1. Select all correct chair structures for isopropylcyclohexane.

- a. i & ii
- b. ii
- c. i & iv
- d. ii & iii
- e. All of them

2. Give a correct IUPAC name for the following compound. Do not worry about italics.

![Compounds](image)

3. Select the most stable conformation of cis-1-ethyl-2-methylcyclohexane.

- A
- B
- C
- D

4. Select the other conformation of chair structure 1.

- A
- B
- C
- D
- E
5. Cyclobutane prefers to adopt a slightly folded conformation than a planar one. Select the source(s) of strain that is(are) alleviated when cyclobutane deviates from planarity.

\[ \text{i. angle strain} \quad \text{ii. steric strain} \quad \text{iii. torsional strain} \]

a. i 

b. ii 

c. iii 

d. i & ii 

e. i & iii 

f. ii & iii 

6. How many different neutral alkenes with molecular formula C\(_5\)H\(_8\)O, that upon hydrogenation with H\(_2\)/Pd-C, would give the following compound?

\[ \text{C}_5\text{H}_8\text{O} \xrightarrow{\text{H}_2/\text{Pd-C}} \]

7. Draw the major product from hydrogenation of 3-methyl-1-pentene.
8. Using your library of reactions as a reference (from lecture and from WS4 part II), select the best final step of the synthesis of 4-methyl-2-pentene.

9. Use the following synthetic scheme to answer questions 9 & 10.

Draw the structure of compound A.

10. Draw the structures of compounds B & C. HINT: there is more than one set of correct answers. Draw both compounds in the same window of Marvin Sketch. Your SMILES code should have a period in it.