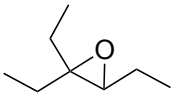
Chemistry 2521 Quiz 2

2/16/2024 BJM

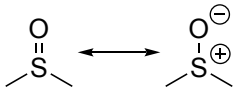
Name: Key

1. (6 pts) Draw the stucture for each of the compound names given.



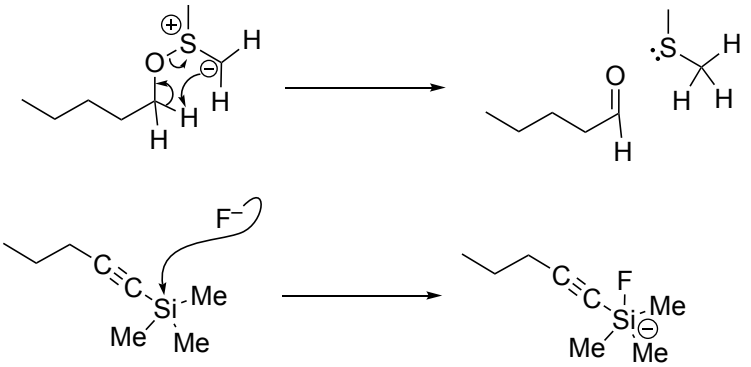
3-ethyl-3,4-epoxyhexane

tetrahydrofuran

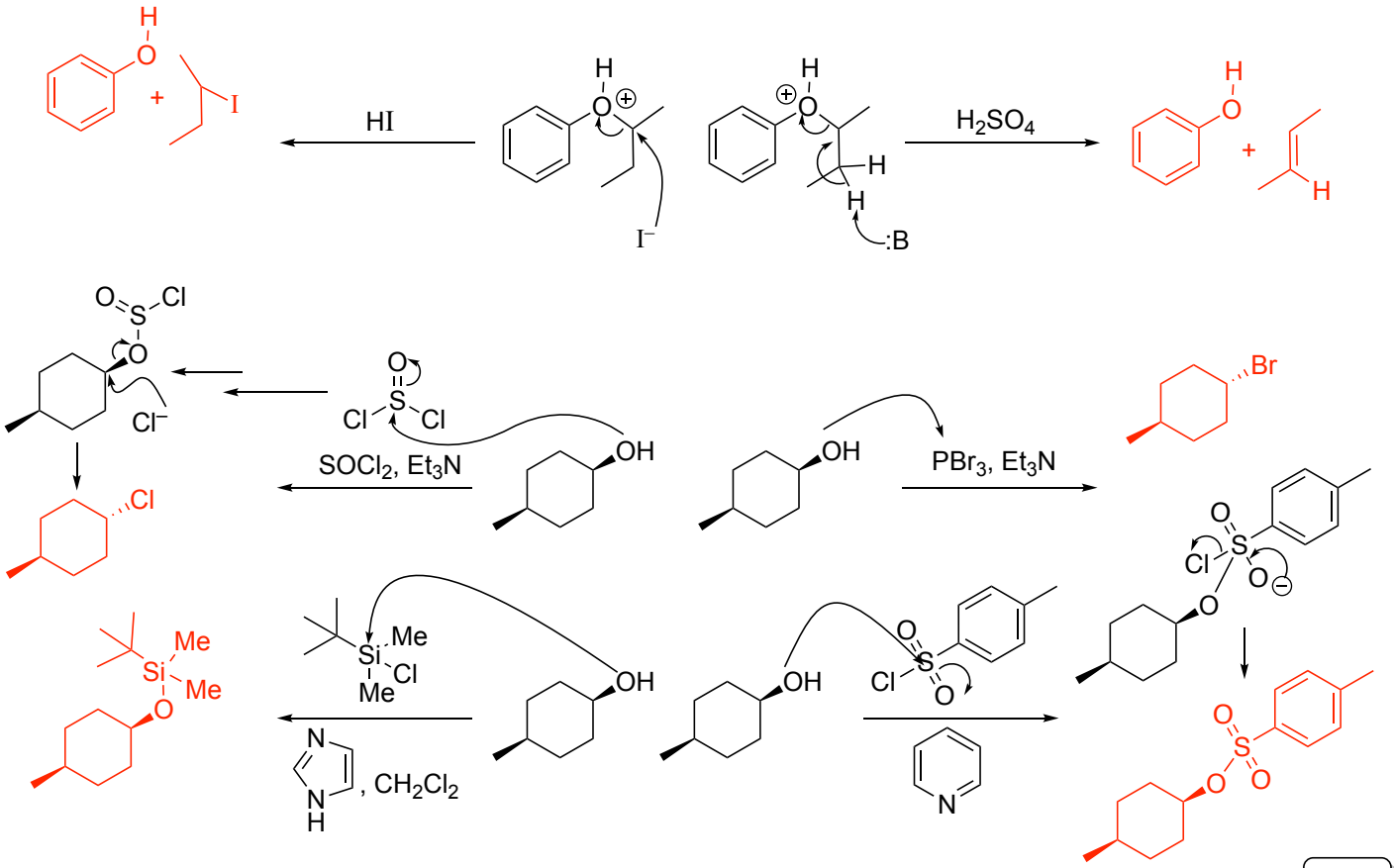


dimethylsulfoxide (DMSO)

2. (4 points) Below are some mechanisic arrows. Draw the products (result) of the drawn arrows.



3. (12 pts) Give the major product for the following reactions. Show correct stereochemistry and regiochemistry for full credit.



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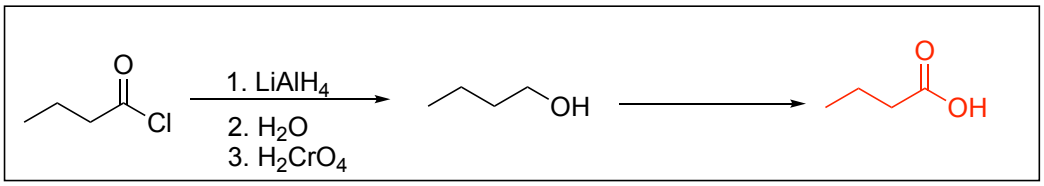
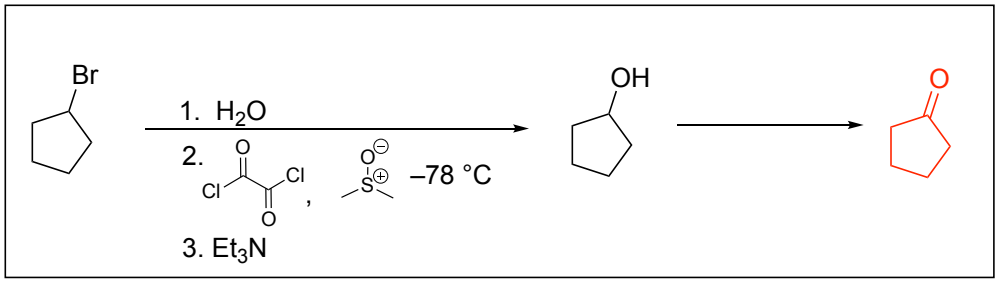
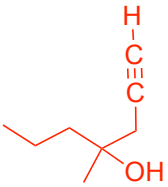
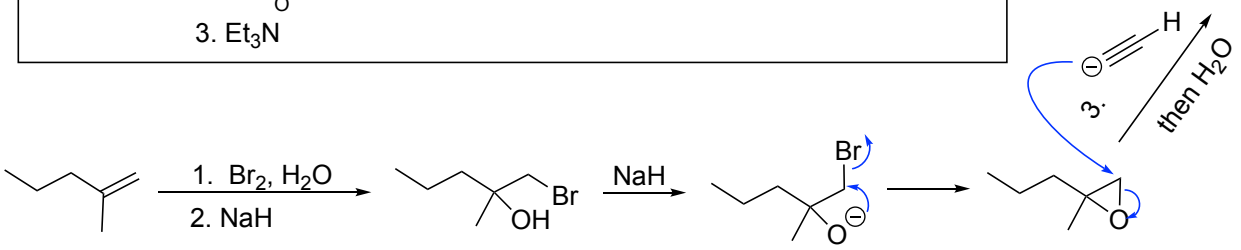
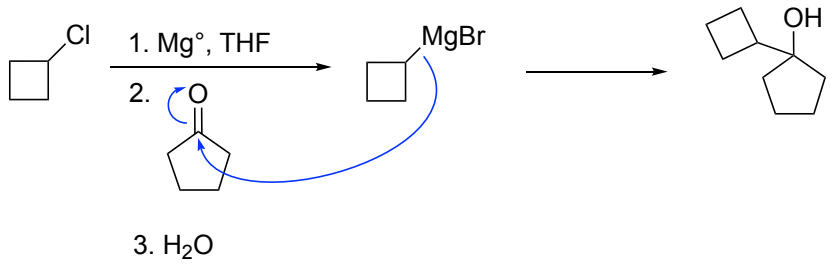
4. (16 points) Provide the products of the following multistep reactions. Show intermediate products for particial credit.



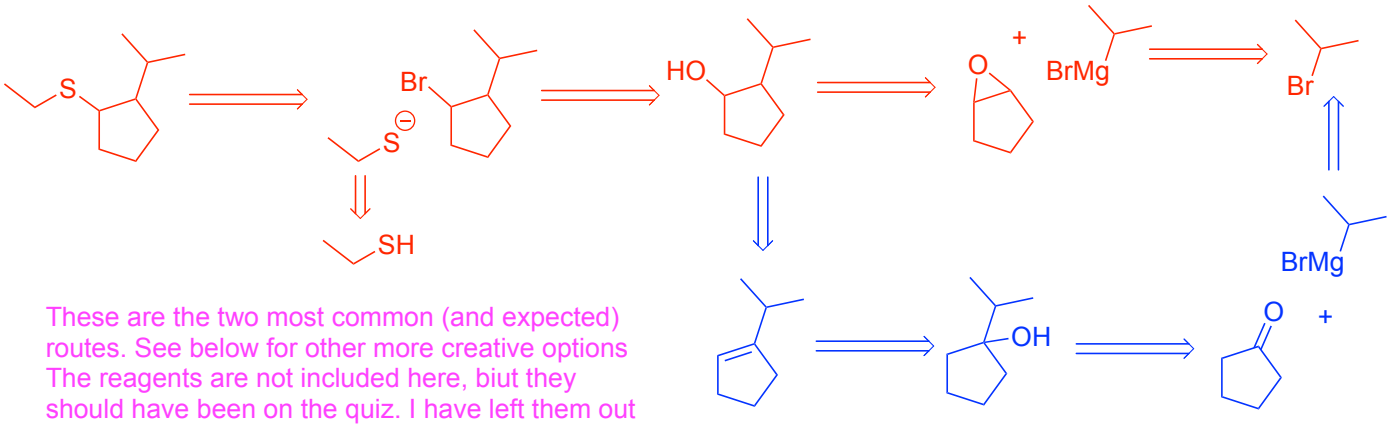








6. (8 points) Provide a <u>retrosynthetic analysis</u> to prepare the following compound from any neutral carbon containing starting material(s) with 5 carbons or less. List correct reagents for full credit.



These are the two most common (and expected) routes. See below for other more creative options The reagents are not included here, biut they should have been on the quiz. I have left them out here so you can practice (and intentionlly left some out below as well).

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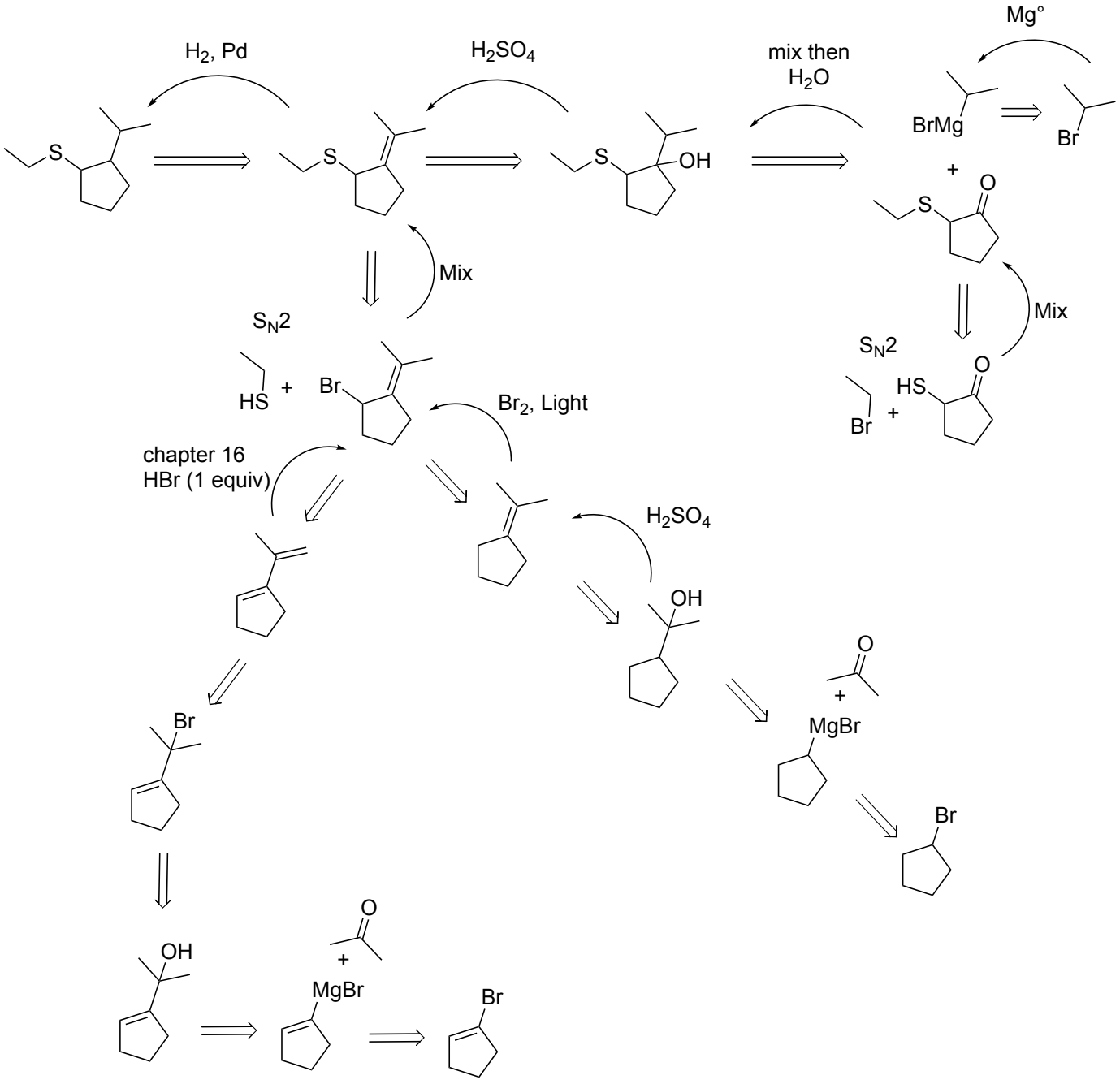

In short, one could use retrosynthesis work back to any of these 5 carbon containing starting materials (or others). Note: one could make any of these from any of the other.