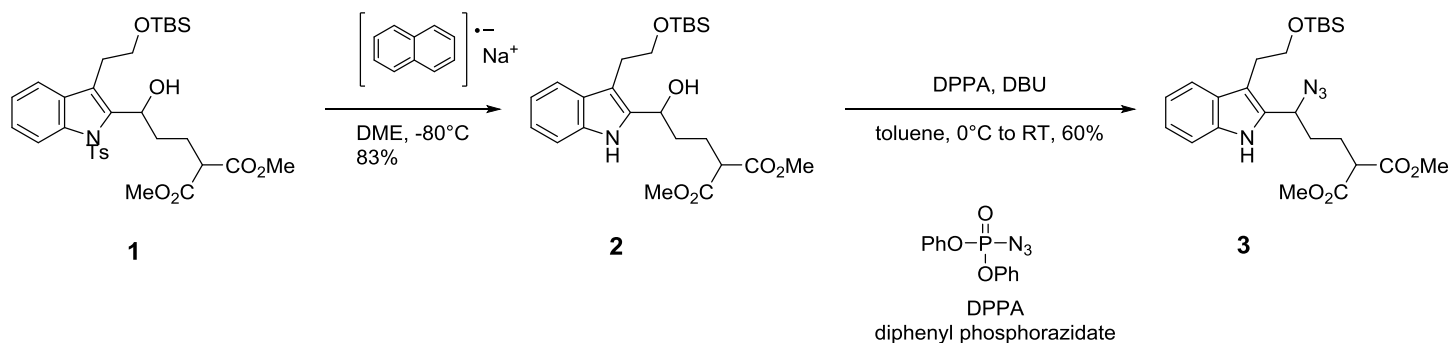
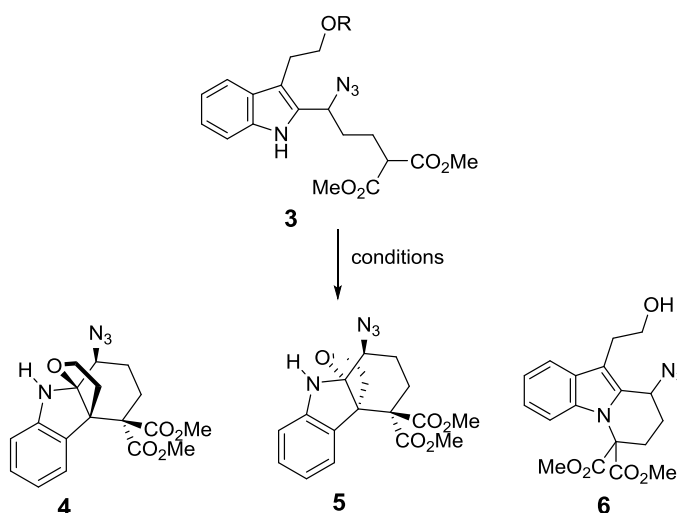


Total Synthesis of the Monoterpenoid Indole Alkaloid (\pm)-Aspidophylline A

Problem:

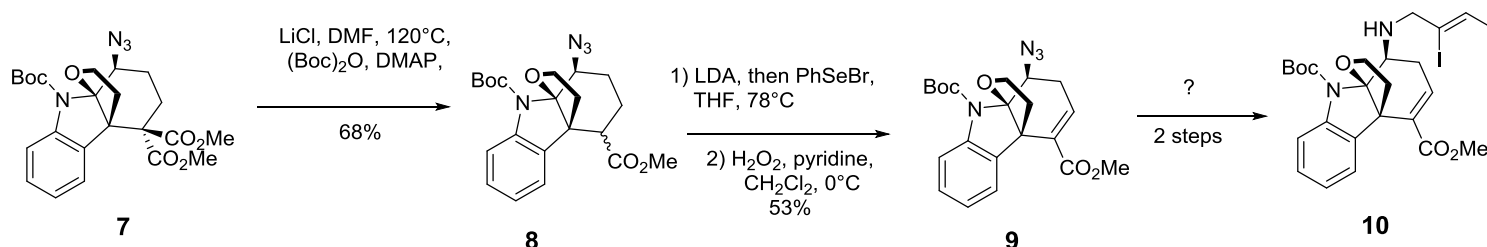


- Give the mechanism of the two steps, and the reaction's name of the second.



R	Conditions	Product (yield %)
H	LiHMDS, THF, HMPA -40°C, then I ₂ , -40 °C to 0° C	6 (36%)
H	LiHMDS, THF, -40°C, then I ₂ , -40 °C to 0° C	4/5 (2/1, 54%)

- Propose some intermediates to rationalize the results observed for the preparation of tetracycle **4**



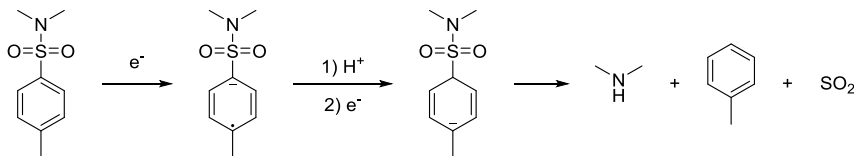
- Give the mechanism of the 1st step (Bachelor and Master)
- Give the mechanism of the conversion from **8** to **9**,
- Provide the conditions and give the name of the formation of **10** from **9**

Keywords : Deprotection Tosyl, Mitsunobu, Intermolecular oxydative coupling, Krapcho
 Decarboxylation, Selenoxyde elimination, Staudinger,

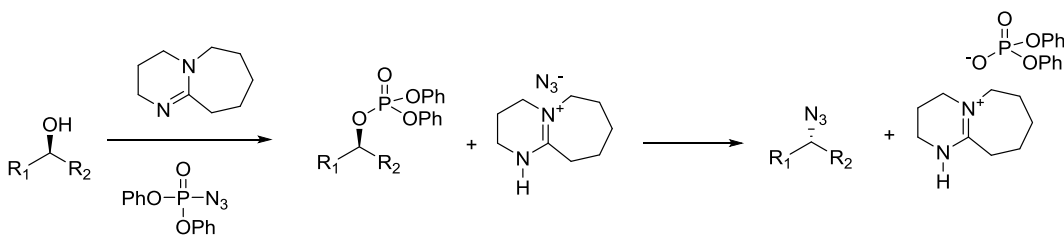
Ref: Mingxing Teng, Weiwei Zi, and Dawei Ma, *Angew. Chem. Int. Ed.* **2014**, *53*, 1814–1817

DOI: 10.1002/anie.201310928

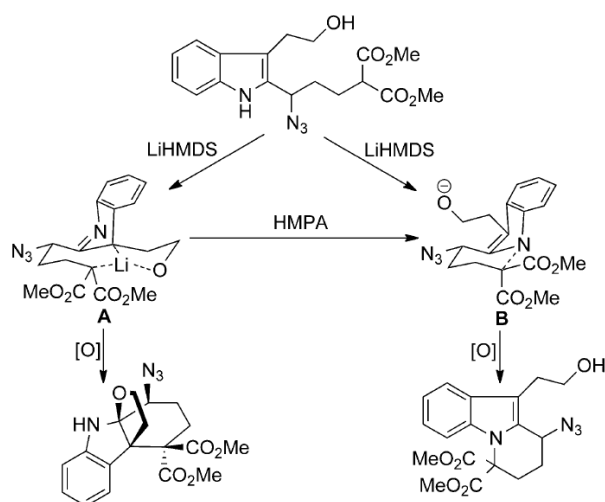
Deprotection Ts



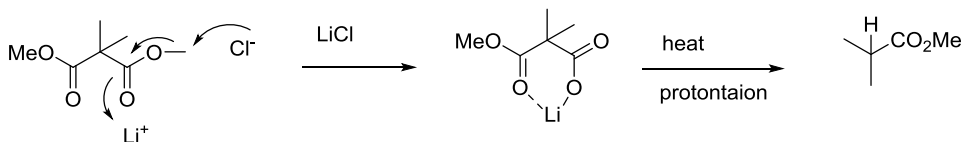
Mitsunobu



Intermolecular oxydative coupling

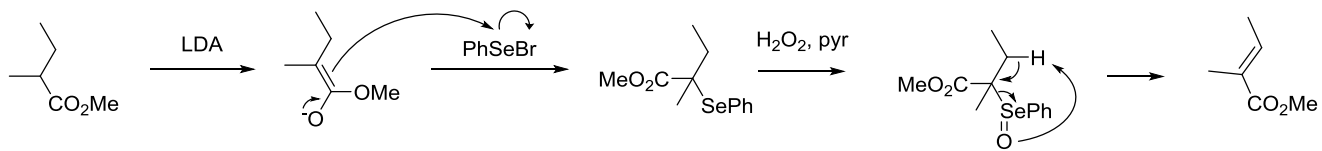


Decarboxylation, Krapcho:



+ reprotection of the Boc

Selenoxide elimination



Staudinger

