1.) Which form of molecule A is the most stable (1, 2, or 3)? Provide a graphical (i.e. figures not graphs) provide an explanation for your answer.



2.) Enamines are generally reactive toward electrophiles. For example, compound E reacts with HBr at room temperature. Surprisingly, enamine F is unreactive with HBr even at 150 °C. Provide a rationale for this difference in reactivity.



3.) The cis isomer of 1,2-azodifluoride (below) is more stable than the trans isomer by 3 kcal/mol. Explain this difference.

