Total Synthesis of (+)-Aberrarone

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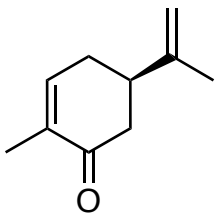
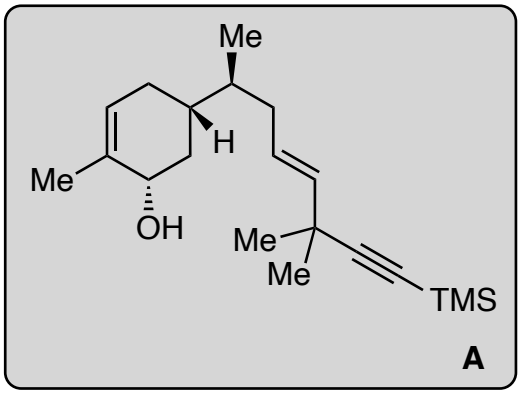


1-5

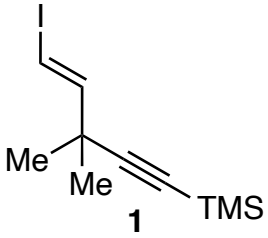


A

6-13

(+)-Aberrarone

1) $NaBH_4$,$CeCl_3$
2) CuCl (S)-DTBM-SegPhos, KO*t*-Bu, HBPin
3) $NaBO_3 \cdot 4H_2O$
4) PPh_3, I_2, imidazole
5) **1**, NiI_2, Mn, terpyridine



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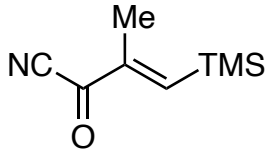
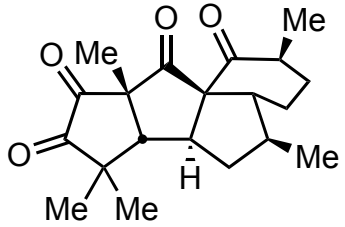


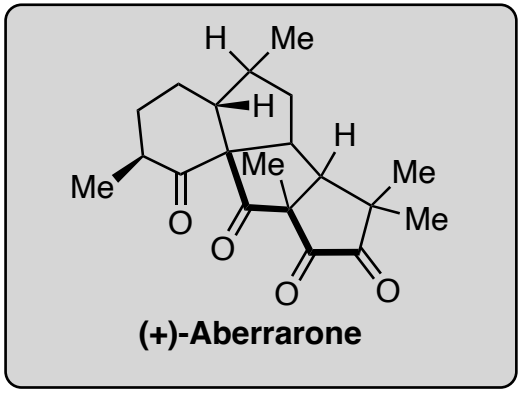
2

6) IBX
7) LiHMDS, **2**
8) $Mn(OAc)_3 \cdot 2H_2O$ EtOH
9) TBAF, AcOH
10) TFA
11) *m*-CPBA, *then* H_5IO_6
12) Ra Ni, H_2
13) SeO_2 100°C

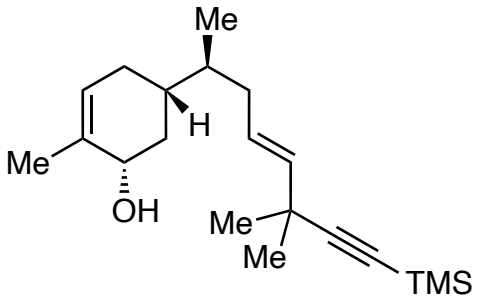
8) *Hint:* Most acidic proton is also most homolytic
9-10) *Hint:* β-Si effect
10) Name of reaction?

For reference: Carreira group's drawing of (+)-Aberrarone





(+)-Aberrarone



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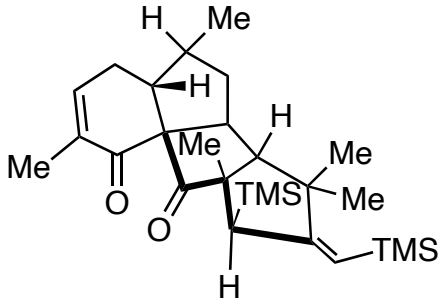
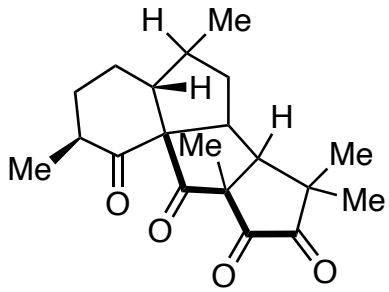


After rxn 8



(+)-aberrarone