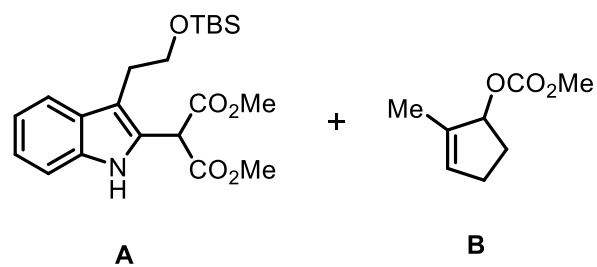
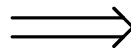
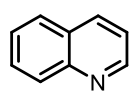


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propose retrosynthetic analysis for compounds A and B

- monoterpenoid indole alkaloids (MIA)
- isolated from *Alstonia scholaris* in 2019
- intricate chage-shaped structure
- unique 7/6/5 tricyclic core
- piperidine and pyrrolidine-bridged cyclohepta[b]indole framework



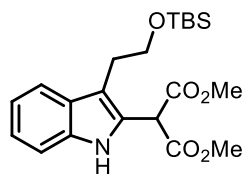
CSCl<sub>2</sub>, Na<sub>2</sub>CO<sub>3</sub>  
then  
NaBH<sub>4</sub>, MeOH

TBSCl

NaH  
dimethyl malonate

Bu<sub>3</sub>SnH, Et<sub>3</sub>B  
*mechanism?*

A



**B**, [Pd<sup>II</sup>] dimer  
chiral ligand  
BSA, KOAc  
DCM, 40 °C, 36 h

*name reaction?*

a. LiCl  
then Boc<sub>2</sub>O  
Et<sub>3</sub>N, DMAP

b. TBAF

a. DMP  
b. H<sub>2</sub>NOH·HCl, NaOAc  
c. NaOCl

a. Raney Ni, H<sub>2</sub>  
b. Martin's sulfurane  
then o-NsCl, Et<sub>3</sub>N,  
DMAP

Meerwein's salt  
then NaBH<sub>4</sub>

K<sub>2</sub>OsO<sub>4</sub>  
NMO, citric acid  
then NaIO<sub>4</sub>

PhSH, Cs<sub>2</sub>CO<sub>3</sub>  
then TFA, Me<sub>2</sub>S

a. MeMgBr  
b. DMP  
**(+)-alstonlarsine A**

