

Name: St. No. (.....)

Group NO. (.....) Serial No.(.....)

I) Choose the correct answer for the following:

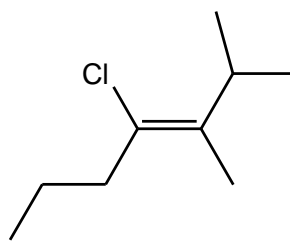
1- The IUPAC name for the following compound



is: **ii**

- i. Pent-4-en-2-yne-cyclopropane.
- ii. 5-Cyclopropylpent-1-en-3-yne.
- iii. 1-Cyclopropylpent-4-en-2-yne.
- iv. Propyne vinyl-cyclopropane.

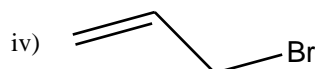
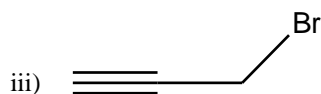
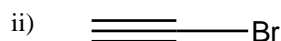
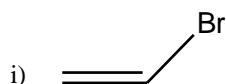
2- The IUPAC name for the following compound

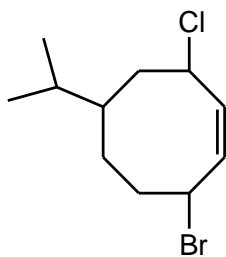


is: **iv**

- i. (Z)-3-Chloro-2-isopropyl- hex-2-ene.
- ii. (E)-4-Chloro-2,3-dimethyl hept-3-ene.
- iii. (E)-3-Chloro-2-isopropyl- hex-2-ene.
- iv. (Z)-4-Chloro-2,3-dimethylhept-3-ene.

3- The structure of vinyl bromide is: **i)**

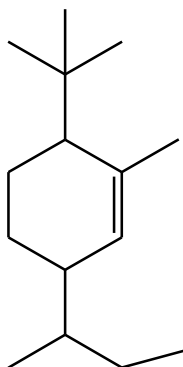
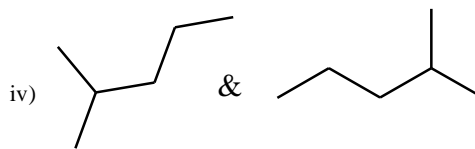
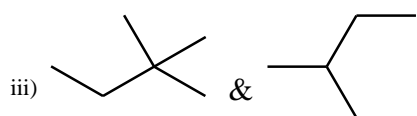
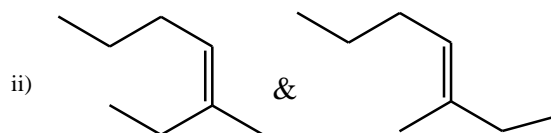
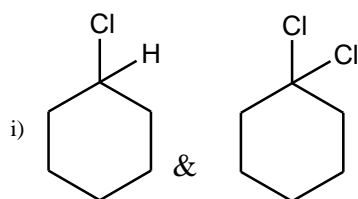




4- The IUPAC name for is: **iii**

- i. 1-Bromo-4-chloro-6-isopropyl-2- cyclooctene.
 - ii. 3-Bromo-8-chloro-6-isopropyl-1-cyclooctene.
 - iii. 6-Bromo-1-chloro-3-isobutyl-7-cyclooctene.
 - iv. 8-Bromo-3-chloro-5-isopropyl-1-cyclooctene.
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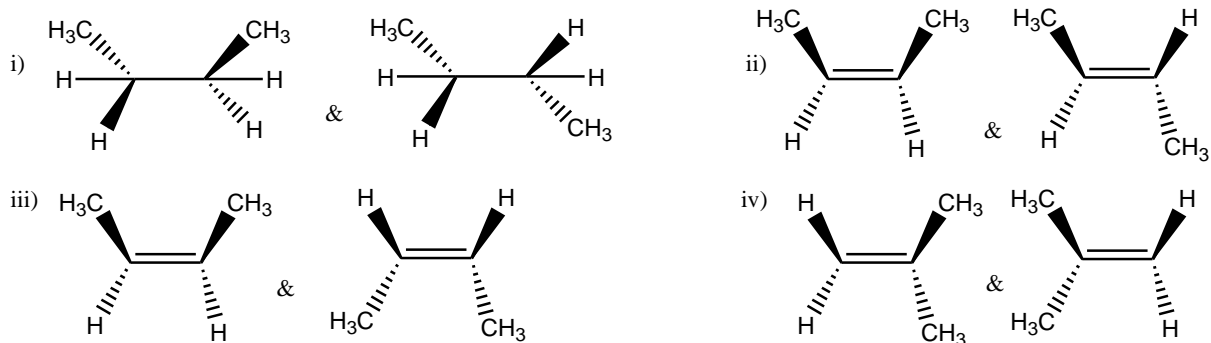
5- Which of the following couple of molecules are structural isomers? **iii**



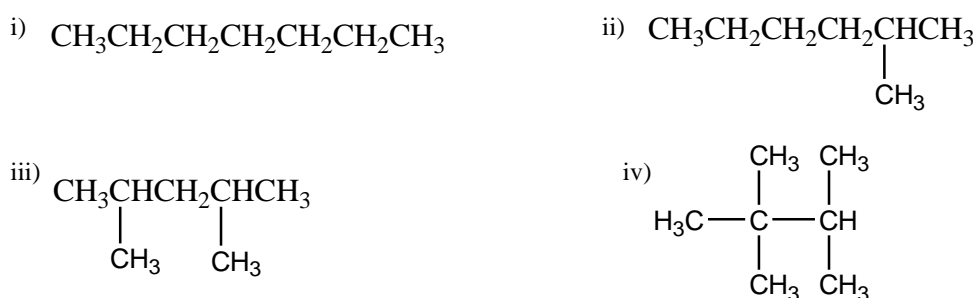
6- The IUPAC name for is:

- i) 2-Methyl-3-*tert*-butyl-6- *sec*. butylcyclohexene. **iii**
 - ii) 1-*sec*-Butyl-4-*tert*-butyl-3-methyl-2-cyclohexene.
 - iii) 3-*sec*-Butyl-6-*tert*-butyl-1-methylcyclohexene.
 - iv) 1-*tert*-butyl-4-*sec*-butyl-2-methyl-2- cyclohexene.
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7- Which of the following couple of molecules are geometrical isomers? ii



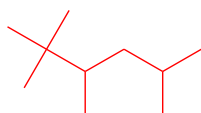
8- Which of the following alkanes would have the lowest boiling point? iv



9- Which of the following hydrocarbons have acidic hydrogen? iii

- i) 2-Butyne ii) 1-Butene iii) 1-Butyne iv) 2-Butene

10- (2-*tert*-Butyl-4-methyl pentane) is incorrect name according to IUPAC rules correct it.



2,2,3,5-Tetramethylhexane

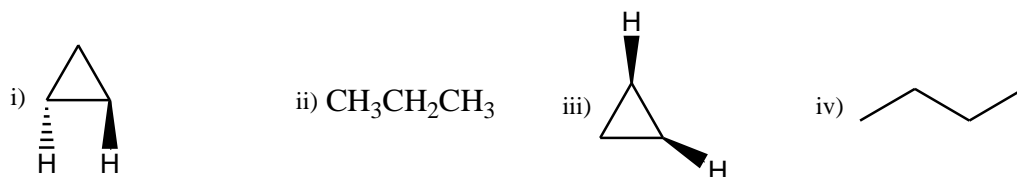
II) State whether the following statements are true or false?

- The number of σ bonds in 2-butene is 9 bonds. (T) (F)
- Alkanes can react by addition. (T) (F)
- Hydrogenation of 1-Chloro-2-methylcyclopentene with H_2 / Pd will produce *cis*-1-Chloro-2-methylcyclopentane. (T) (F)
- The sigma bond between the two carbon atoms in ethyne is made by overlap of two sp^2 orbitals (T) (F)

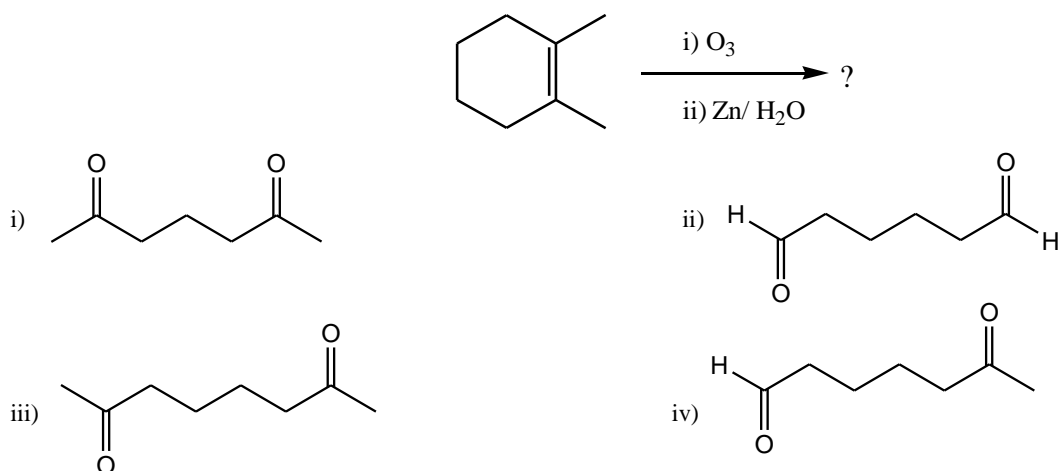
5. Isopentane has one tertiary hydrogen.

(T) (F)

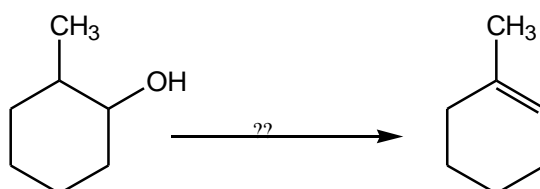
III) Choose the correct and the major product for the following reactions:



2- **iii**



3- What is the best reagent used for the following reaction? **ii**



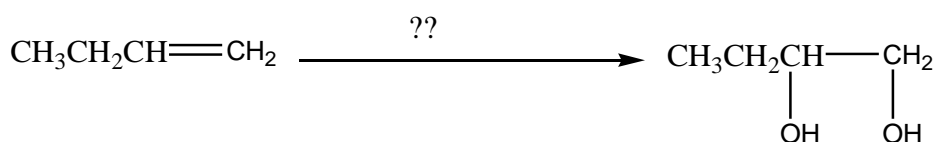
i) LiAlH_4

ii) Conc. H_2SO_4 , heat

iii) NaOH

vi) H_2/Pd

4- What is the best reagent used for the following reaction? **iv**

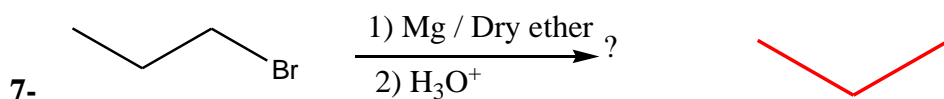
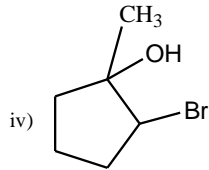
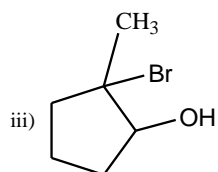
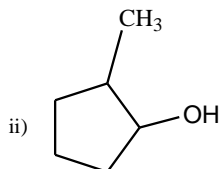
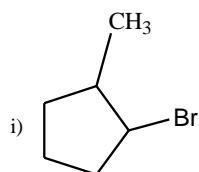
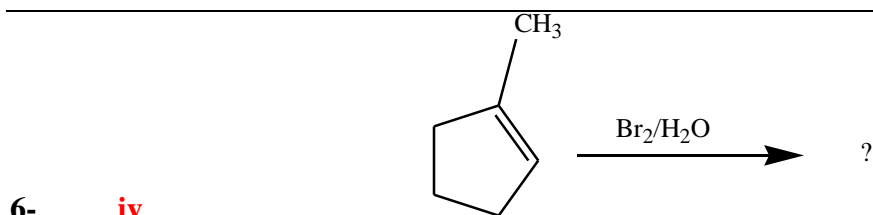
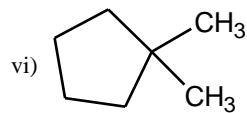
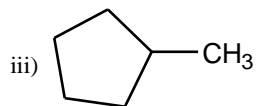
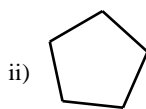
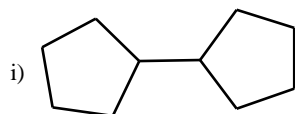
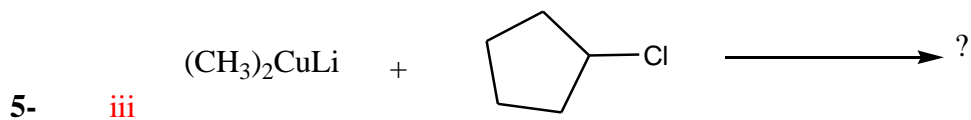


i) 2 moles of H_2O

ii) $\text{O}_3/ \text{Zn}, \text{H}_2\text{O}$

iii) Alcoholic KOH , heat

iv) dil. KMnO_4



وبالله التوفيق،،،

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