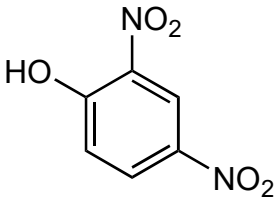
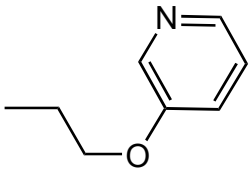
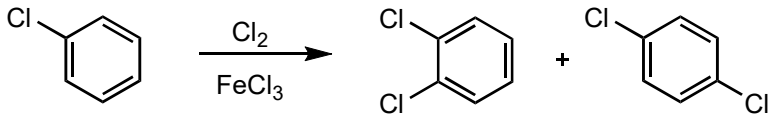
4A) Nomenclature (6 pts) Provide an acceptable name for each of the following compounds (there may be more than one correct answer, but give only one answer to be graded). **Show your work for full credit.**





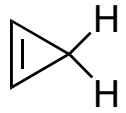
4B) (8 pts) Briefly explain the *regiochemistry* of the reaction shown below (i.e., why is the initial group on the ring an *ortho/para director*?). Use appropriate drawings to support your answer. **No drawings = no credit.**



Briefly explain why the reaction shown is slower than it would be for benzene (i.e., why is the initial group on the ring a *deactivating* group?)

4C) (8 pts) Consider the protons drawn below, and determine which compound is the stronger acid (**A** or **B** or neither)? Explain, using appropriate drawings to support your answer.
Be sure to consider the possible impact of aromaticity for cyclic systems. **No explain = no credit.**

A



B