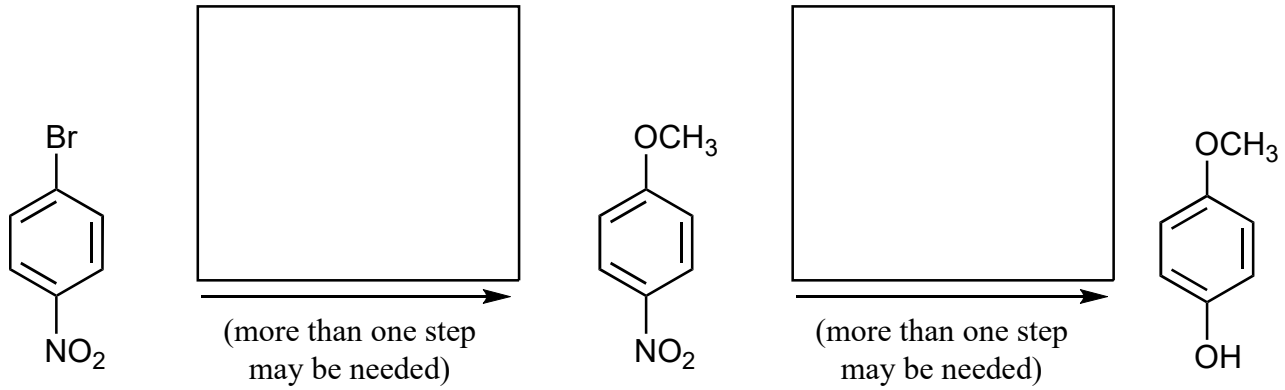
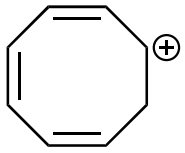
3A) (6 pts) Provide the missing reagent(s) for each of the transformations below. If more than one step is needed, provided the necessary reagents as numbered steps. No intermediates or mechanism needed.

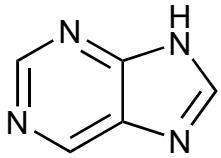


3B) (6 pts) For each of the following, **complete the Lewis structure** (supply any missing lone pairs) and determine whether or not it is aromatic. **If not aromatic, explain briefly.** For each, indicate the electron count you used to make your decision, and **circle any lone pairs involved in aromaticity**.



electron count? aromatic? if no, why not?

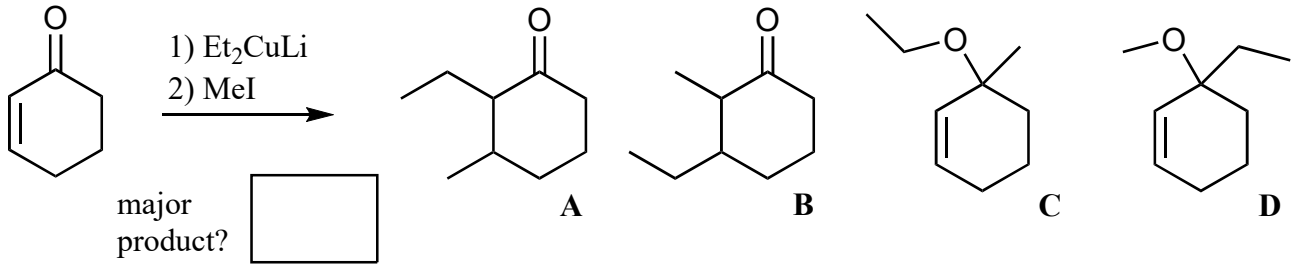
(circle involved lone pairs)



electron count? aromatic? if no, why not?

(circle involved lone pairs)

3C) (9 pts) Predict the major product (**A**/**B**/**C**/**D**) and provide a <u>complete</u> mechanism for its formation. Pay close attention to details, including lone pairs, formal charges, and the use of curved arrows.



mechanism: