Name:

1. (12 pts) Provide the major product for each of the following transformations.


2. (12 pts) Provide a very detailed arrow pushing mechanism for the following EAS reaction. Include all resonance structures that show distribution of charge on the organic intermediates).

3. (8 pts) Provide reagents (no acronyms!) for the following reactions.







4. (7 pts) Indicate whether the 7 reactions below will proceed as written (check one box).

5. (8 pts) Provide a retrosynthetic analysis of the following molecule working backward to the molecule shown. Specify the reagents needed for each step.


BONUS: Name the following compound


