TTotal Synthesis of Abyssomicin C and atrop-Abyssomicin C

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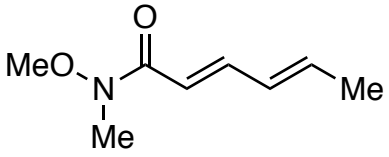
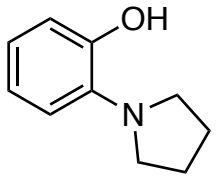


1-3

A

4-9

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



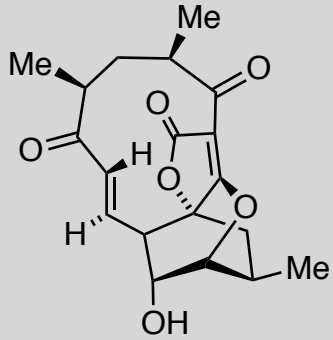
1

4) LiHMDS *then* $(EtO)_3P$, O_2
5) Li, (4-*t*-Bu-$C_6H_4)_2$ *then* K_2CO_3, MeI
6) $VO(OEt)_3$, *t*-BuOOH
7) Ac_2O, Et_3N
8) LiHMDS *then* aq. NH_4Cl, reflux
9) TESCl, imidazole

3) Name reaction?

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

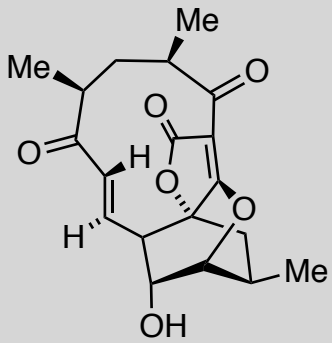
8) Name reaction? *Hint: two rings formed in this step*



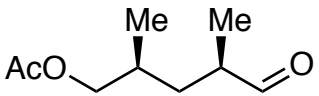
Abyssomicin C

B

10-18



Abyssomicin C



2

10) *t*-BuLi, -78 ^{o}C *then* **2**
11) IBX
12) $BF_3 \cdot OEt_2$, $(CH_2SH)_2$
13) K_2CO_3, MeOH
14) IBX
15) vinyl MgBr
16) Grubbs catalyst II
17) IBX
18) $PhI(OTFA)_2$

16) Structure of Grubbs catalyst?