

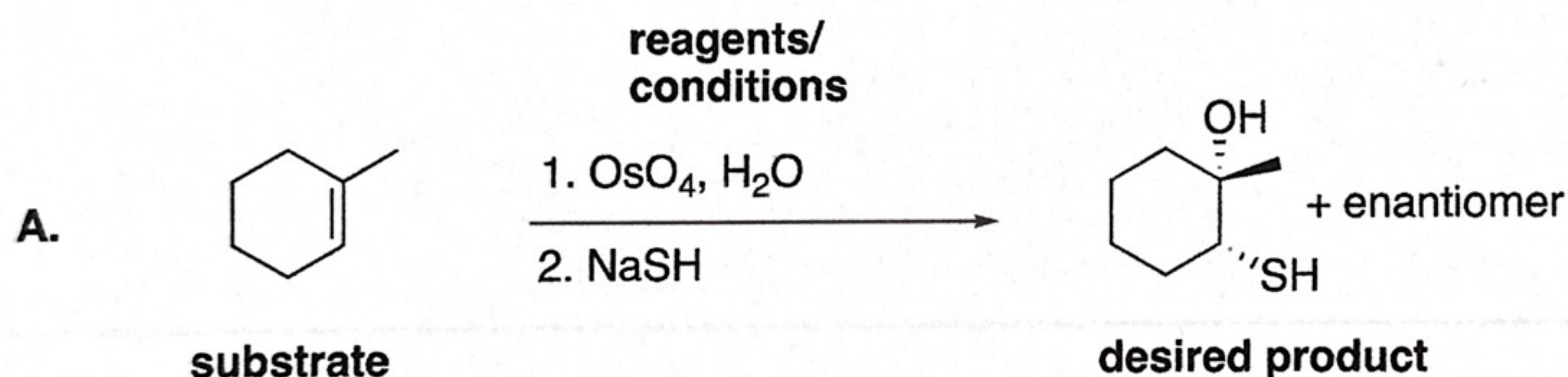
Your Name:

1. (a) Discuss with your group why each transformation (A, B, and C) shown below will not produce the product shown. Be sure to include any applicable discussion on choices of reagents, regioselectivity and stereochemical outcome expected versus what is shown in the product.

Your peer review for other students should include discussion about why you agree or disagree with the others' responses. Don't just simply comment "I agree" or "I disagree". Discuss helpful and insightful suggestions for responses you don't agree with. You should all come to a general consensus of why each case will not work as originally shown.

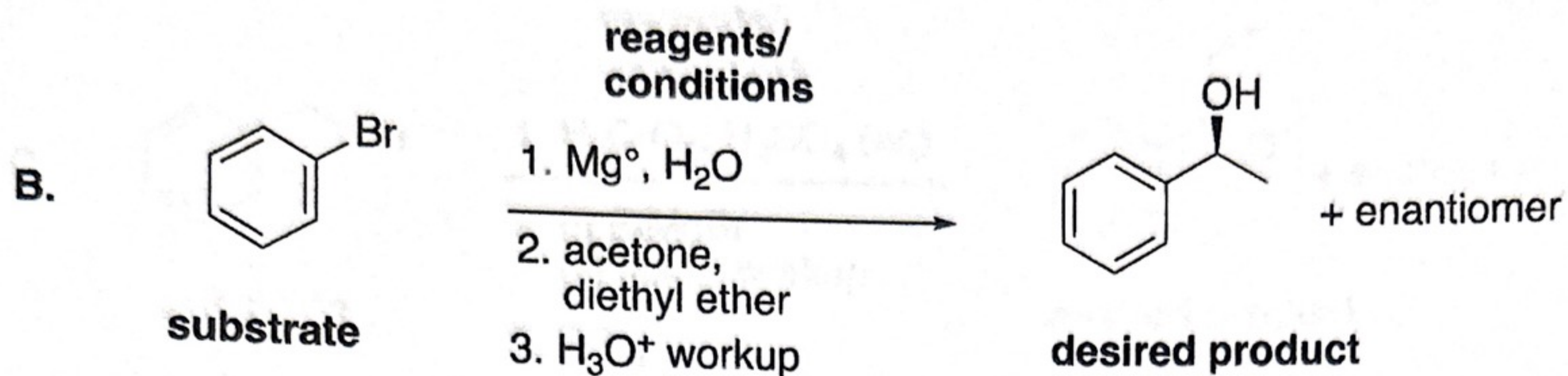
(b) Propose a way to fix the conditions so that the desired product provided can be made from the substrate given. You can do this simply by constructing a new scheme. Be sure to show the correct reagents/conditions for each step and make sure that each step is in the correct order. If applicable, the proposed "fix" should also consider both the regio- and stereochemistry shown in the desired product. There may be more steps required than the number originally shown for each transformation. You will need to recall knowledge of both current and previous reactions presented in the course and text book.

In your peer review, discuss why you think each proposed correction will or will not work. Offer insightful suggestion for improvement in such cases. You should all come to a general consensus of a proposed route that will work.

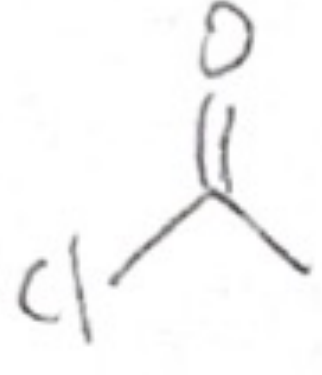


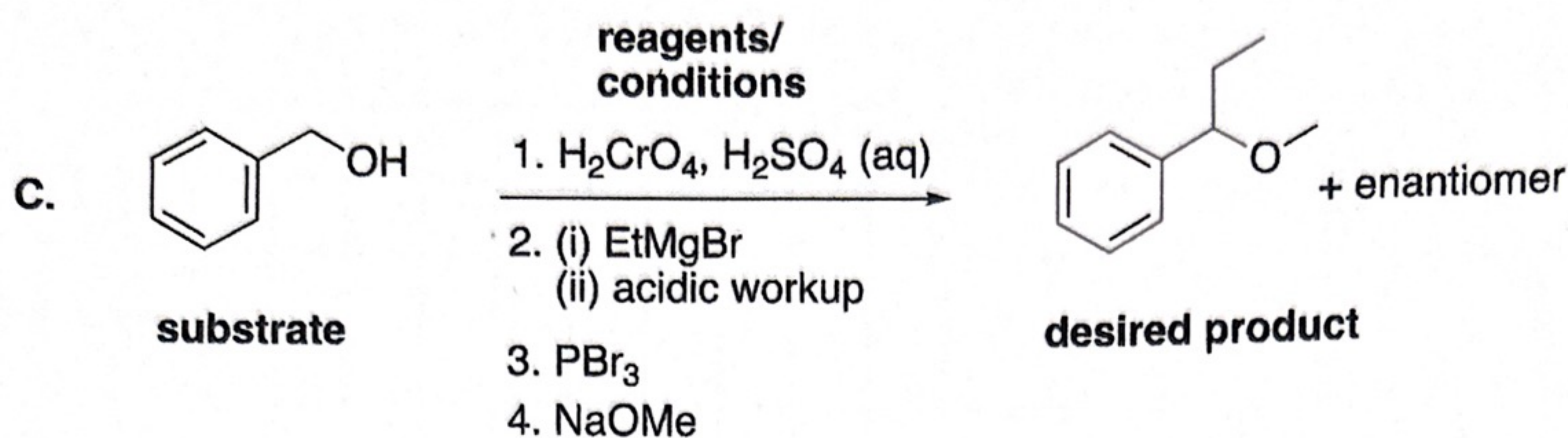
a. OsO₄ usually adds two -OH groups on either side of the double bond. The OH would be on a wedged bond when using H₂O as the nucleophile because it would attach the less substituted carbon.

b. we could get rid of OsO₄ & use H₂SO₄ & H₂O to add one alcohol group. using H₂SO₄ as the nucleophile will attach the more substituted carbon



a. acetone & diethyl ether would add too many additional carbons to the benzene ring.

b. Use  + AlCl_3 instead of acetone & diethyl ether. Then use
 1. LAH , THF & 2. H^+ , H_2O to convert the  to 



a. H_2CrO_4 converts primary alcohols to carboxylic acids which is not what we want. NaOMe would add a methyl group where we need an ethyl group. PBr_3 bromination is unnecessary.

b. Use H_2SO_4 for dehydration of the OH group then NaH & CH_3I to create an ether. Use 1. EtMgBr & 2. H_2O to add the ethyl group.