

# Chemistry 2541, Fall 2015

## Quiz 3

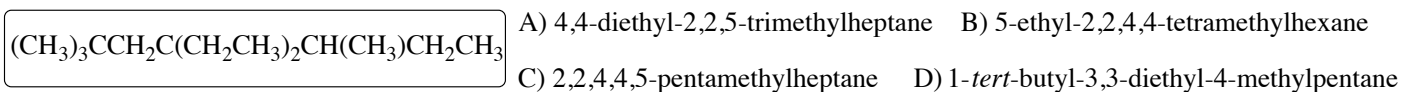
(30 points)

### Important notes:

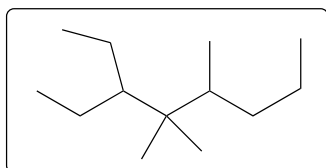
- Please use the provided Scantron form for your answers; you can keep the sheet with the questions and can use it as scratch paper
- Do not forget to write your name on the Scantron form
- You will not receive credit for unmarked answers or for more than one mark on answer line
- Your scores will be posted on eGradebook; graded Scantron forms will not be returned to students.

**Questions 1-10: Please mark the appropriate box on the front of the Scantron form (3 pts each).**

1. What is the **IUPAC name** for the compound shown in the box?

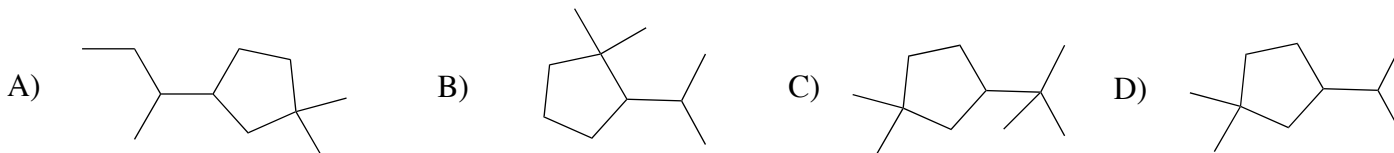


2. What is the **IUPAC name** of the alkane shown in the box as a line-angle structure?



- A) 3-ethyl-4-isopropyl-5-methyloctane    B) 4-ethyl-3,3-trimethyl-2-propylhexane  
C) 3,3-diethyl-4,5,6-trimethyloctane    D) 3-ethyl-4,4,5-trimethyloctane

3. Which is the structure of **3-isopropyl-1,1-dimethylcyclopentane**?



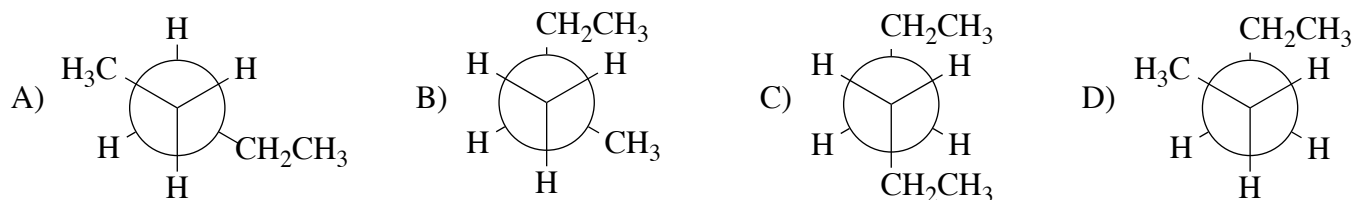
4. Which of the following compounds contains a **quaternary** ( $4^\circ$ ) carbon atom?

- A) 1,1-diethylcyclohexane    B) ethylcyclohexane    C) 1,2-dimethylcyclohexane    D) cyclohexane

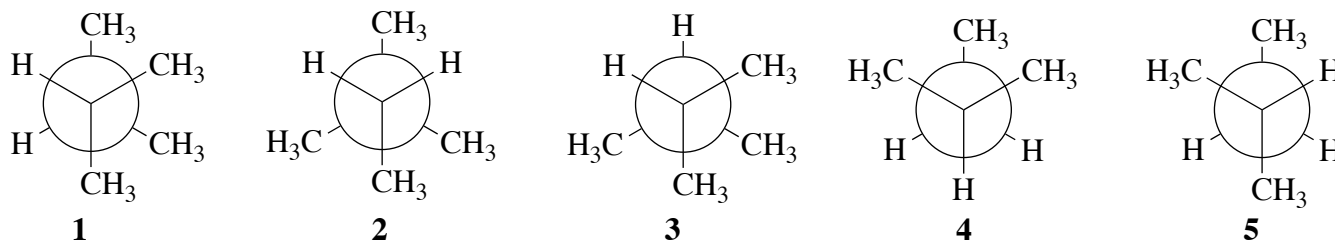
5. Which compound has an **aldehyde** functional group and a **triple bond** in the parent chain?

- A) 1-pentyn-3-one    B) 3-pentynal    C) 2-butenal    D) 1-penten-3-one

6. Which of the following Newman projections represents the *anti* conformation of normal **hexane**?

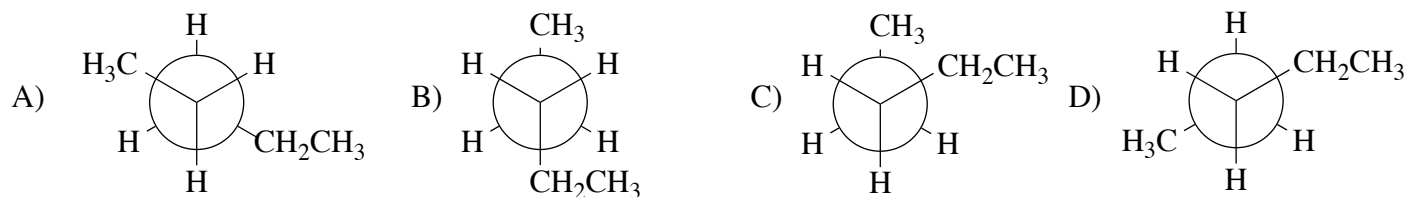


7. Which of the following Newman projections represent conformations of **2-methylbutane**?

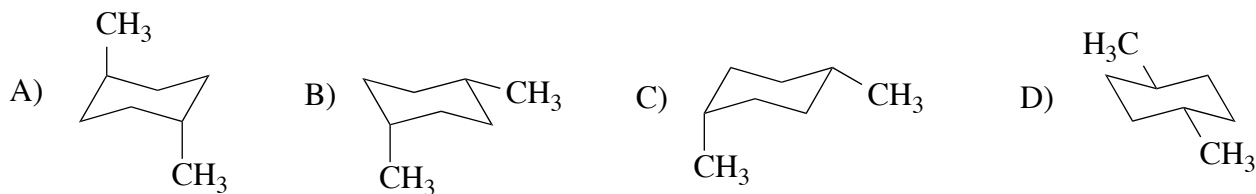


A) 1 and 2      B) 1 and 3      C) 2 and 4      D) 4 and 5

8. Which one of the following conformers of pentane has the **highest energy**?



9. Which one of the following structures of disubstituted cyclohexanes is expected to be the **most stable**?



10. The molecule shown in the box contains four methyl groups labeled A, B, C, and D. Which of these methyl groups does not have any **1,3-diaxial interaction**?

