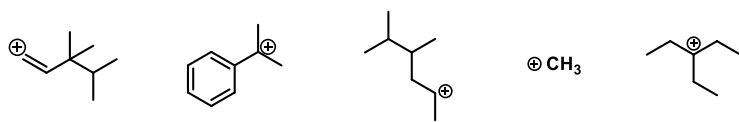
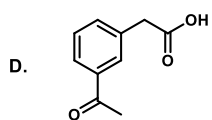
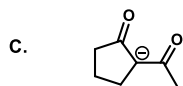
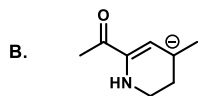
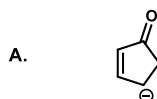


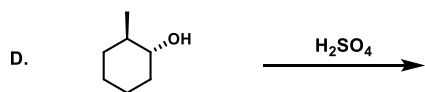
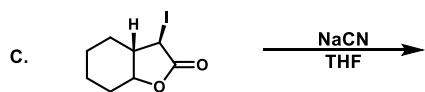
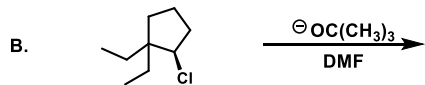
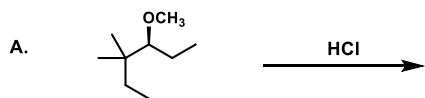
1. Rearrange the following compounds increasing in carbocation stability:



2. Draw 2 resonance structures for each of the following compounds:



3. Provide the following pushing arrow mechanism, product(s) and intermediates for the following reactions: (Hint: determine if the rxn is SN1, SN2, E1 or E2)



4. Complete the following 1,2 - 1,4 additions. Label the thermo and kinetic product (make sure to take temps into consideration). For Asymmetric compounds determine which pathway is major and which is minor:

