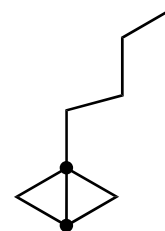
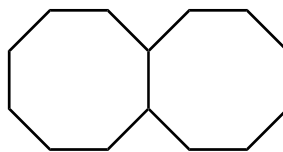
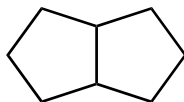
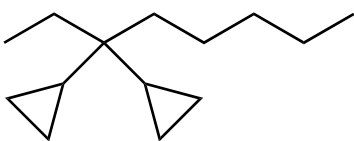


11. A recrystallization is performed by properly following directions for gravity filtration, solvent volume reduction, slow cooling, and vacuum filtration. The sample is still impure. Upon repeating, purity improves. What is the most likely explanation?

- a. the solvent choice was not appropriate
- b. the directions need editing to have faster cooling to prevent impurities from having time to get in the crystals
- c. more solvent needs to be present during the cooling step
- d. a more efficient filter with finer porosity is needed

12. Which compound is bicyclo[3.3.0]octane?



13. The Hf energies in kcal/mol for several conformations of 2-bromobutane are listed. What is the predicted energy when the dihedral angle is fixed at 10 degrees between C1 and C4?

anti -30.51
gauche -29.65
eclipsed -27.18
totally eclipsed -25.79

-32 -30 -29 -26 -25 -24