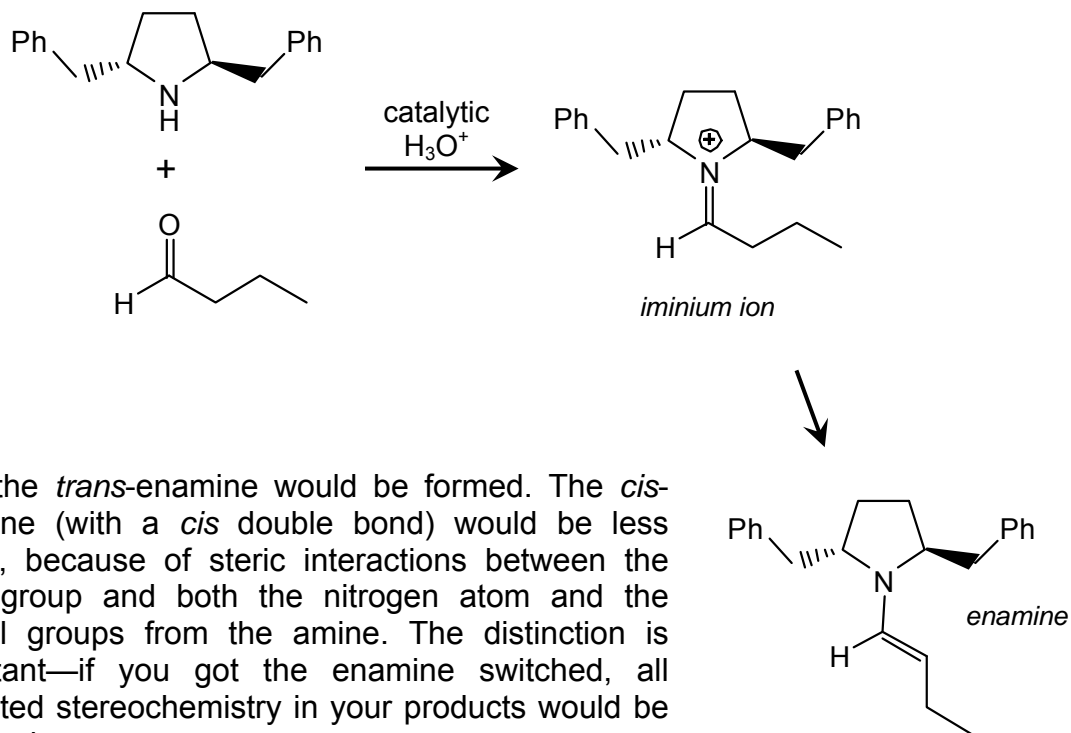
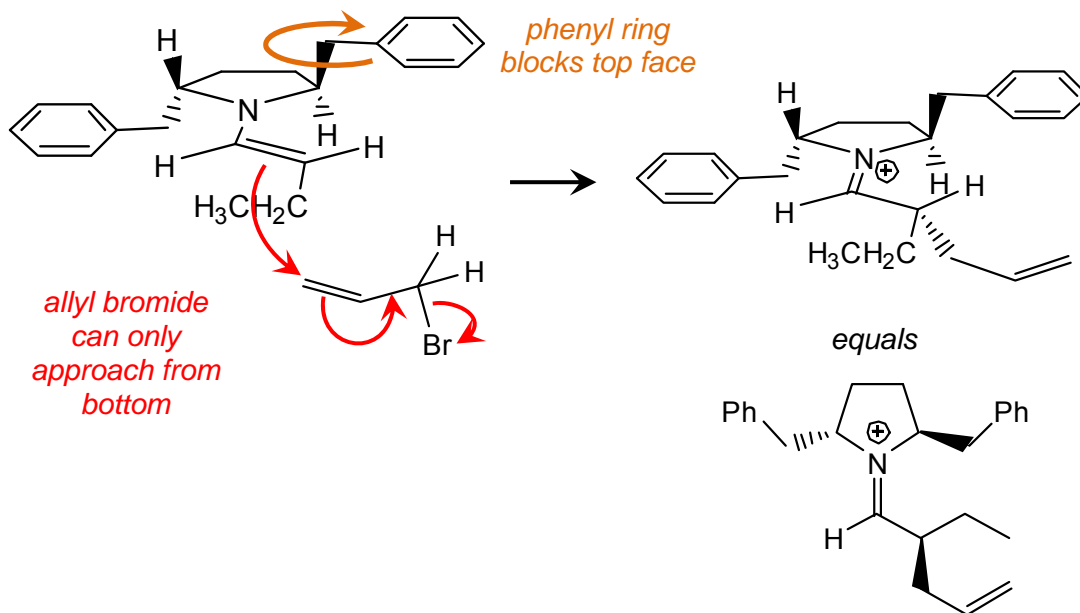


### Workshop 15 Solutions Asymmetric Induction via Chiral Enamines

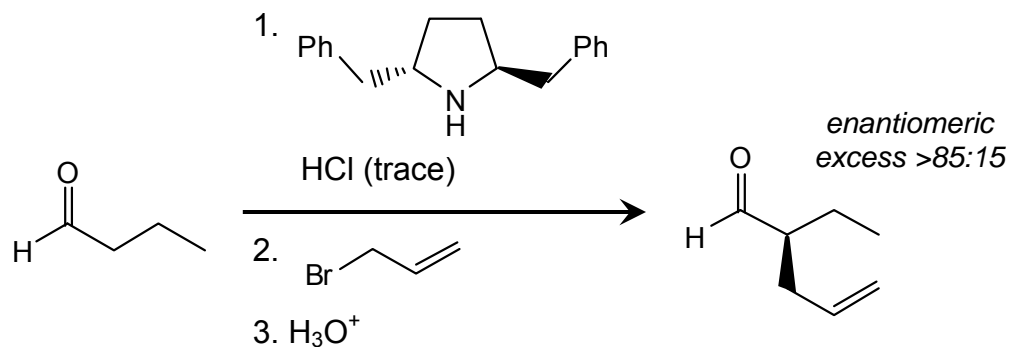
1.



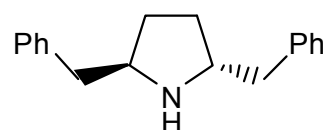
2.



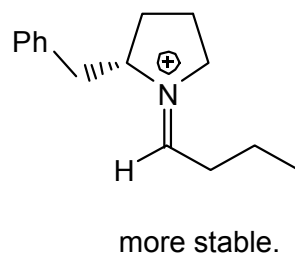
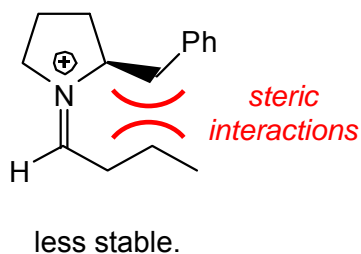
3. So,



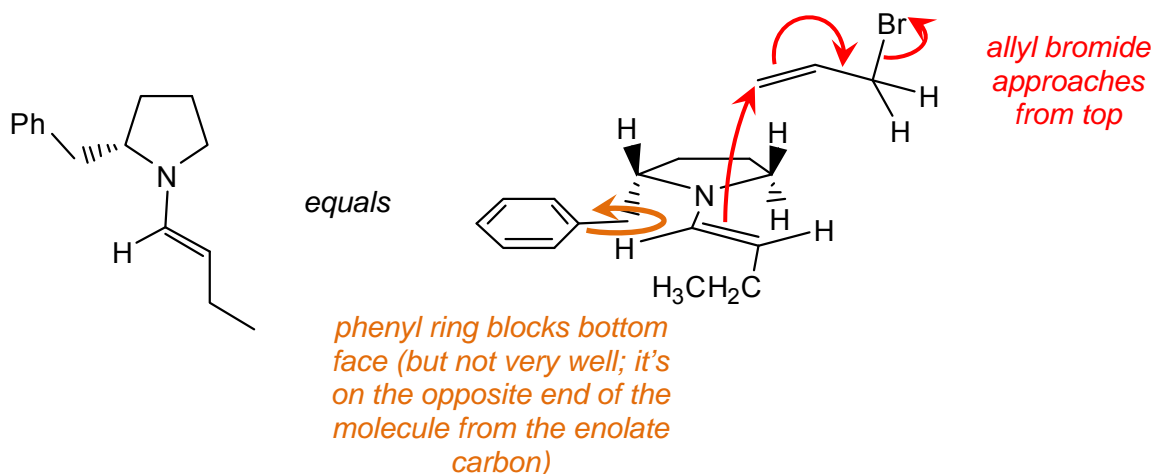
4. To make the other enantiomer, just use the chiral auxiliary with opposite stereochemistry.

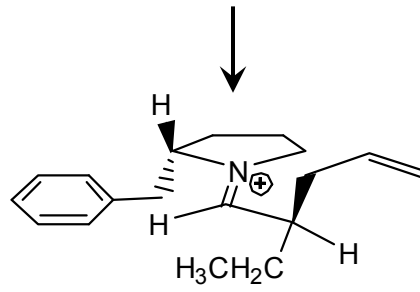


5. Just as above, we need to first think about what iminium ion and enamine are formed. Here, because the amine isn't symmetric, we could form two possible iminium ions:

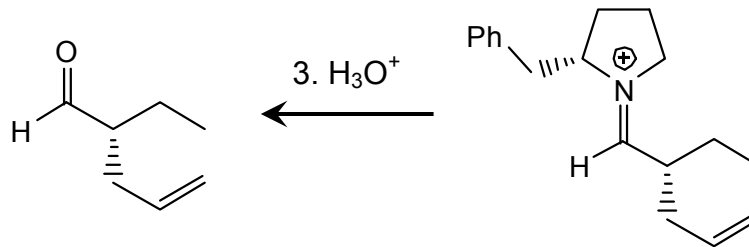


So, of these two iminium ions, only the one on the right will be formed. This iminium will be deprotonated to form a *trans*-enamine:





*equals*



*the opposite enantiomer.*