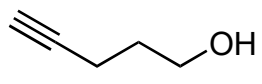
Synthesis via a C-H Alkenylation/Torquoselective 6□Electrocyclization Cascade



1-8

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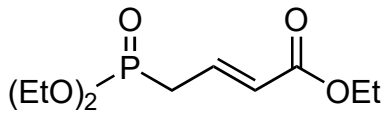
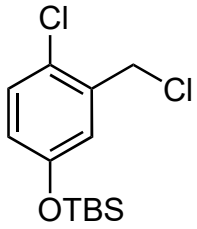
1) $(COCl)_2$, DMSO, Et_3N, CH_2Cl_2, -78 to 25 °C
2) **1**, *n*-BuLi, *i*-Pr_2NH, THF, -78 to 0 °C
3) AD-mix-□, $MeSO_2NH_2$, H_2O, *t*-BuOH, 0 °C
4) 2,2-dimethoxypropane, *p*-TSA (cat.), CH_2Cl_2, 0 °C
5) **2**, $PdCl_2(CH_3CN)_2$, XPhos, $CsCO_3$, THF, 65 °C
6) DIBAL-H, THF, -78 °C
7) DMP, pyridine, CH_2Cl_2, 0 °C
8) **3**, 3Å MS, toluene, 25 °C



1



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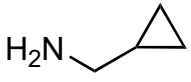
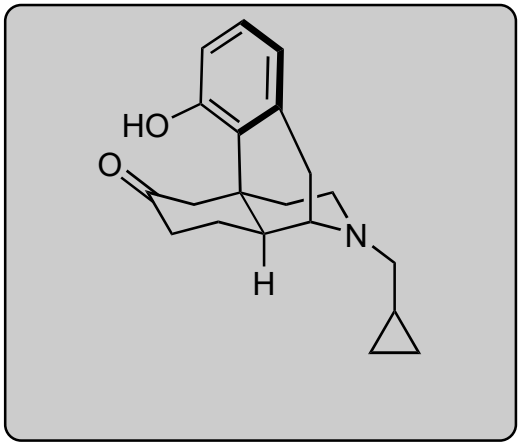


3

2) Name of reaction
3) Components of AD-mix-□ ?

5) Name of reaction?



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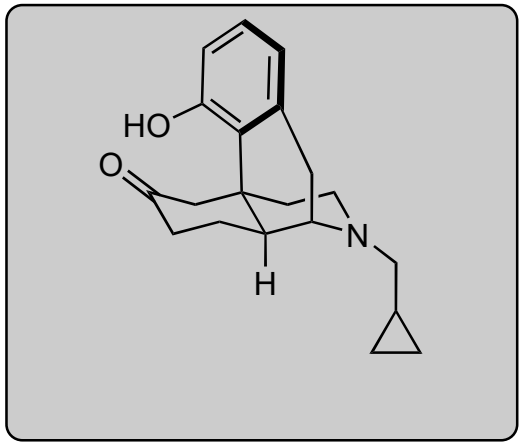
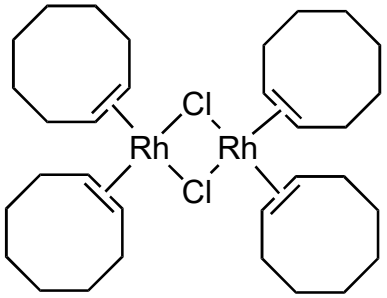
9-12



9) **4** (cat.), 4-(diethylphosphino)-*N*,*N*-dimethylaniline, toluene, 65 °C
10) $NaHB(OAc)_3$, AcOH, EtOH, 0 to 25 °C
11) aq. H_3PO_4, 125 °C
12) Pd/C (cat.), H_2, $NaHCO_3$, EtOH, 25 °C



4, $[RhCl(coe)_2]_2$

9) *Hint*: intramolecular alkenylation / 6□ electrocyclization

11) *Hint*: a pinacol rearrangement occurs