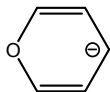
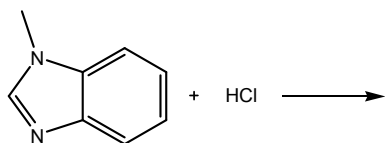


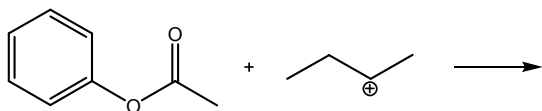
1. (4 pts) Report the total number of π electrons in the molecule below, and classify the molecule as aromatic, antiaromatic, or nonaromatic. You can assume the molecule is planar. No explanation necessary.



2. (5 pts) Draw the structure of the product formed when the molecule below is reacted with one equivalent of HCl, and BRIEFLY explain your reasoning.



3. (7 pts) Predict the major product of the reaction below. Using curved arrow notation, draw a mechanism to illustrate formation of this major product. *Note: You may use $AlCl_3$ and/or $AlCl_4^-$ in the mechanism as needed. If an intermediate is resonance stabilized, it is necessary to show only ONE structure; you do not need to show all possible resonance structures.*



4. (4 pts) Draw ONE key resonance structure of a carbocation intermediate to illustrate why an OH substituent is more activating than a CH_3 substituent in an electrophilic aromatic substitution.

Name: _____

[illegible]