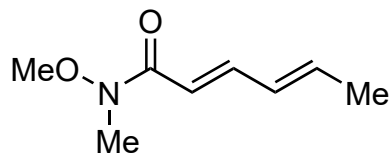


Total Synthesis of Abyssomicin C and atrop-Abyssomicin C

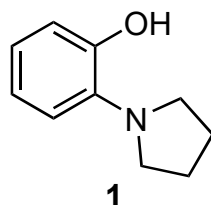
Nicolaou, K. C.; Harrison, S. T.

Angew. Chem. Int. Ed. **2006**, 45, 3256–3260.



1-3

- 1) thioanisole, DABCO, *n*-BuLi then SM
- 2) (*R*)-CBS, catecholborane
- 3) **1**, MeMgBr then methyl acrylate



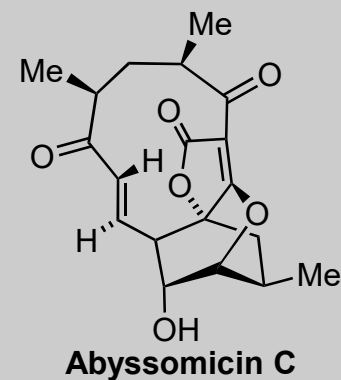
3) Name reaction?

5) *hint: three transformations happened in this step*

8) Name reaction? *Hint: two rings formed in this step*

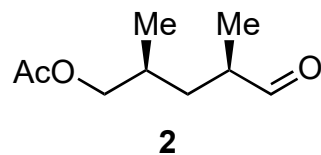
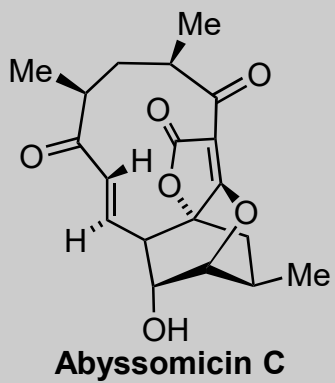
4-9

- 4) LiHMDS then (EtO)₃P, O₂
- 5) Li, (4-*t*-Bu-C₆H₄)₂ then K₂CO₃, MeI
- 6) VO(OEt)₃, *t*-BuOOH
- 7) Ac₂O, Et₃N
- 8) LiHMDS then aq. NH₄Cl, reflux
- 9) TESCl, imidazole



B

10-18



- 10) *t*-BuLi, -78 °C then **2**
- 11) IBX
- 12) $\text{BF}_3 \cdot \text{OEt}_2$, $(\text{CH}_2\text{SH})_2$
- 13) K_2CO_3 , MeOH
- 14) IBX
- 15) vinyl MgBr
- 16) Grubbs catalyst II
- 17) IBX
- 18) $\text{PhI}(\text{OTFA})_2$

16) Structure of Grubbs catalyst?