Enantioselective Synthesis of (+)-Auriculatol A

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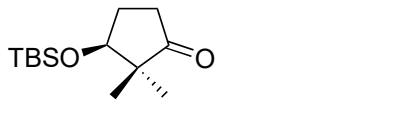

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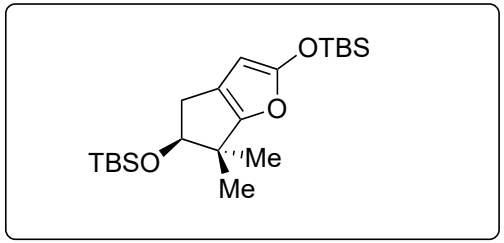
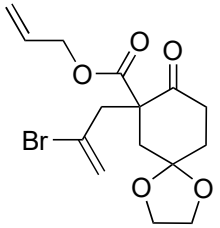


A

1) LHMDS, HMPA, $BrCH_2CO_2Et$, –78°C *then* LiOH
2) $SOCl_2$
3) LHMDS
4) $TBSOTf$, Et_3N



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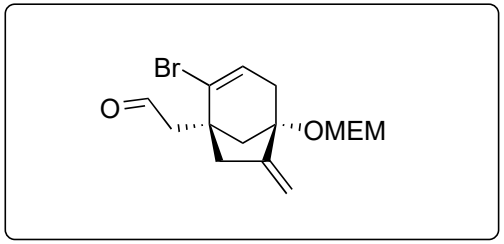
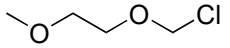


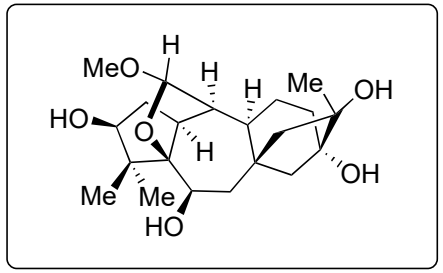
B

5) Pd_2dba_3 (5 mol%), (R)-$(CF_3)_3$-^{t}Bu-Phox (12 mol%) *then* pTsOH
6) $NiBr_2$•dme (5 mol%), terpy, (5 mol%), Mn^0
7) MEMCl, DIPEA
8) KHMDS, $PhNTf_2$
9) OsO_4, $NaIO_4$, 2,6 lutidine
10) $Ni(COD)_2$ (10 mol%), LiBr

5) Mechanism

7) Structure of MEM 

9) Name of the reaction ? Lemieux Johnson



(+)-Auriculatol A

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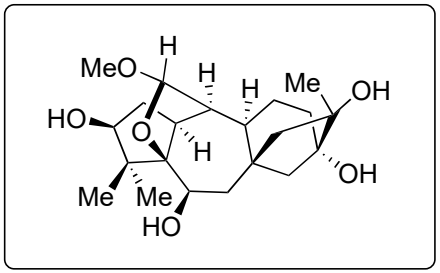

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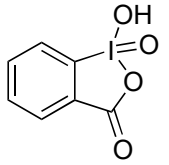
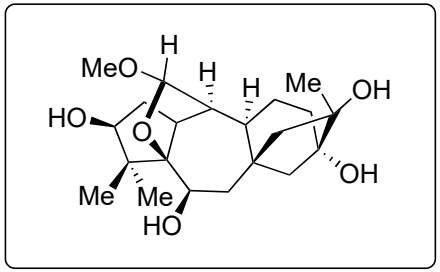
11) **A,** $ZnCl_2$
12) TMS-imidazole
13) $CuCl_2 \cdot 2H_2O$ (7.5 mol%), rac-(tol)-BINAP (7.5 mol%) PMHS, tBuONa, tBuOH
14) Ni(COD)DMFU, NaHMDS, $ZnBr_2$
15) $Co(acac)_2$, $PhSiH_3$, O_2 *then* $Na_2S_2O_3$
16) PPTS
17) IBX, DMSO
18) DIBAL
19) HCl, MeOH
20) $Mn(dpm)_3$ (20mol %), $PhSiH_3$, tbuOOH, iPrOH

11) Name of the reaction ? vinylogous Mukaiyama aldol

15) Name of the reaction ? Mukaiyama hydration

17) Strucure of IBX ?





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