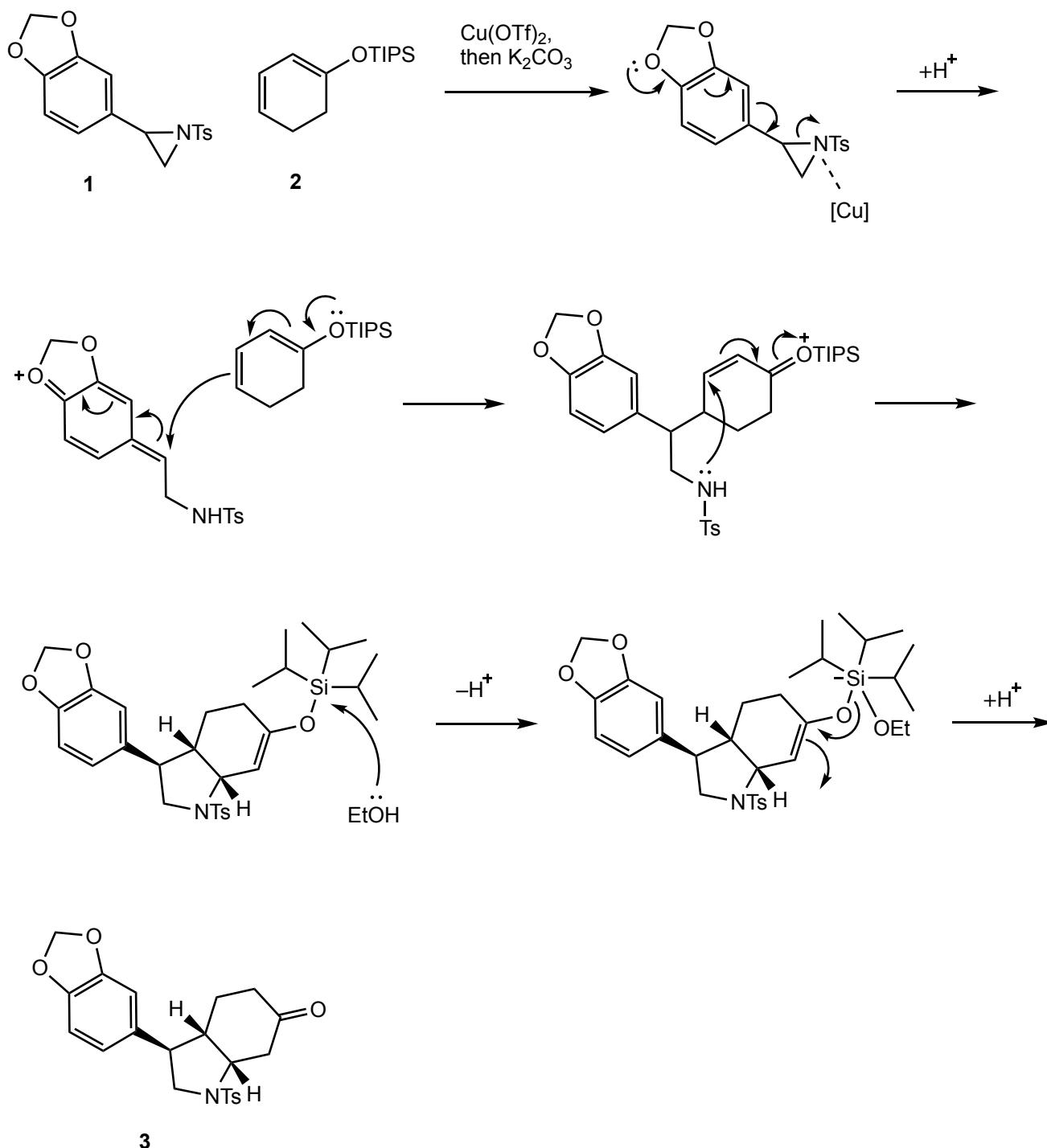
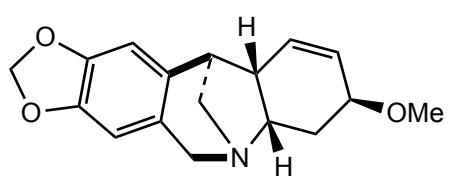
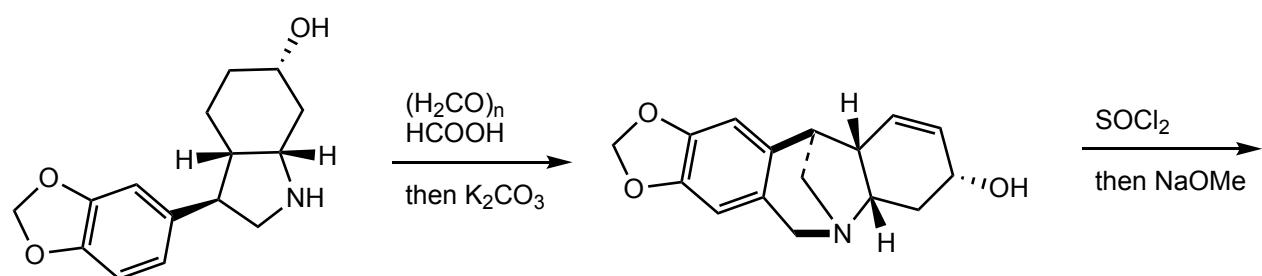


Q1. Propose reasonable arrow-pushing mechanisms (**1+2 → 3**).

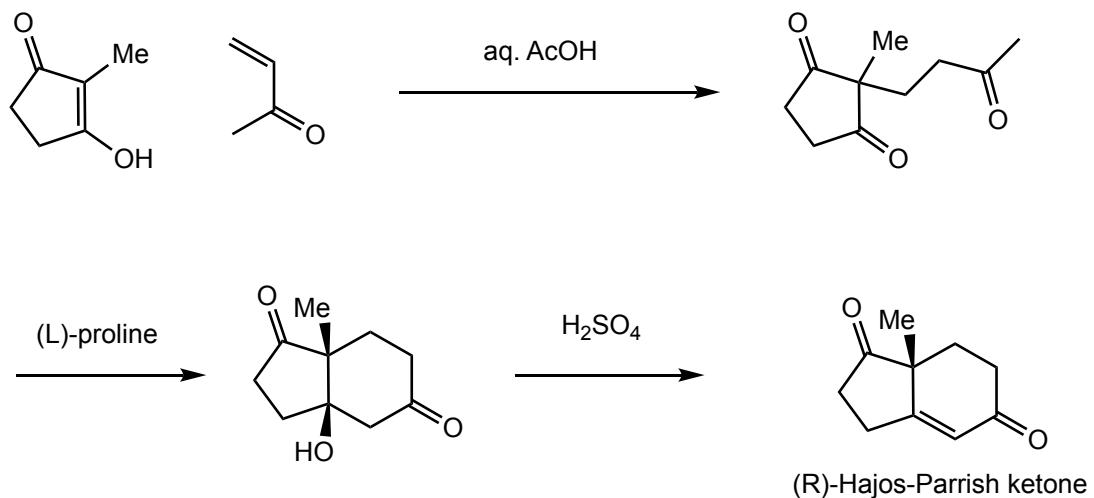


Q2. Propose the synthetic route ( $4 \rightarrow 5$ ).

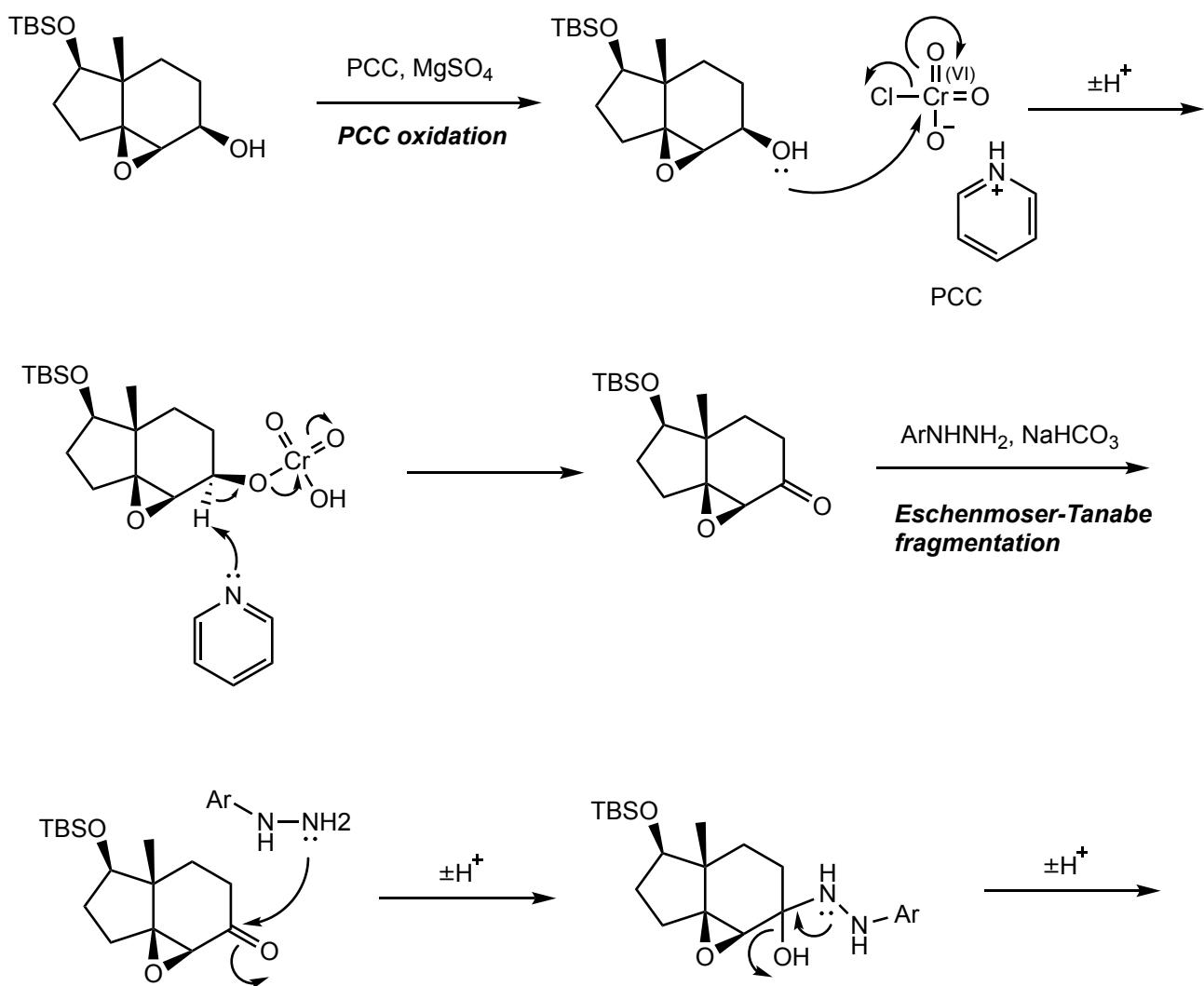


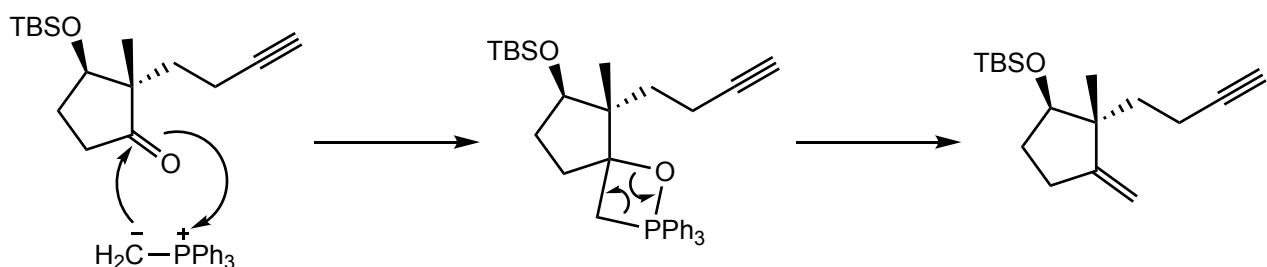
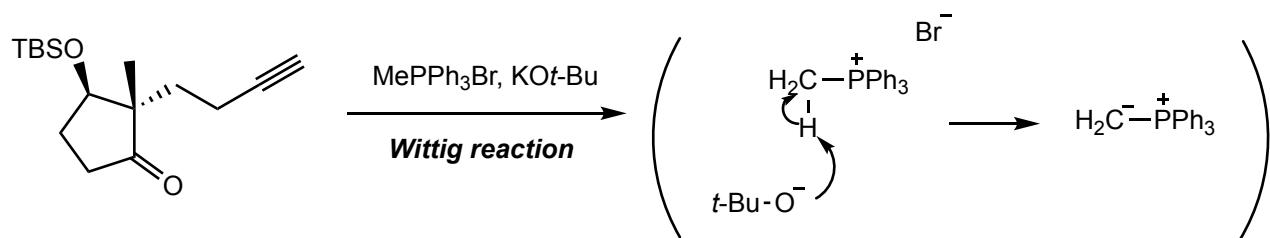
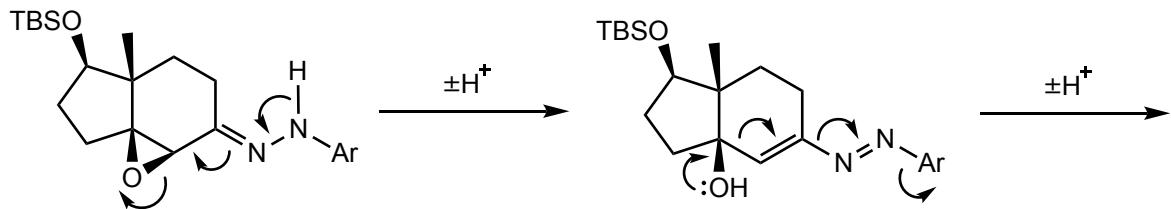
**5**

propose the starting material and conditions.



reaction mechanism (1)





### reaction mechanism (2)

