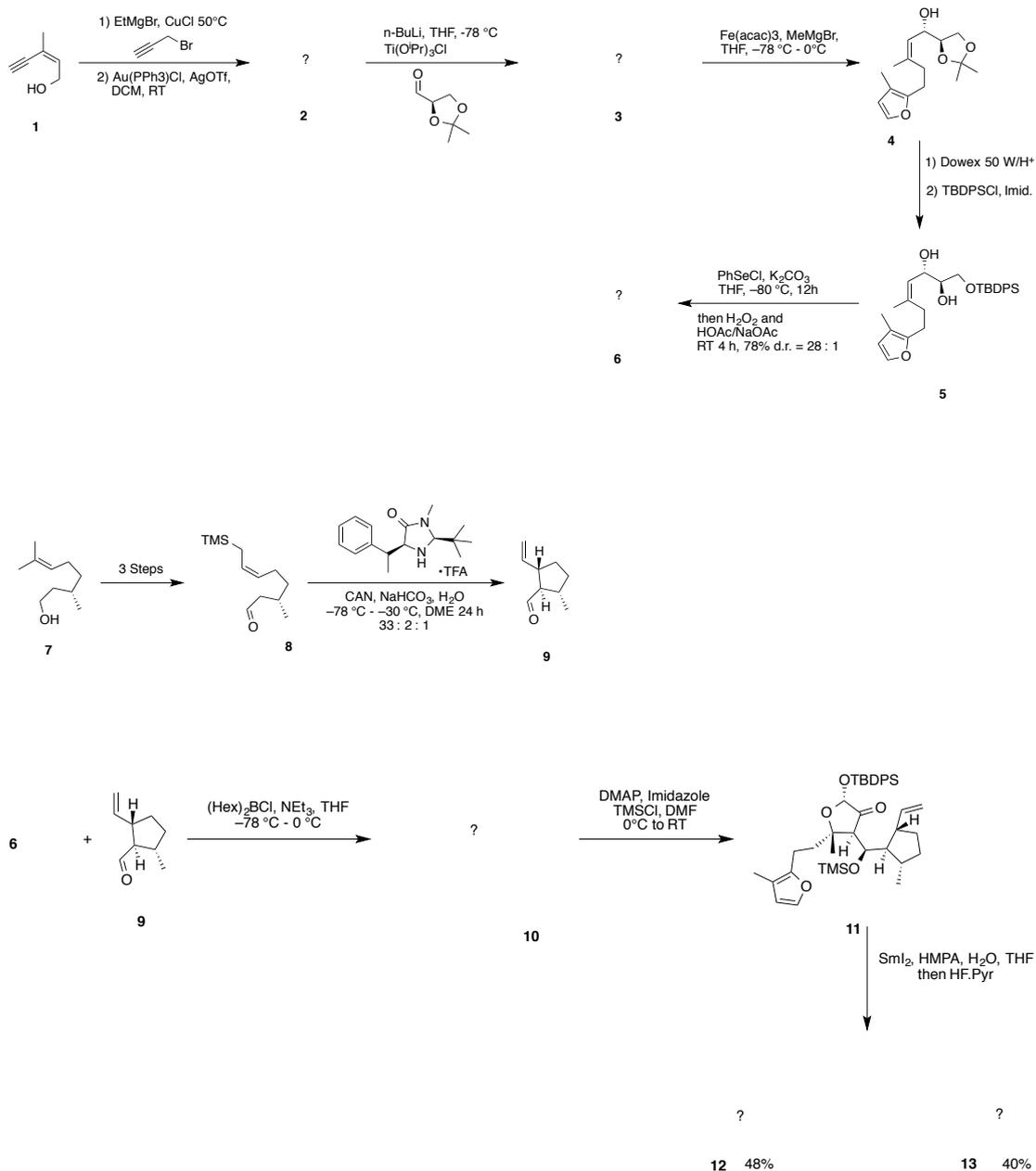


Synthesis of Leucosceptroid

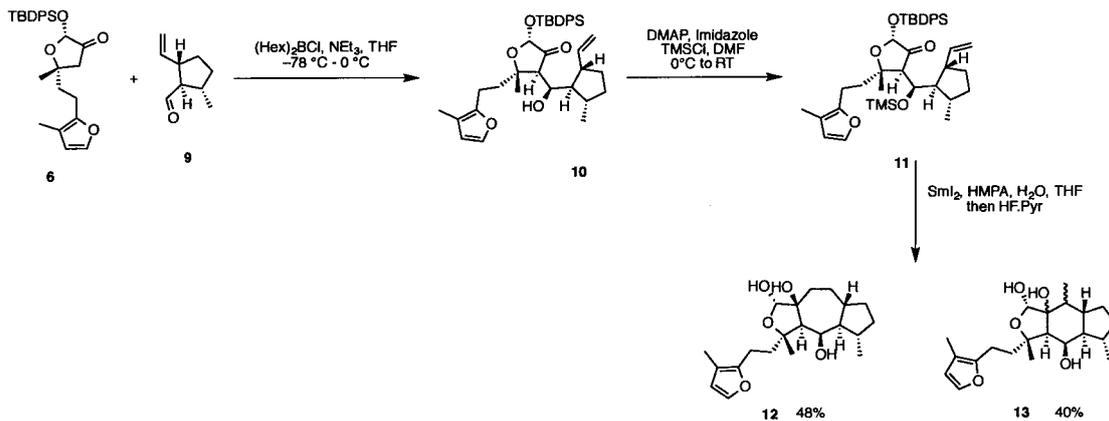
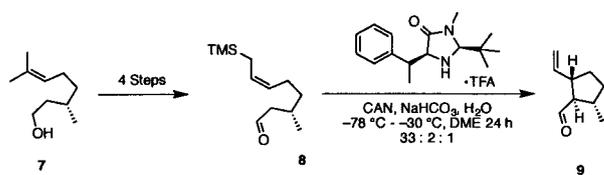
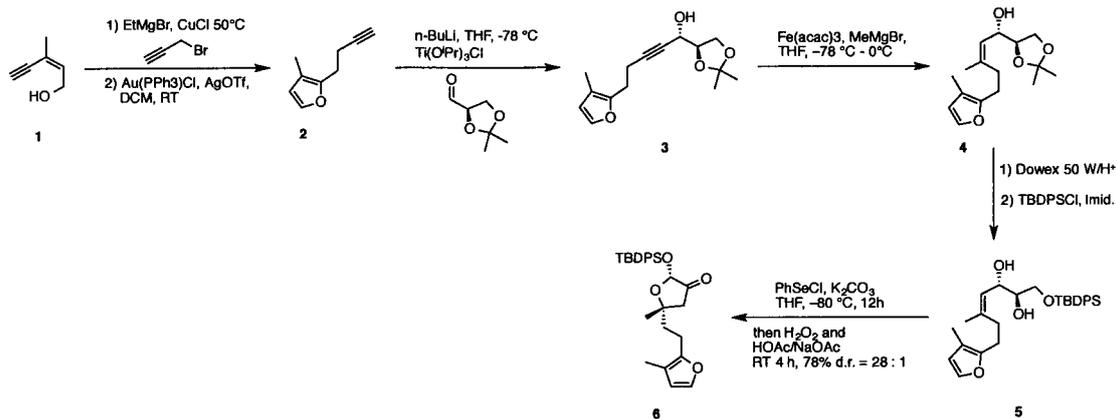


Questions :

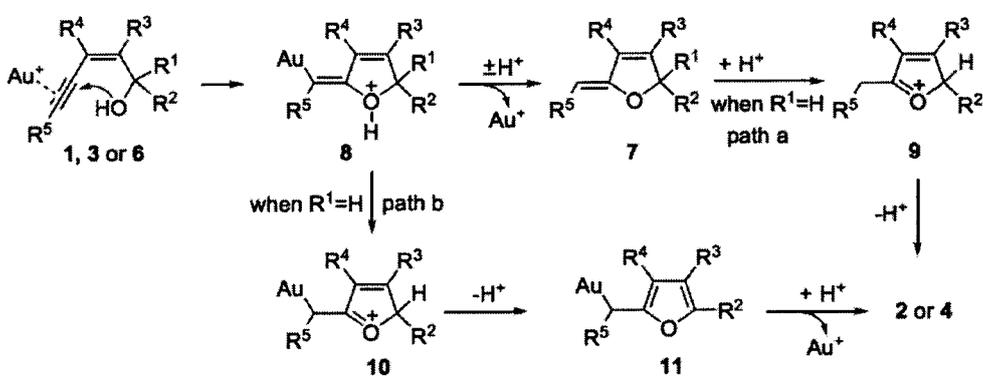
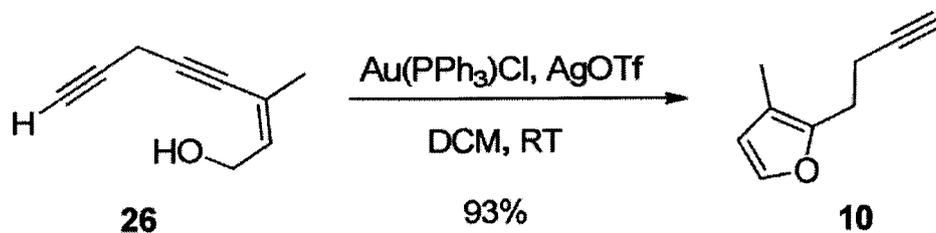
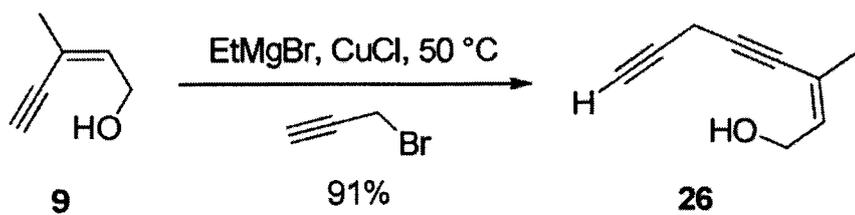
- 1) Give The structure of 2, 3, 6, 10, 12 and 13 and the mechanisms to obtain them
- 2) Propose a pathway to obtain 8 from 7

Ref : Guo, S.; Liu, J.; Ma, D. *Angew. Chem. Int. Ed. Engl.* **2015**, *54*, 1298.

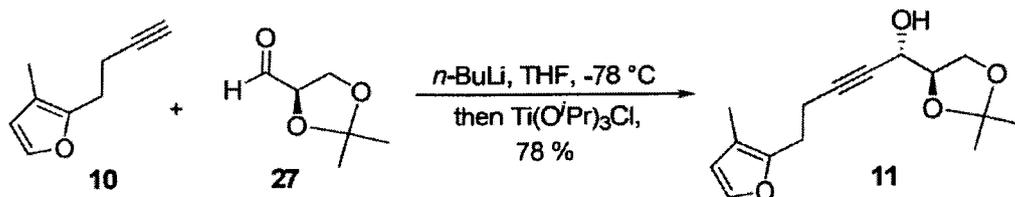
Solution

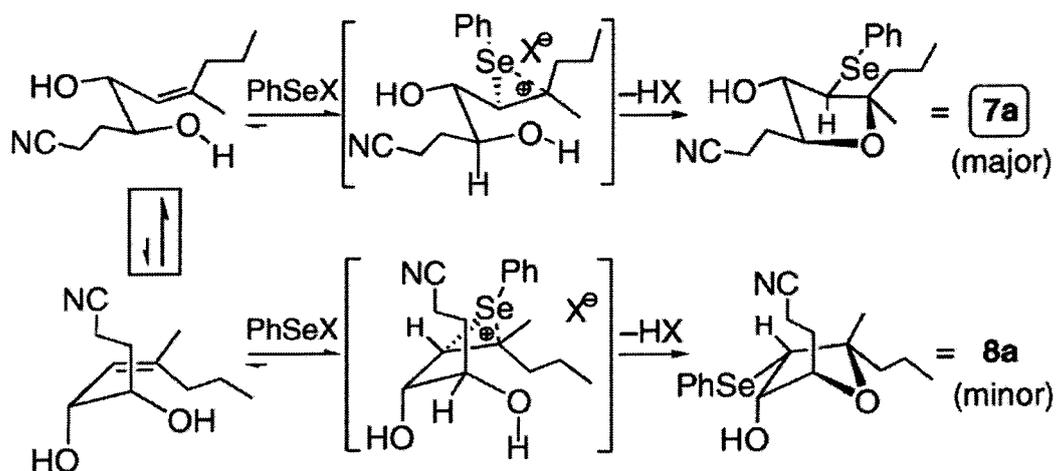
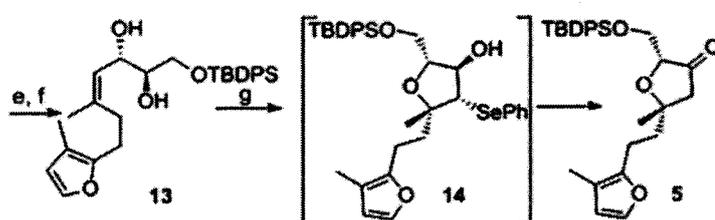
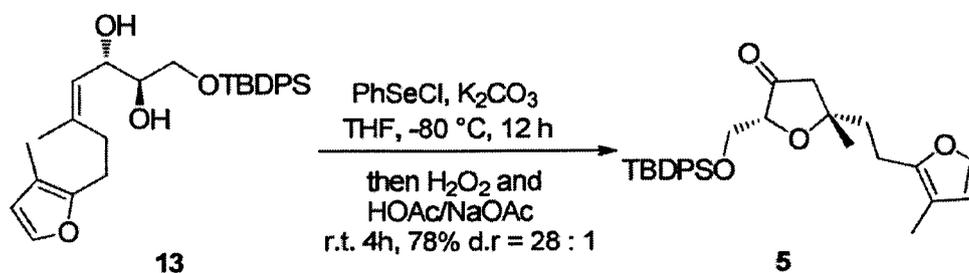
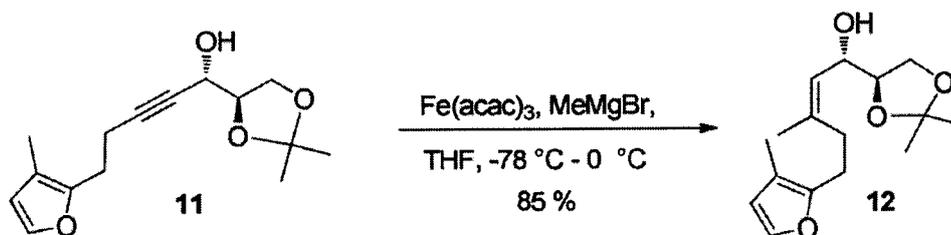


Fragment 6



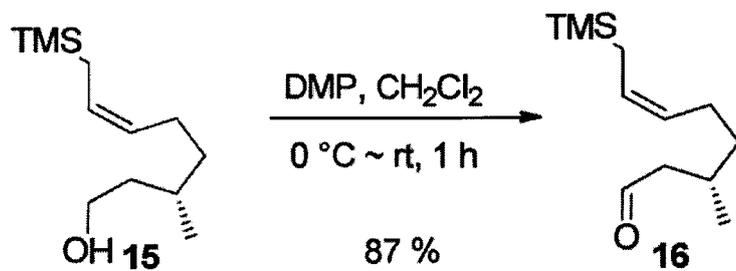
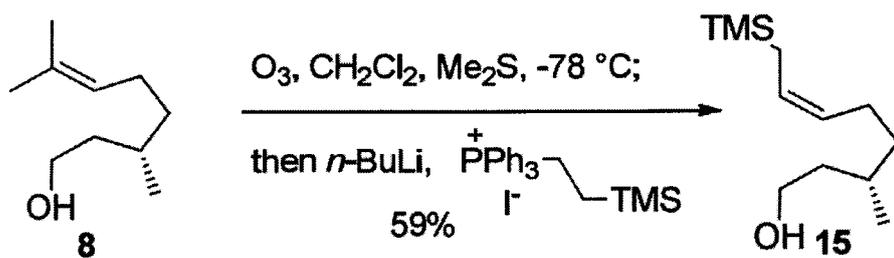
ref : Du, X.; Song, F.; Lu, Y.; Chen, H.; Liu, Y. *Tetrahedron* **2009**.

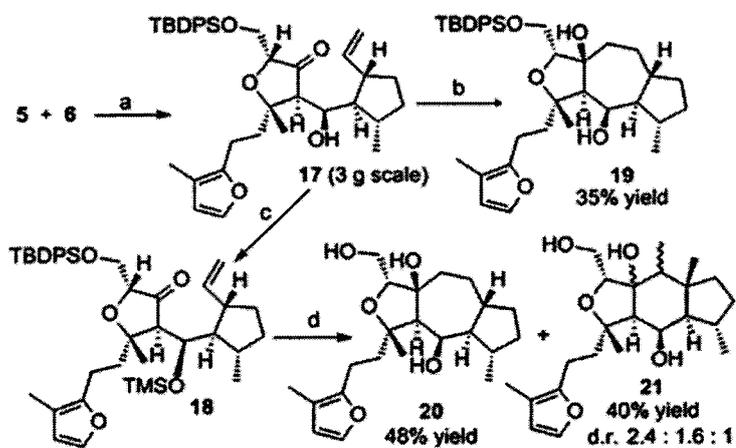
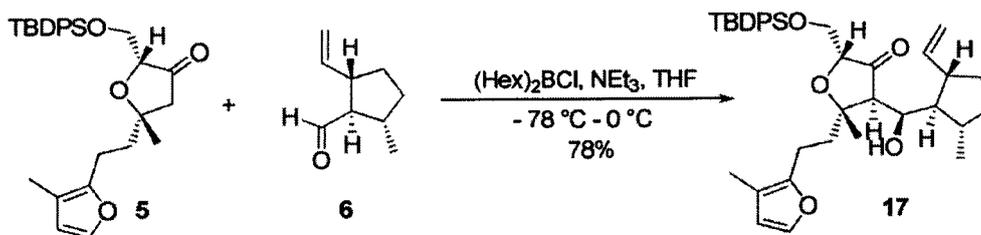




ref Rodríguez-Esrich, C.; Olivella, A.; Urpí, F.; Vilarrasa, J. *Org. Lett.* **2007**, *9*, 989.

fragment 8





Scheme 2. Reagents and conditions: a) $(\text{Hex})_2\text{BCl}$, NEt_3 , THF, -78°C to 0°C , 78%; b) SmI_2 , HMPA, THF, $t\text{BuOH}$; c) TMSCl , DMAP, imidazole, DMF, 90%; d) SmI_2 , HMPA, THF, H_2O , then $\text{HF}\cdot\text{Py}$. HMPA = hexamethylphosphoramide, DMAP = 4-dimethylaminopyridine, Py = pyridine.

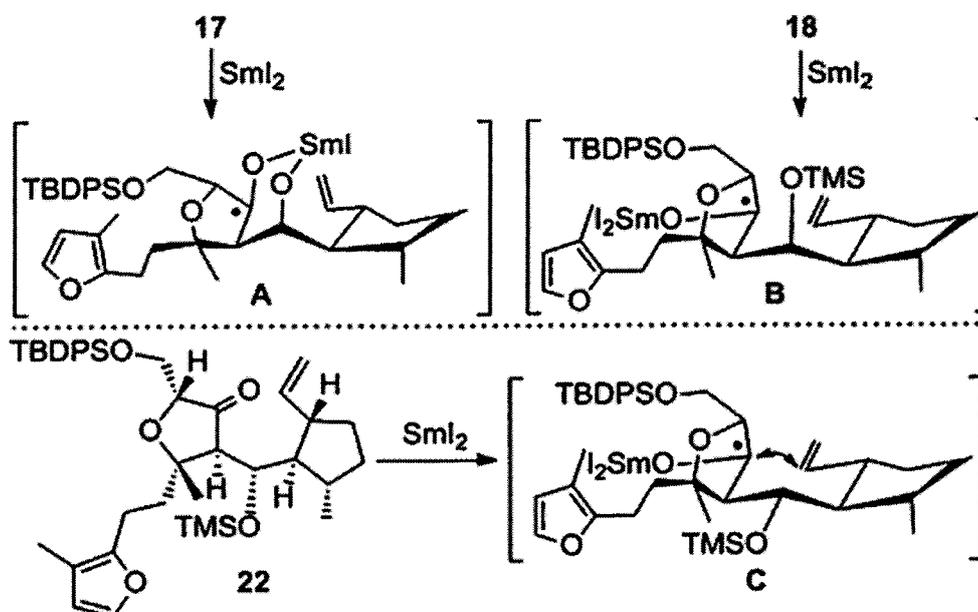


Figure 3. Possible stereochemical outcomes for SmI_2 -mediated cyclization.