Name:


1. ( 6 pts) Draw the structures of each of the molecules named below.

2. (18 pts) For the following reactions, give the major product or missing reagents). Where there are multiple steps, show intermediate products and use mechanism arrows if you need them.



3. (4 pts) Circle the most acidic compound in each box.



4. (10 pts) Draw a detailed mechanism for the following reaction.

5. (8 points). Provide a retrosynthetic analysis of the following molecule back to propionaldehyde (shown as your only source of carbon). YOU NEED TO SHOW RETROSYNTHESIS. You should put in reagents, but they will not be graded this time.


Other correct routes (try to fill in the reagents then ask me if they are correct):


