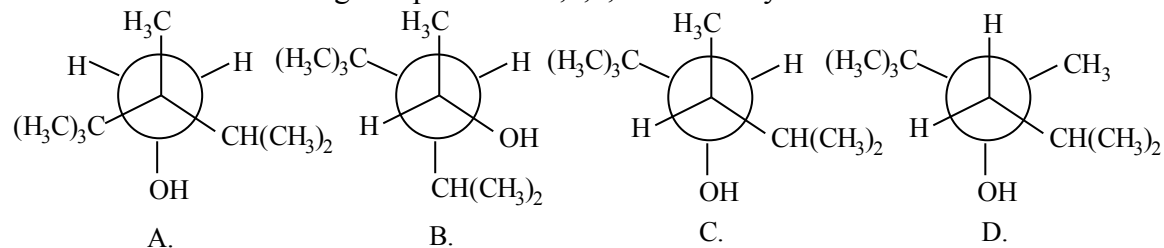


Practice Second Hour Exam, Chem 2210, Organic Chemistry 1.

1. Which of the following compounds is 2,2,4,5-tetramethyl-3-hexanol?



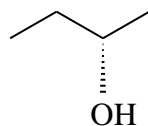
2. Identify the compound where one group is axial and one is equatorial:

- A. *trans*-2-methylcyclohexanol
- B. *cis*-3-methylcyclohexanol
- C. *trans*-4-methylcyclohexanol
- D. *cis*-4-methylcyclohexanol

3. Which of the following is never chiral:

- A. 1,2-dibromobutane
- B. 1,3-dibromobutane
- C. 2,3-dibromobutane
- D. 1,4-dibromobutane

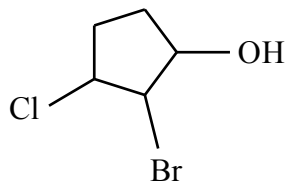
4. Which of the following statements correctly describes the molecule shown below:



- A. It is achiral
- B. It is *meso*
- C. Its stereocenter possesses the R configuration
- D. The mirror image of this molecule is its enantiomer

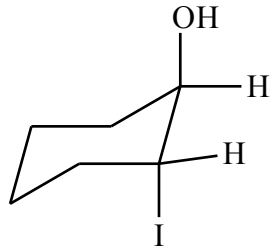
5. omit

6. What is the IUPAC name of the following molecule?



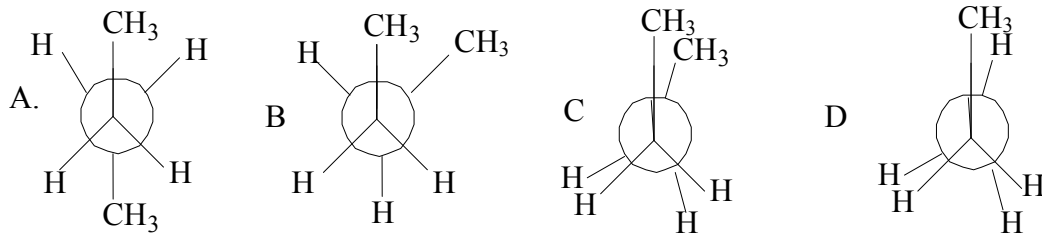
- A. 1-chloro-2-bromo-3-cyclopentanol
- B. 2-bromo-3-chlorocyclopentanol
- C. 1-hydroxy-2-bromo-3-chloro-2-cyclopentane
- D. 1-bromo-2-chloro-5-cyclopentanol

7. Give the IUPAC name of:

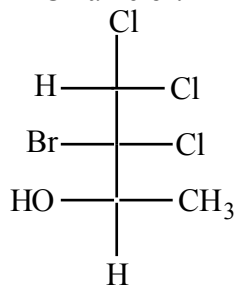


- A. *trans*-1-iodo-2-cyclohexanol B. *cis*-1-iodo-2-cyclohexanol
 C. *trans*-2-iodocyclohexanol D. *cis*-2-iodocyclohexanol

8. Which of the following is the most stable conformation of butane?

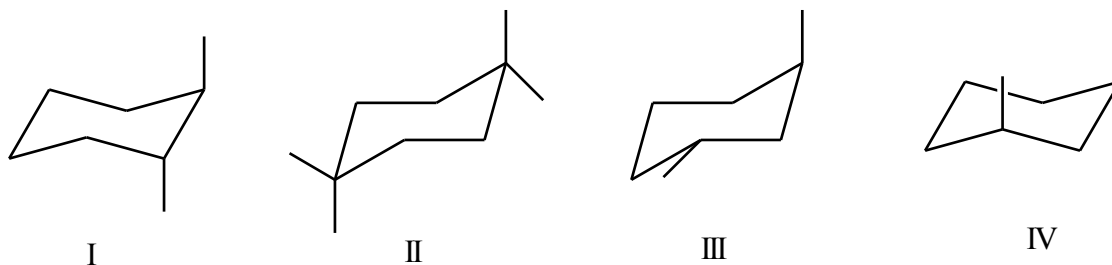


9. Give the IUPAC name of:



- A. (1*S*,2*S*,3*R*)-2-bromo-2,3,3-trichloro-1-methyl-1-propanol
 B. (2*R*,3*R*)-3-bromo-3,4,4-trichloro-2-butanol
 C. (1*R*,2*R*)-2-bromo-2,3,3-trichloro-1-methyl-1-propanol
 D. (2*R*,3*S*)-3-bromo-3,4,4-trichloro-2-butanol

10. Which of the following compounds is chiral?

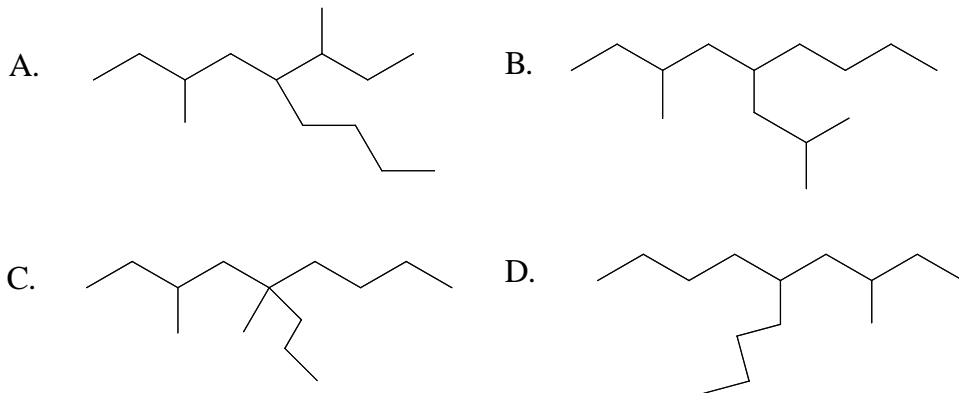


- A. I only B. II only C. I and III D. II and IV

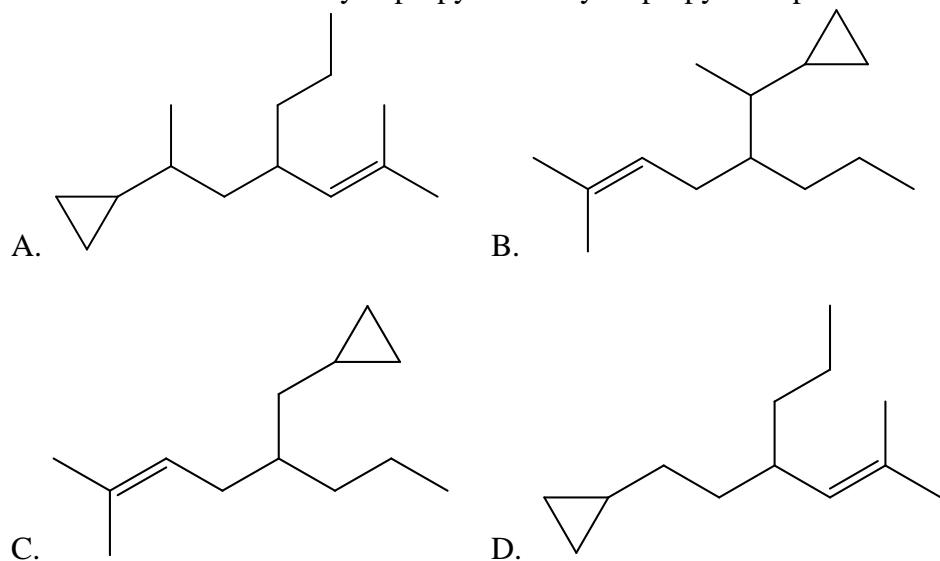
11. Which of the following compounds is allyl chloride?

- A. $\text{CH}_2=\text{CH}-\text{CH}_2-\text{Cl}$ B. $\text{CH}_2=\text{CHCl}$ C. $\text{HC}\equiv\text{CCl}$ D. $\text{CH}_3-\text{CH}_2-\text{Cl}$

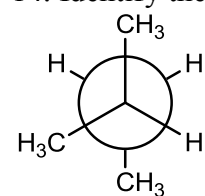
12. Which of the following compounds is 5-*sec*-butyl-3-methylnonane?



13. Which of these is: 6-cyclopropyl-2-methyl-4-propyl-2-heptene

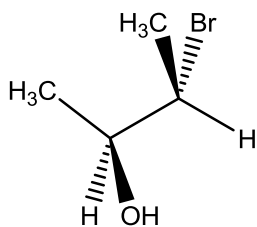


14. Identify the types of strain that are present in the following staggered conformer



- A. Torsional only
B. Steric only
C. Torsional and steric
D. No strain present

15. What is the configuration of the following molecule?



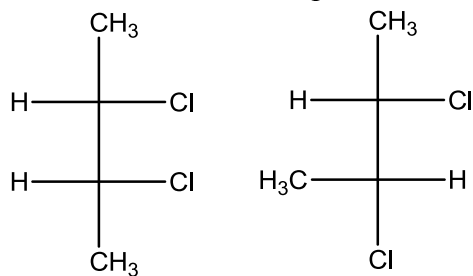
A. 2R, 3R

B. 2S, 3S

C. 2R, 3S

D. 2S, 3R

16. Give the relationship of the following compounds.



A. Same compound

B. Enantiomers

C. Diastereomers

D. Constitutional Isomers

17. omit

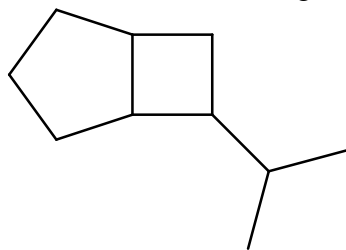
18. omit

19. Which of the following reactions will proceed forward?



20. omit

21. Name the following molecule:



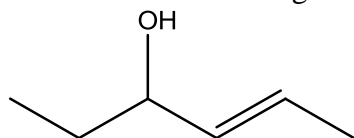
A. 1-isopropylbicyclo[3.2.0]heptane
C. 6-isopropylbicyclo[3.2.0]heptane

B. 2-isopropylbicyclo[3.2.0]heptane
D. 7-isopropylbicyclo[3.2.0]heptane

22. What is the composition of a sample with a net (+) rotation having 40% enantiomeric excess?

A. 40% (+), 60% (-)
B. 60% (+), 40% (-)
C. 70% (+), 30% (-)
D. 30% (+), 70% (-)

23. Name the following molecule



A. Trans-4-hexen-3-ol
C. Trans-2-hexen-4-ol

B. Cis-4-hexen-3-ol
D. Cis-2-hexen-4-ol

24. omit

25. omit