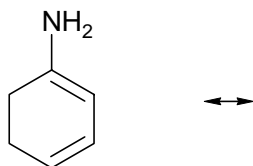
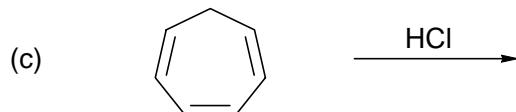
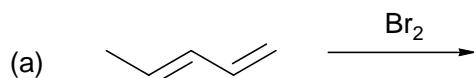


2 1. Draw the HOMO and LUMO of 1,3-butadiene.

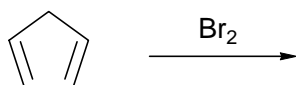
1 2. Draw the best resonance structure of the following conjugated diene.



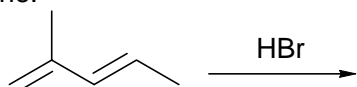
3 3. Give **all** the product(s) of the following reactions neglecting stereoisomers.



1 4. Draw the kinetic product of the following reaction.



1 5. Draw the 2 cations which are intermediates in the following reaction. **Circle** the most stable one.



2 6. Show how you would accomplish the following synthesis. Give all isolated intermediate products and reagents (over the arrow). More than one step is required.

