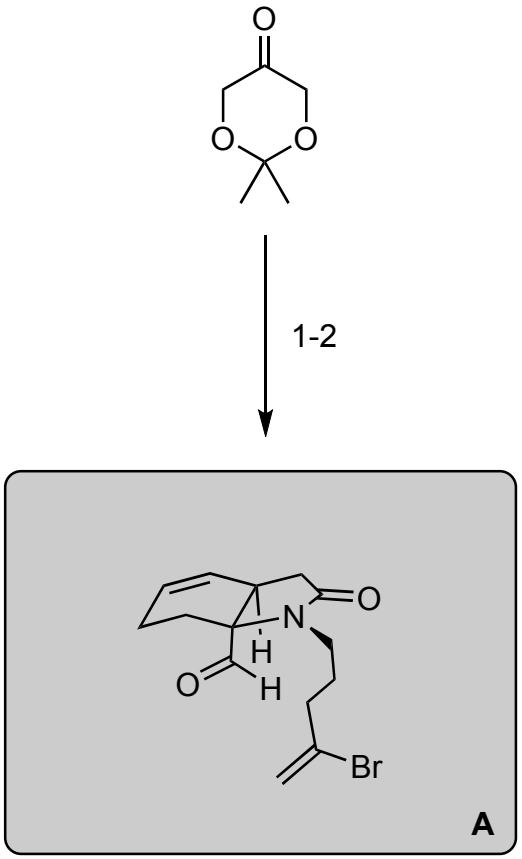
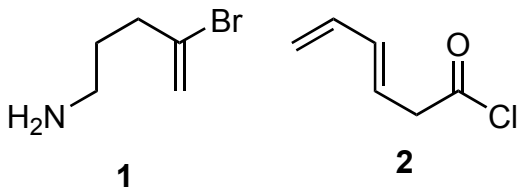
Total Synthesis of (±)-Isophellibiline

Raymond L. Funk, Johannes Belmar

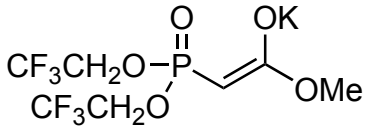
Tetrahedron Lett. **2012**, *53*, 176–178.



1) **1**, Na_2SO_4 *then* **2**, $PhNEt_2$
2) PhMe, 110 °C



1 **2**

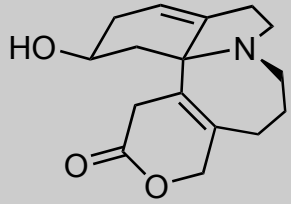


3

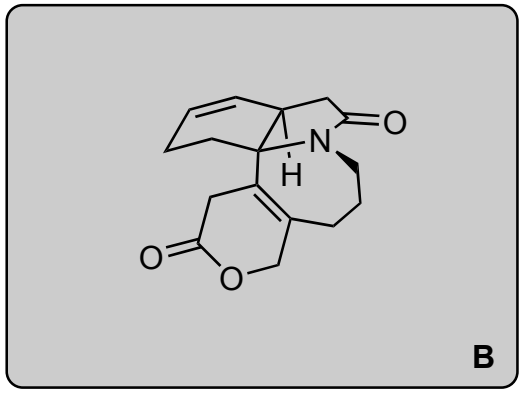
3) **3**, 18-Crown-6
4) Hermann's cat, NaOCOH, DIPEA, reflux
5) LiOH
6) PhMe, 110 °C

2) Classify the reaction
retrocycloaddition followed by intramolecular Diels-Alder cycloaddition

3) Please name the reaction
Still-Gennari Olefination
4) Please name the reaction
Heck reaction
6) Classify the reaction
6π-electrocyclic closure

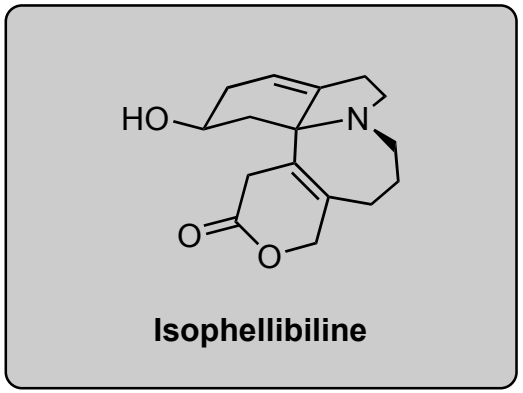


Isophellibiline

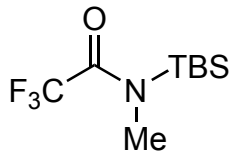


B

7-16



Isophellibiline



4

7) $CH(OMe)_3$, $HOCH_2CH_2OH$, CSA
8) *n*-BuLi, PhSeSePH *then* H_2O_2, pyridine
9) LDA, HMPA
10) $^1O_2$, rose bengal, hυ *then* NH_2CSNH_2
11) **4**
12) Ac_2O, Et_3N, DMAP
13) DBU, C_6H_6, reflux
14) L-seletride *then* AcOH
15) AlH_3•$NEt(Me)_2$
16) HCl, H_2O

9) *hint: a rearrangement of diene happens*

11) *hint: only one alcohol is protected*