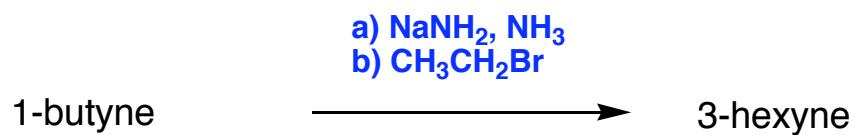
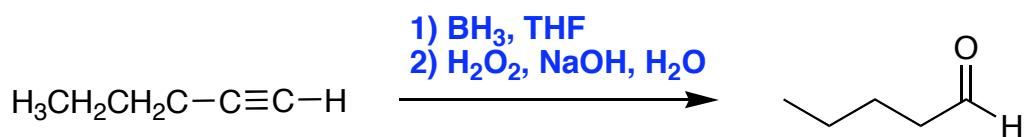
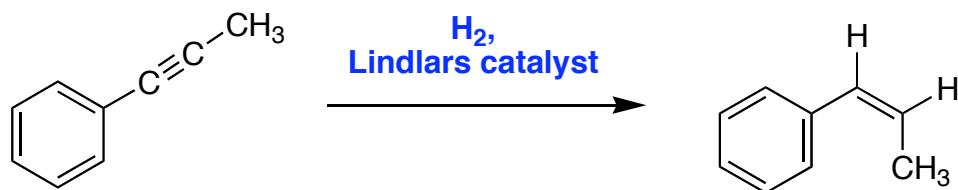
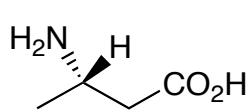


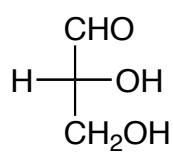
1. Provide all necessary reagents for the following reactions. (9 pts)



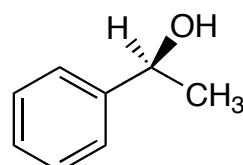
2. Assign the stereochemistry of the following: (6 pts)



**S**

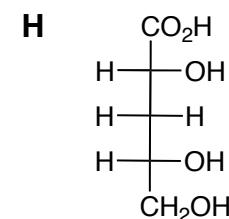
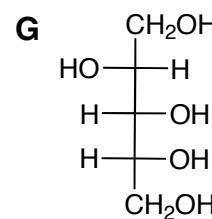
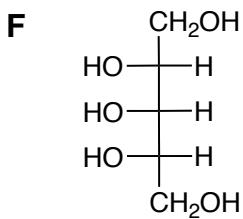
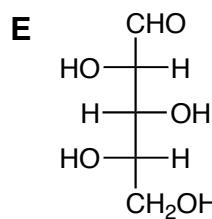
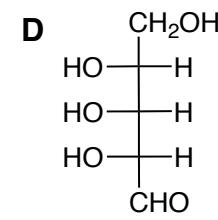
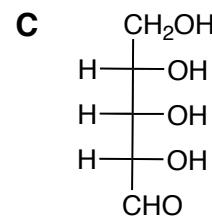
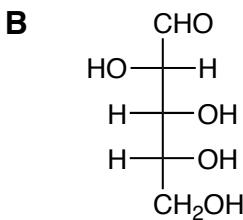
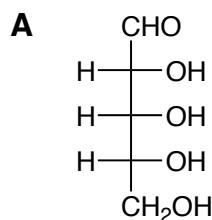


**R**



**S**

3. Carefully examine the Fischer projections A-H and answer the following questions (give only one answer for each question, 10 pts)



Which Fischer projection (B-H) is the enantiomer of A?

\_\_\_\_\_ **C** \_\_\_\_\_

Which Fischer projection (B-H) is identical to A?

\_\_\_\_\_ **D** \_\_\_\_\_

Which Fischer projection (B-H) is a diastereomer of A?

\_\_\_\_\_ **B or H** \_\_\_\_\_

Which Fischer Projection (B-H) is a constitutional isomer of A?

\_\_\_\_\_ **H** \_\_\_\_\_

Which Fischer Projection (A-H) is meso?

\_\_\_\_\_ **F** \_\_\_\_\_

Problem 1 (9 pts) \_\_\_\_\_

2 (6 pts) \_\_\_\_\_

3 (10 pts) \_\_\_\_\_

Total (out of 25) \_\_\_\_\_