A Concise Synthesis of Pleurotin Enabled by a Nontraditional C-H Epimerization

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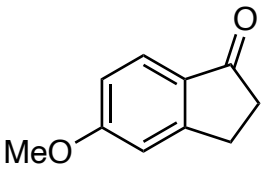
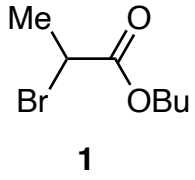


1-5

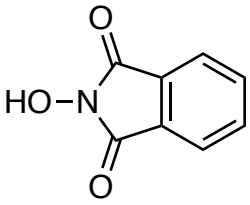
A

6-8

1) Zn^o, **1**
2) $HCOONH_4$, $Pd(OH)_2$
3) $LiAlH_4$, *then* Li, HO*t*Bu, ethylene diamine
then HCl
4) DEAD, **2**, PPh_3
5) **3**, $Ti(OiPr)_4$, 365*h*v



1



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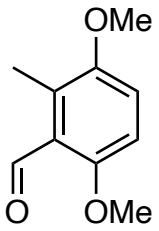

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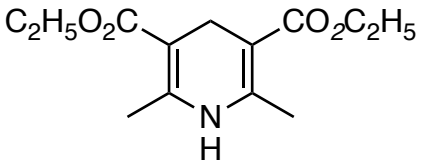


4

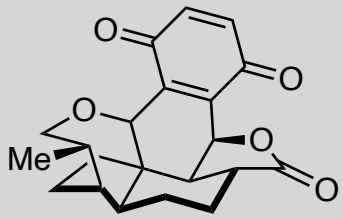
6) *fac*-Ir (ppy)$_3$ (1 mol%), **4**, TRIP thiol
7) $BF_3{\cdot}OEt_2$, Et_3SiH
8) DDQ

1) Name of starting material?
hint Zn^o is Activated Zinc

3) Name of reaction?

4) Structure of DEAD?

7) Mechanism of the reaction?

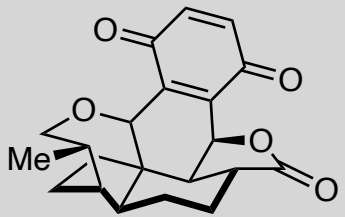


Pleurotin

B

9-13

9) TosMIC, KO*t*Bu
10) DIBAL
11) Ag_2O, NaOH
12) CAN
13) MnO_2



Pleurotin