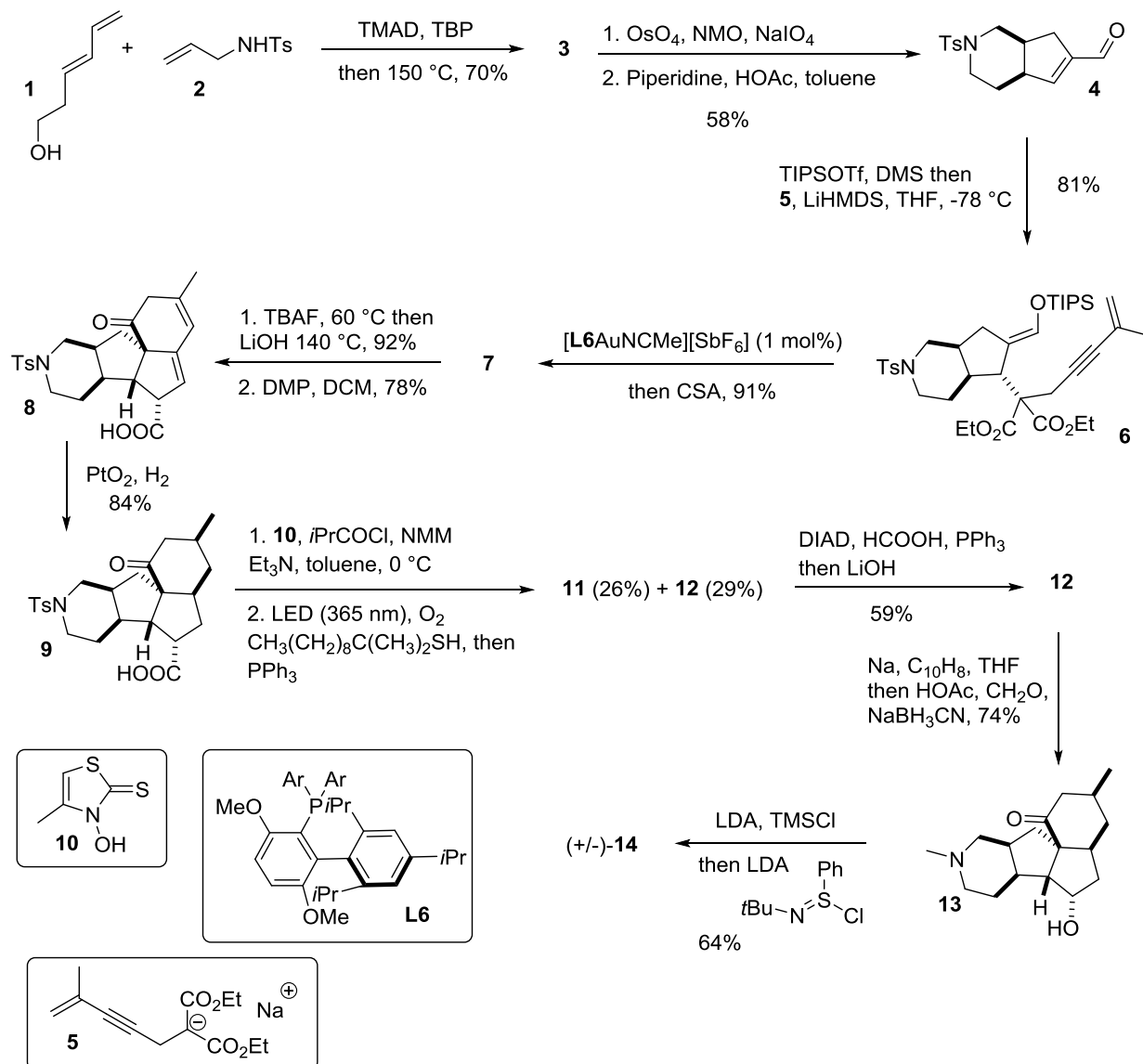


Total Synthesis of Magellanine

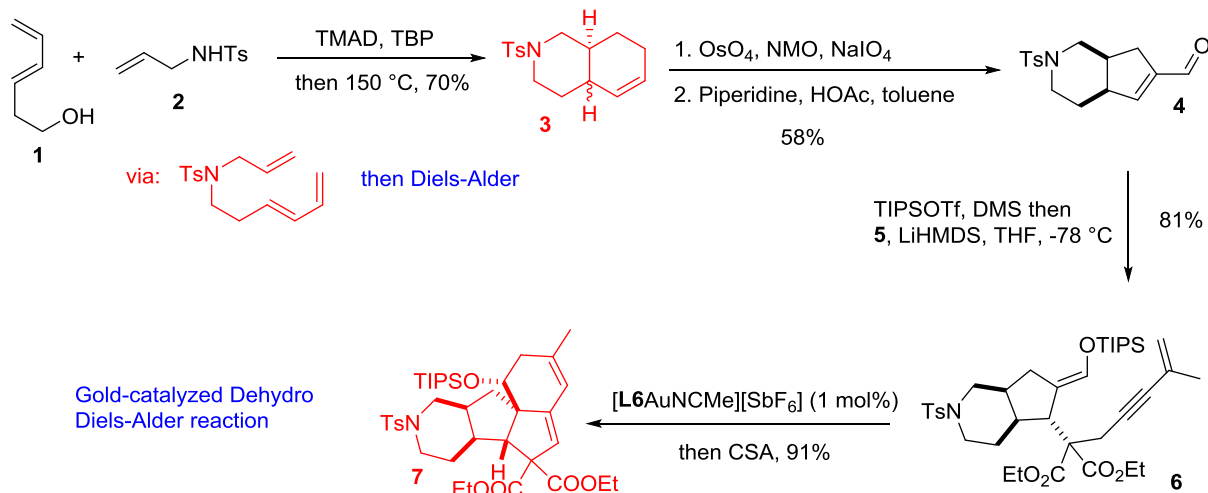
Submitted by Melinda



1. Give the missing structure **3**.
2. Give the missing structure **7** and propose a mechanism for its formation. Without addition of CSA, 2 more products are formed – can you propose which ones?
3. Propose a mechanism for formation of compounds **11** and **12** from **9**.
4. What is the final product (+/-)-**14** and how is it formed from compound **12**?

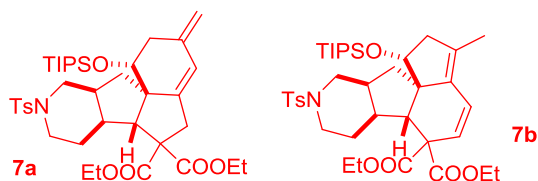
TMAD = tetramethylazodicarboxamide, TBP = tributylphosphine, NMM = *N*-methylmorpholine

McGee, P.; Bétournay, G.; Barabé, F.; Barriault, L. *Angew. Chem. Int. Ed.* **2017**, *56*, DOI: 10.1002/anie.201611606 – A 11-Steps Total Synthesis of Magellanine through a Gold(I)-Catalyzed Dehydro Diels-Alder Reaction

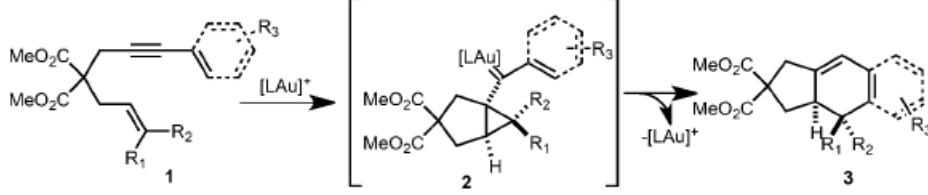


Gold-catalyzed Dehydro Diels-Alder reaction

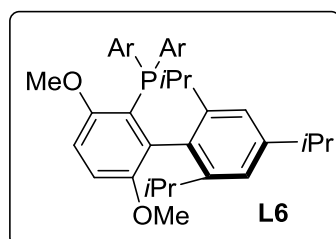
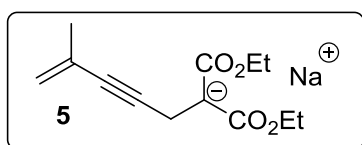
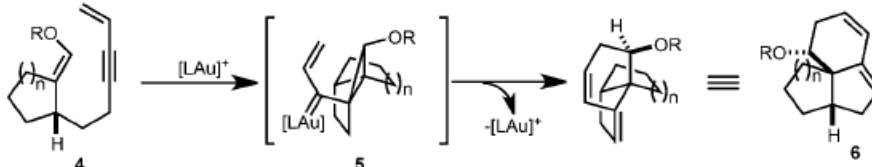
Side products without CSA:

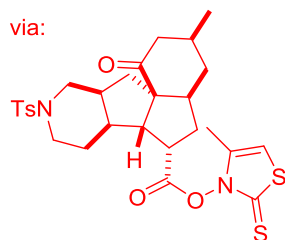
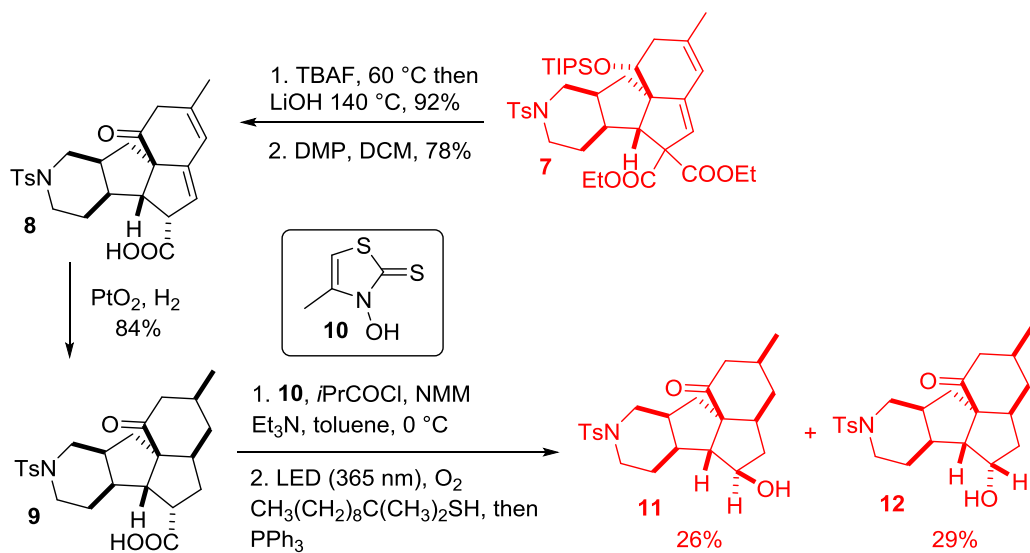


Previous work: Echavarren



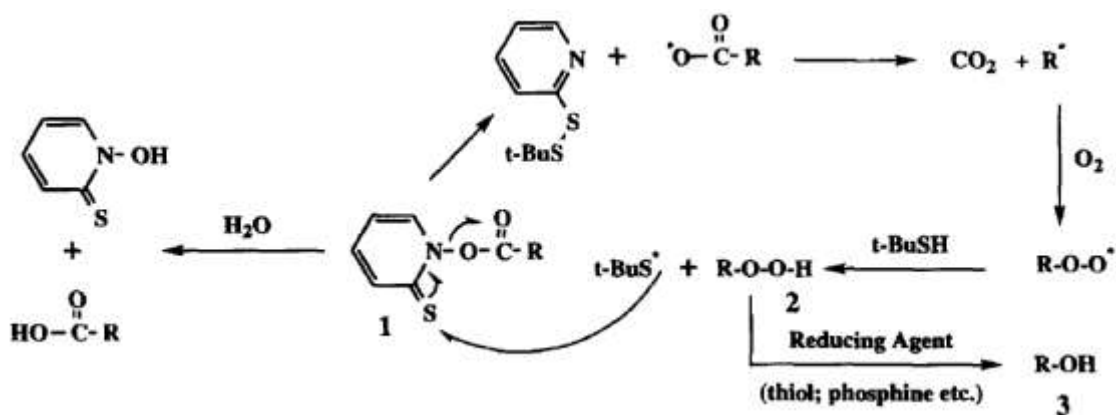
This work

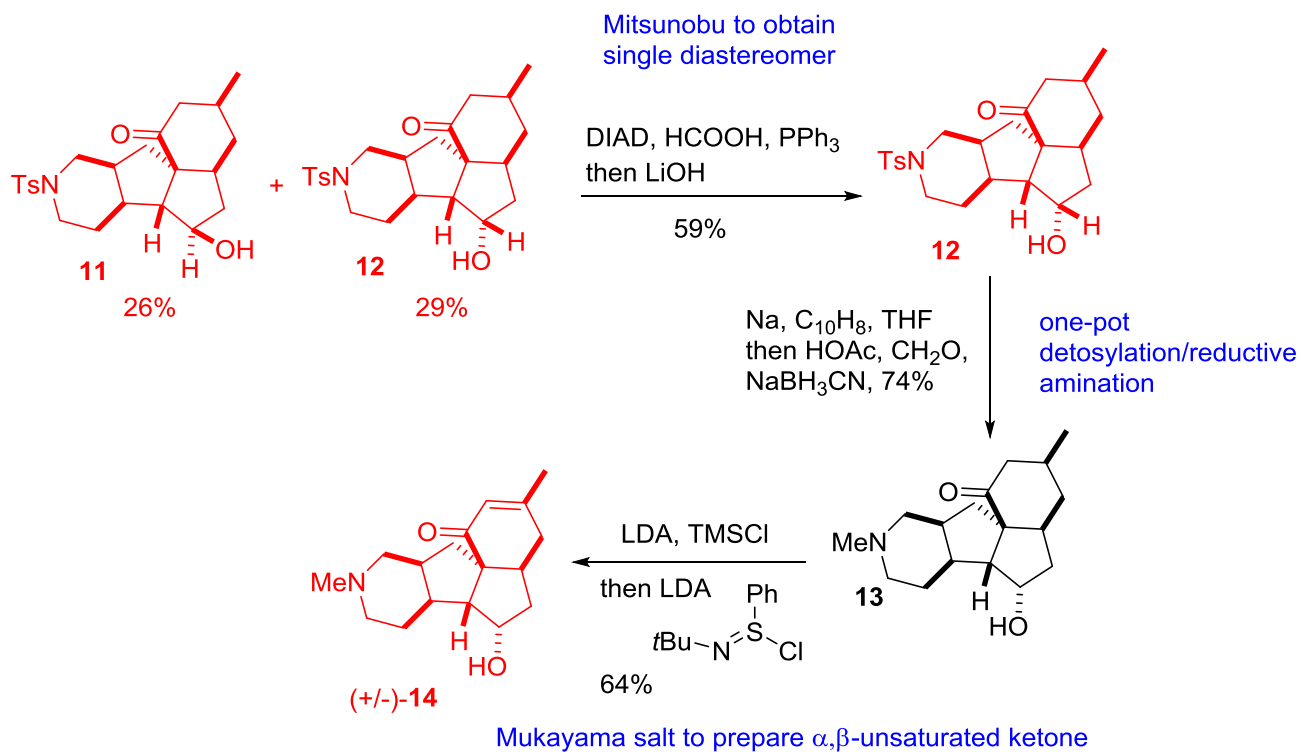




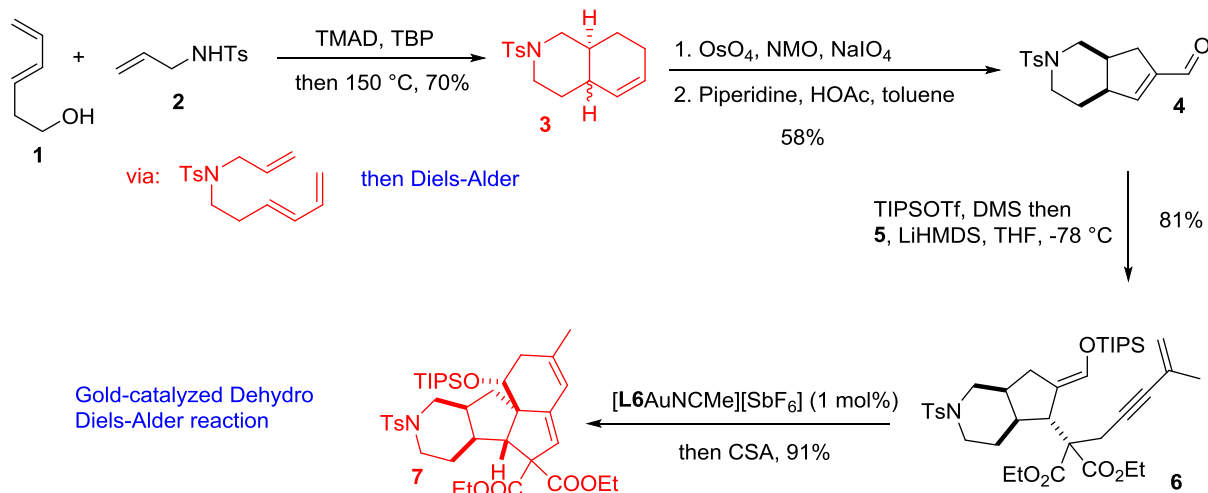
From:

D. H. R. Barton, S. D. Gro, P. Holliday, B. Quiclet-Sire, S. Z. Zard, *Tetrahedron* **1998**, 54, 6751 – 6756:



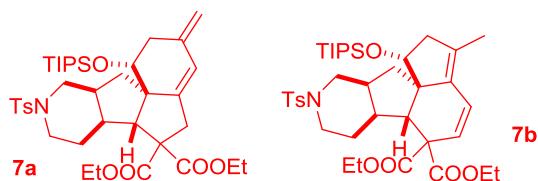


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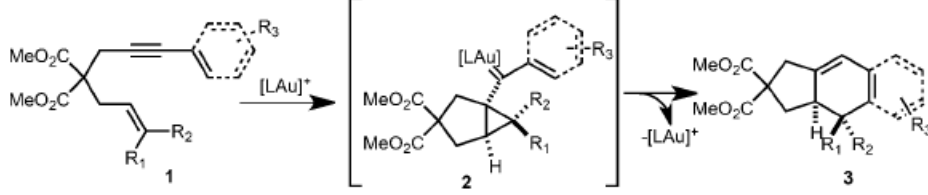


Gold-catalyzed Dehydro Diels-Alder reaction

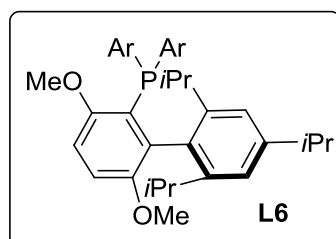
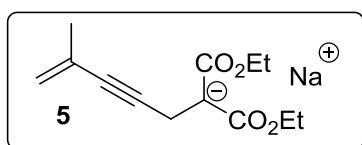
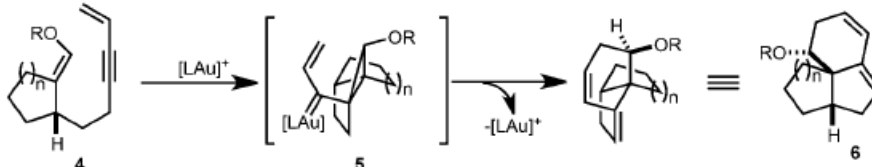
Side products without CSA:

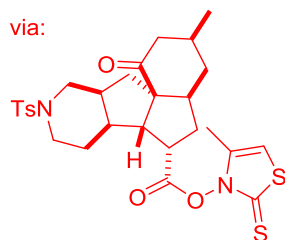
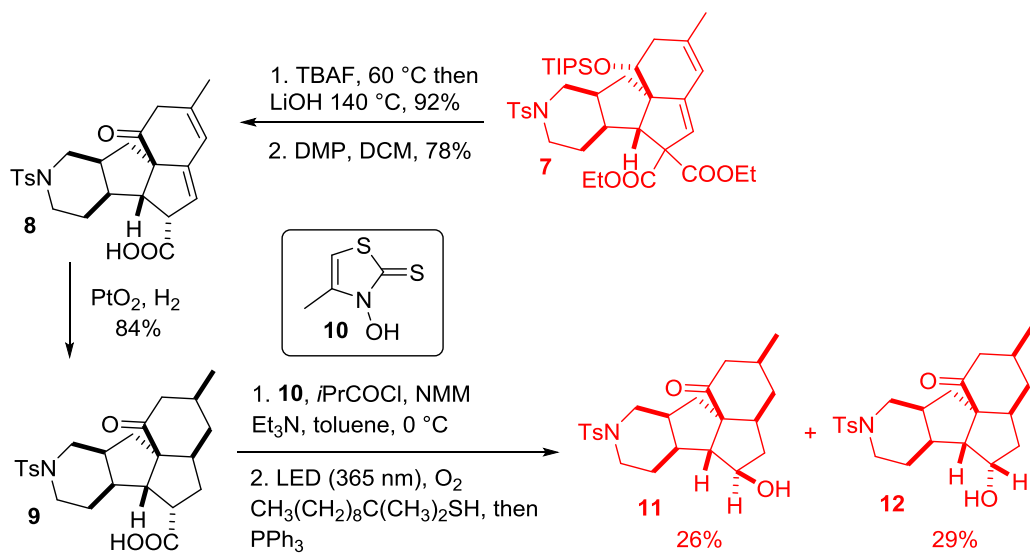


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