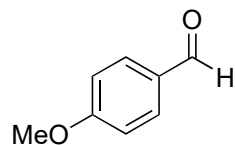
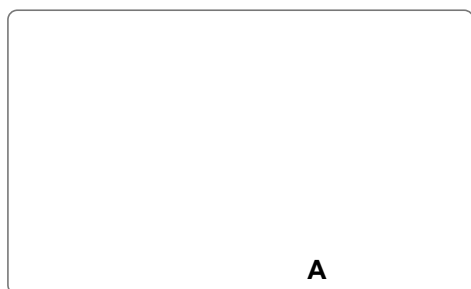


# Total Synthesis of (±)-Rocaglamide via Oxidation-Initiated Nazarov Cyclization

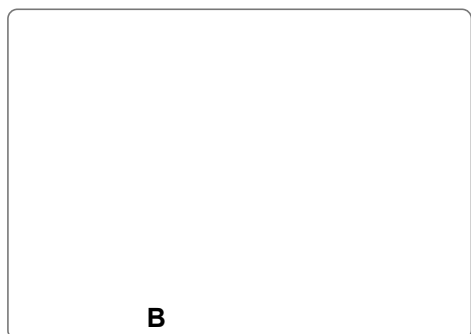
John A. Malona, Kevin Cariou, William T. Spencer, III, and Alison J. Frontier, *J. Org. Chem.* **2012**, *77*, 1891-1908



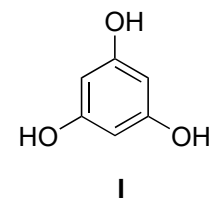
↓ 1 - 4



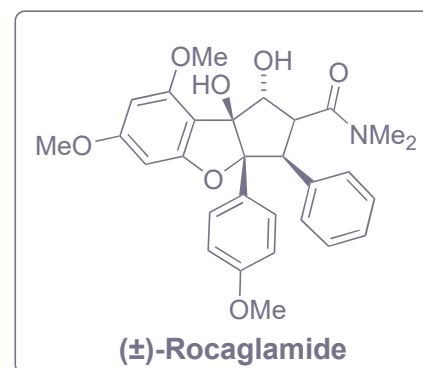
↓ 5 - 7



1. KCN, H<sub>2</sub>SO<sub>4</sub>
2. HCl, **I**
3. Me<sub>2</sub>SO<sub>4</sub>, K<sub>2</sub>CO<sub>3</sub>, **I**,
4. CeCl<sub>3</sub>, vinylmagnesium bromide  
then 1 M HCl



5. OsO<sub>4</sub>, NMO, acetone, *t*-BuOH  
then NaIO<sub>4</sub>
6. *n*-BuLi, HCCPh
7. NaH, PMBCl

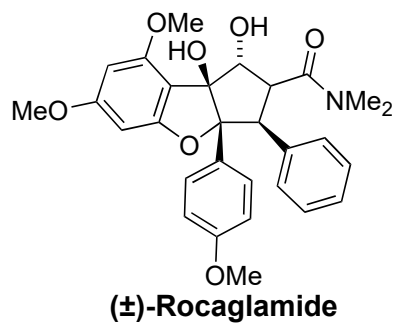


**B**

8,9



10 - 16



8. *t*-BuLi, then Bu<sub>3</sub>SnCl
9. *m*-CPBA

Name reaction in step 9.  
Draw the mechanism

10. DDQ (4.5 equiv), CH<sub>2</sub>Cl<sub>2</sub>/H<sub>2</sub>O
11. KHMDS, PhNTf<sub>2</sub>
12. Pd(PPh<sub>3</sub>)<sub>4</sub>, CO, MeOH, *i*-Pr<sub>2</sub>NEt
13. PtO<sub>2</sub>, H<sub>2</sub>
14. NaHB(OAc)<sub>3</sub>, AcOH
15. LiOH, THF/H<sub>2</sub>O
16. Me<sub>2</sub>NH•HCl, DDC, DMAP