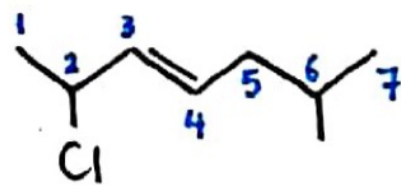


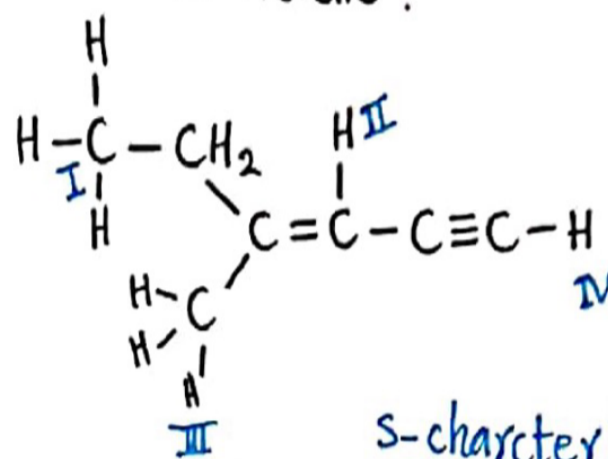
1) The correct IUPAC name of the following compound



- A - trans-6-chloro-2-methylhept-4-ene.
 B - trans-2-chloro-6-methylhept-3-ene.
 C - cis-2-chloro-6-methylhept-3-ene.
 D - cis-6-chloro-2-methylhept-4-ene.

2) In the structure below, which proton (I, II, III, IV) is the most acidic?

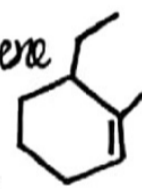
- A - I and III B - II only C - I only
 D - III only E - IV only



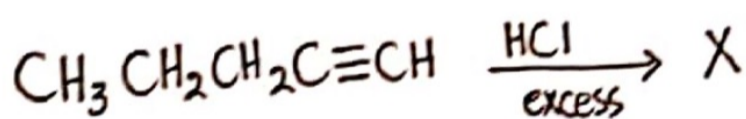
s-character ↑ → acidity ↑

3) What is the correct IUPAC name for the following compound

- A - 6-ethyl-1-methylcyclohexene.
 B - 3-ethyl-2-methylcyclohexene.
 C - 1-ethyl-2-methylcyclohexene.
 D - o-ethylmethylcyclohexene.

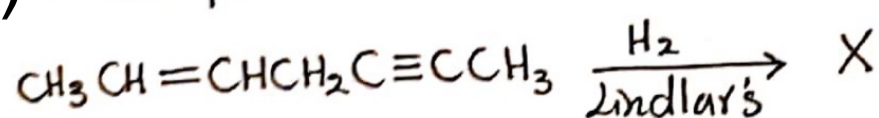


4) The product (X) in the following reaction is:



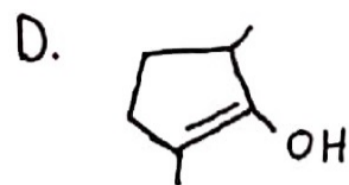
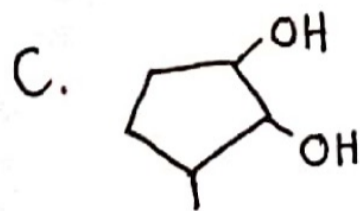
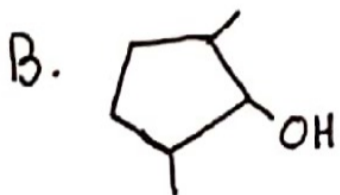
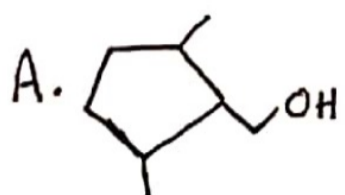
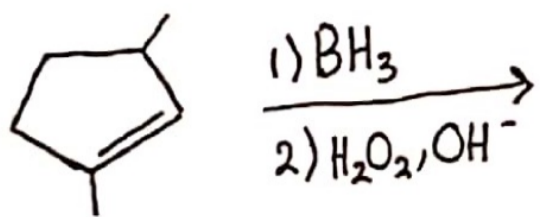
- A. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}=\text{CHCl}$ B. $\text{CH}_3\text{CH}_2\text{CH}_2\overset{\text{Cl}}{\text{C}}=\text{CH}_2$ C. $\text{CH}_3\text{CH}_2\text{CH}_2\overset{\text{Cl}}{\text{C}}\text{HCH}_3$
 D. $\text{CH}_3\text{CH}_2\text{CH}_2\overset{\text{Cl}}{\underset{\text{Cl}}{\text{C}}}-\text{CH}_3$

5) The product (X) in the following reaction is:

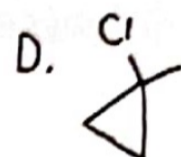
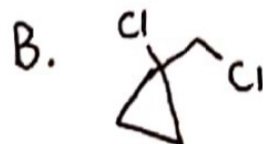
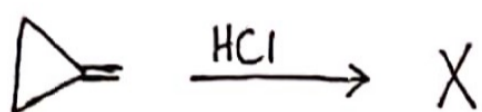


- A. $\text{CH}_3\text{CH}=\text{CHCH}_2\overset{\text{CH}_3}{\underset{\text{CH}=\text{CH}}{\text{C}}}$ B. $\text{CH}_3\text{CH}=\text{CHCH}_2\overset{\text{CH}=\text{CH}}{\underset{\text{CH}_2}{\text{C}}}$ C. $\text{CH}_3\text{CH}=\text{CHCH}_2\text{CH}_2\text{CH}_2\text{CH}_3$
 D. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$ E. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{C}\equiv\text{CCH}_3$

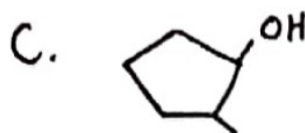
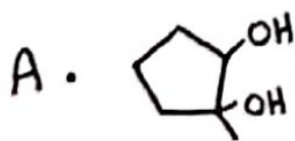
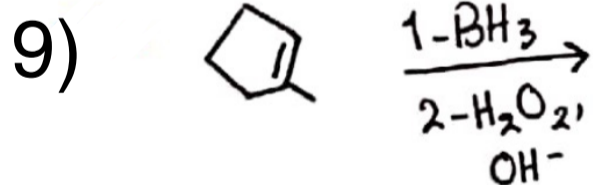
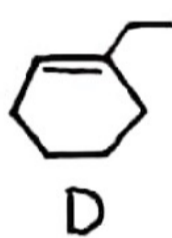
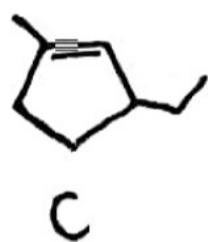
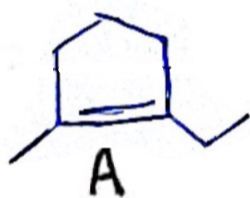
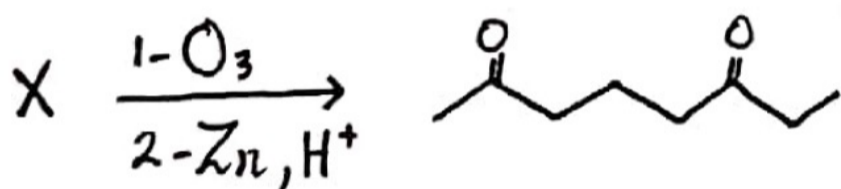
6) Select the major product:



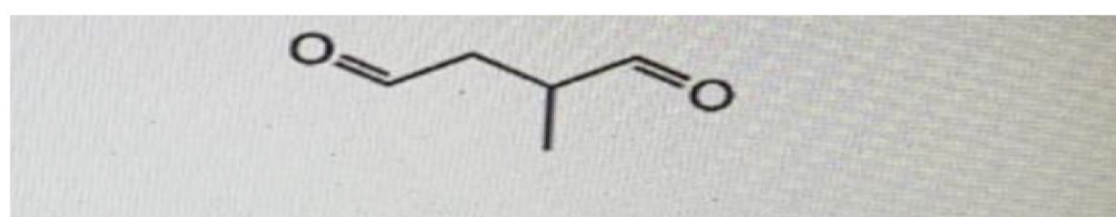
7) The product (X) in the following reaction is:



8) The starting material (X) in the following reaction is:



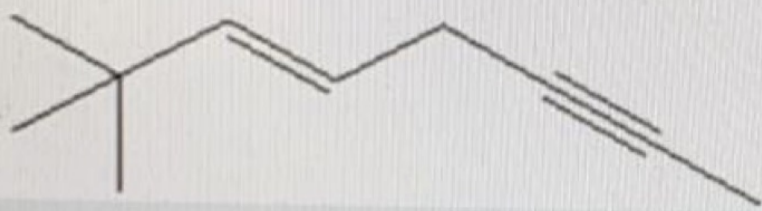
10) Which alkene would upon ozonolysis give the following product?



- A) 3-methylcyclobutene
- B) 1,2-dimethylcyclobutene
- C) 1-methylcyclopentene
- D) 1,3-dimethylcyclopropene
- E) 4-methylcyclopentene

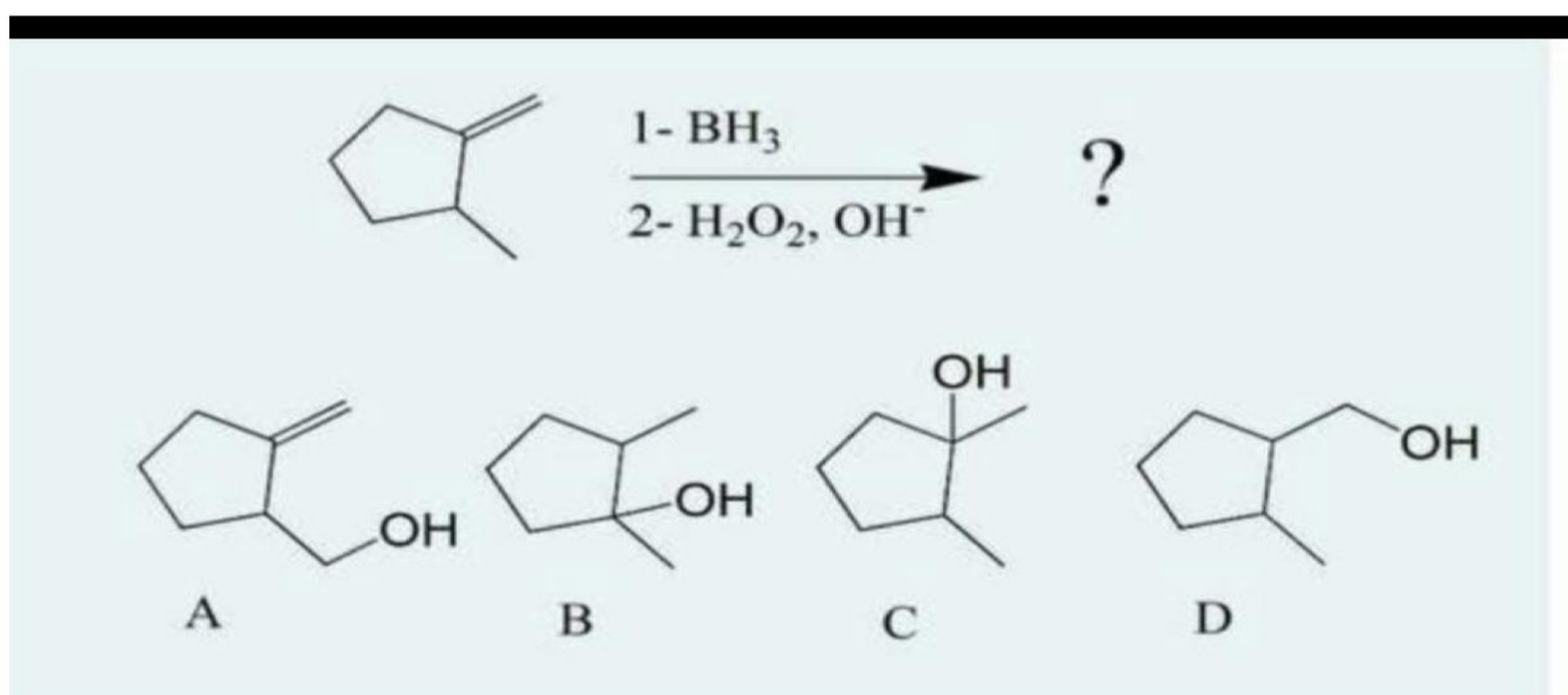
11)

The correct IUPAC name of the following compound



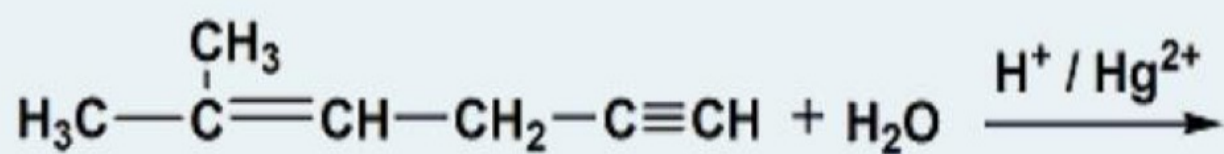
- A) trans-7,7-dimethyloct-5-en-2-yne
 B) cis-7,7-dimethyloct-5-en-2-yne
 C) cis-2,2-dimethyloct-3-en-6-yne
 D) trans-1-tert-butylhex-1-en-4-yne
 E) trans-2,2-dimethyloct-3-en-5-yne

12)



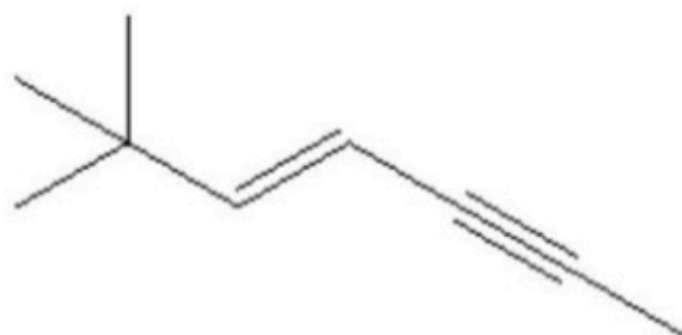
- A) C
 B) B
 C) A
 D) D

13)



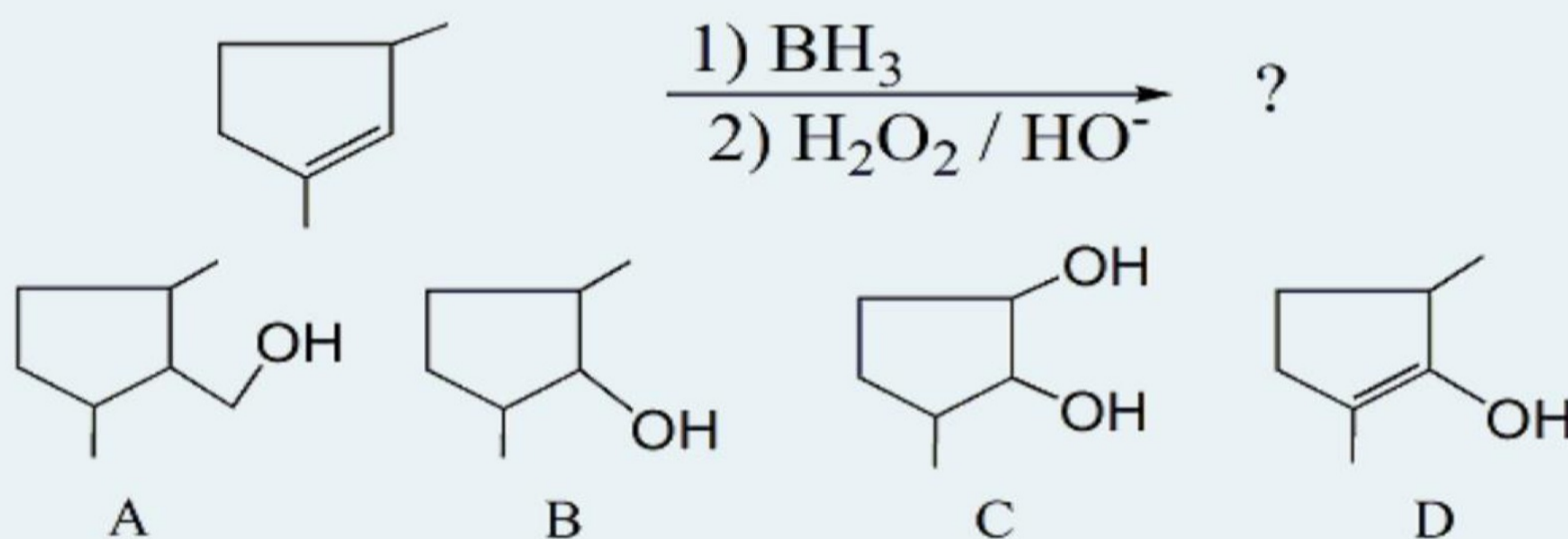
- I) $\text{H}_3\text{C}-\overset{\text{CH}_3}{\underset{\text{OH}}{|}{\text{C}}}-\text{CH}_2-\text{CH}_2-\overset{\text{H}}{\underset{\text{OH}}{|}{\text{C}}}-\text{CH}_3$ II) $\text{H}_3\text{C}-\overset{\text{CH}_3}{\underset{\text{OH}}{|}{\text{C}}}-\text{CH}_2-\text{CH}_2-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}_3$
 III) $\text{H}_3\text{C}-\overset{\text{CH}_3}{\underset{\text{OH}}{|}{\text{C}}}-\overset{\text{OH}}{\underset{|}{\text{C}}}-\text{CH}_2-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}_3$ IV) $\text{H}_3\text{C}-\overset{\text{CH}_3}{\underset{\text{OH}}{|}{\text{C}}}-\text{CH}_2-\text{CH}_2-\overset{\text{O}}{\parallel}{\text{C}}-\text{H}$ V) $\text{H}_3\text{C}-\overset{\text{CH}_3}{\underset{\text{O}}{\parallel}{\text{C}}}-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}_2-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}_3$

14) **The correct IUPAC name of the following compound**



- A) trans-6,6-dimethylhept-4-en-2-yne
- B) trans-2,2-dimethylhept-3-en-5-yne
- C) cis-2,2-dimethylhept-3-en-5-yne
- D) trans-1-tert-butylpent-1-en-3-yne
- E) cis-6,6-dimethylhept-4-en-2-yne

15) **Select the major hydroboration product :**



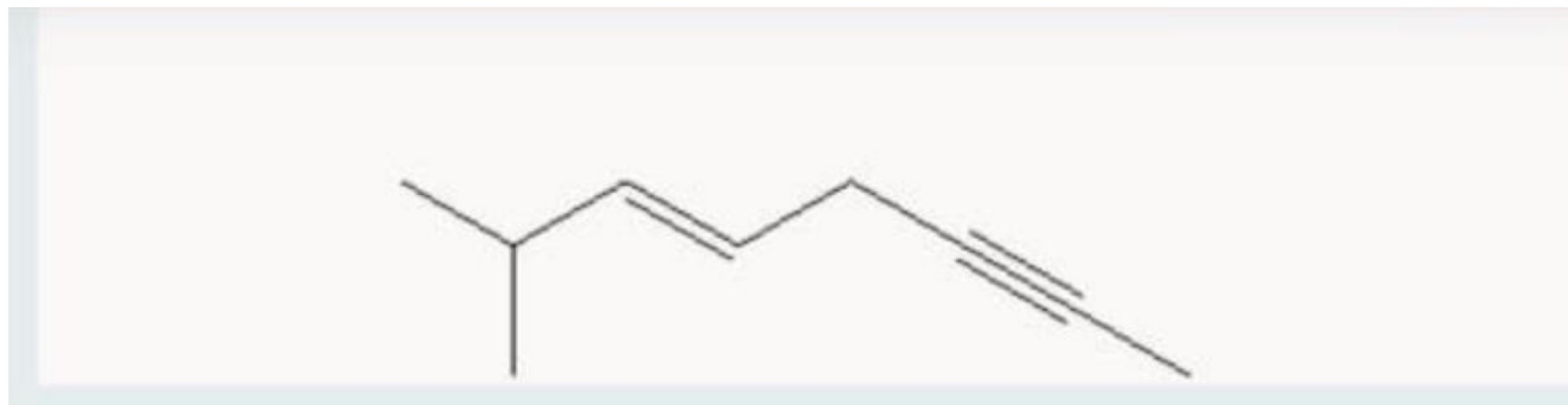
16) **Which alkene would upon ozonolysis give the**

following product?



- A) 3-methylcyclopentene
- B) 1-methylcyclobutene
- C) 1-methylcyclopenten
- D) 3-methylcyclohexene
- E) 1,3-dimethylcyclobutene

17) The correct IUPAC name for the following compound is?



- A) trans-2-methyloct-3-en-6-yne
- B) cis-7-methyloct-5-en-2-yne
- C) trans-7-methyloct-5-en-2-yne
- D) trans-1-isopropylhex-1-en-4-yne
- E) cis-2-methyloct-3-en-6-yne

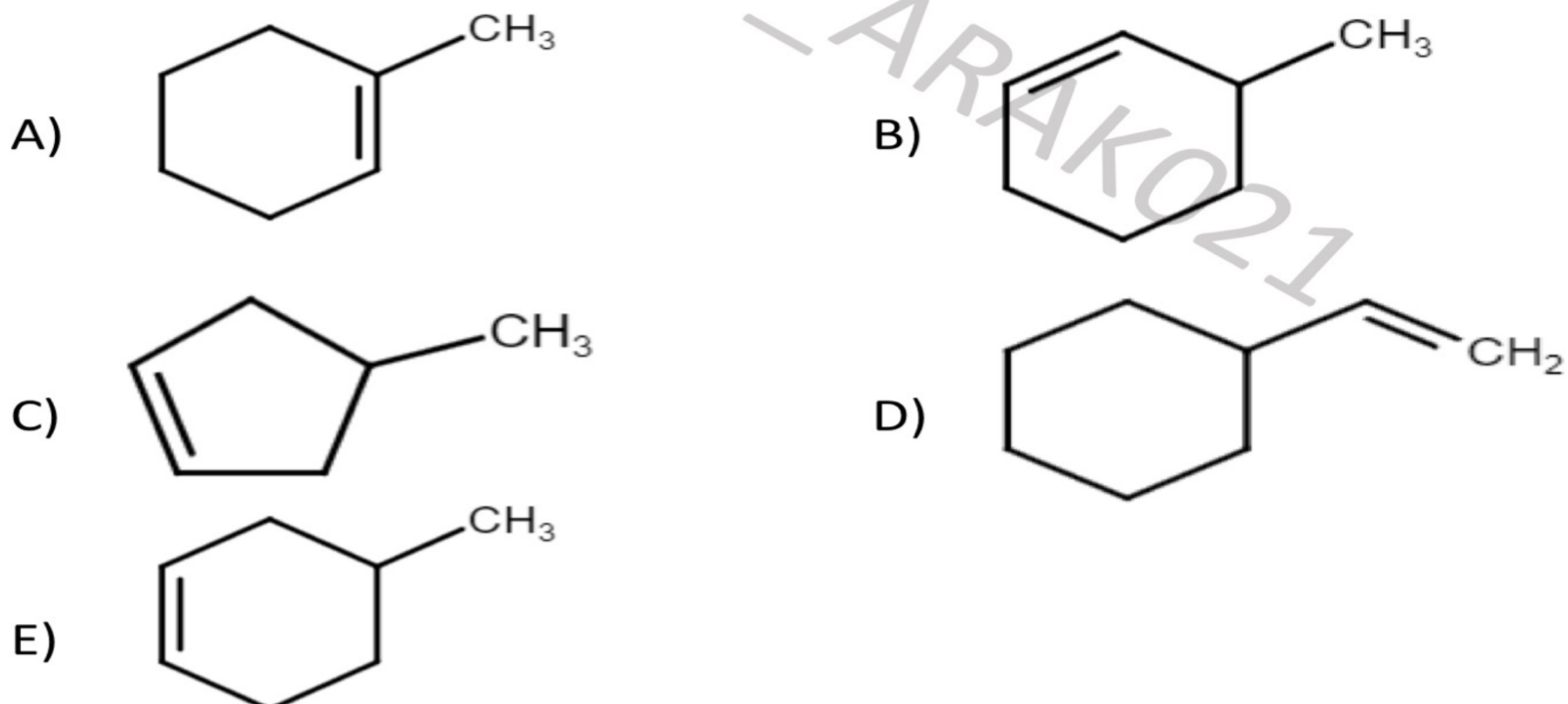
18) Which compound would show cis-trans isomers ?

- A) 2,3-dimethyl-2-butene
- B) 2-methyl-1-butene
- C) 1,1-dibromo-2-methylcyclobutane
- D) 1-bromo-2-methylcyclobutane
- E) methylpropene

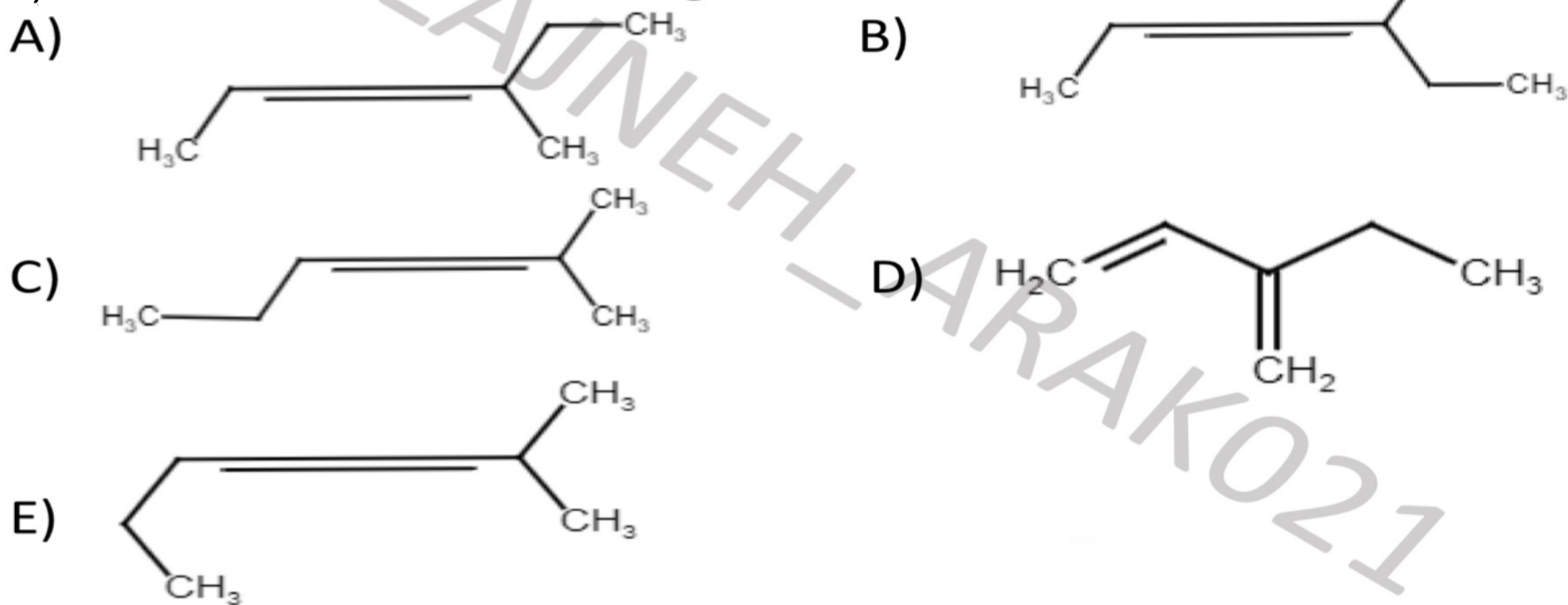
19) Which compound would show cis-trans isomers?

- A) 2-methyl-2-butene
- B) 2,3-dimethyl-2-butene
- C) 2-chloro-3-methyl-1-hexene
- D) 1,1-dibromo-2-methylcyclohexane
- E) 1-bromo-2-butene

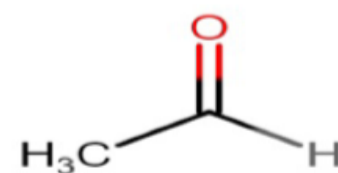
20) Which alkene is most reactive toward reaction with HCl?



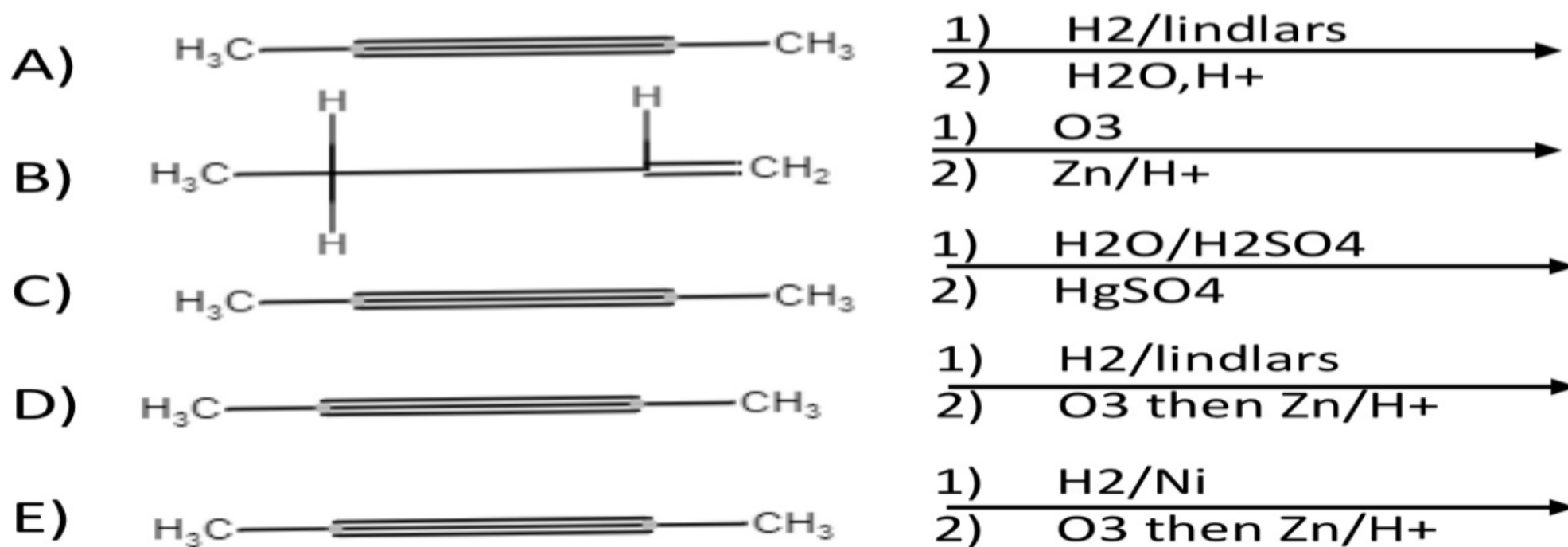
21) Which alkene has Z-configuration?



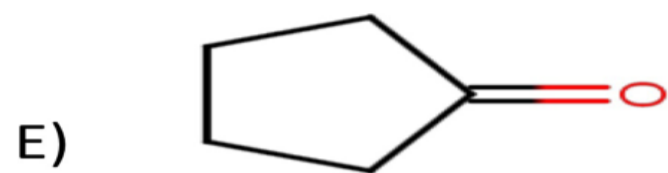
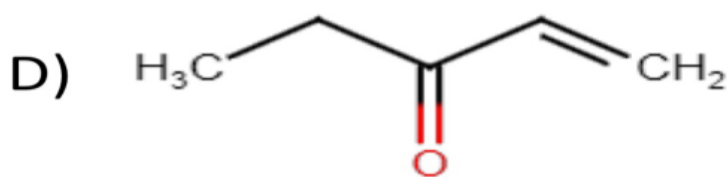
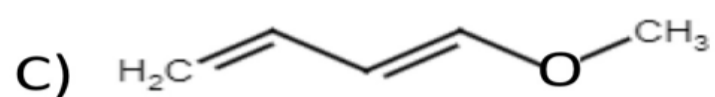
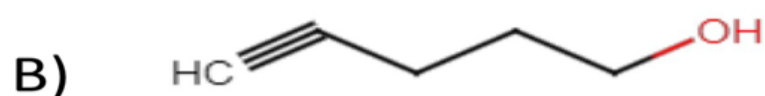
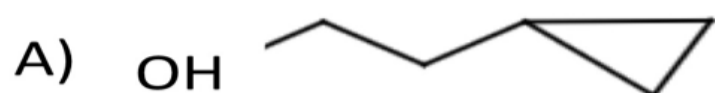
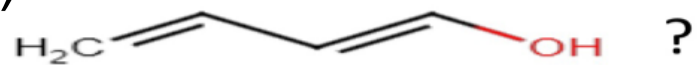
22) Which reaction gives acetaldehyde



?



23) Which structure is not constitutional (structural) isomer of



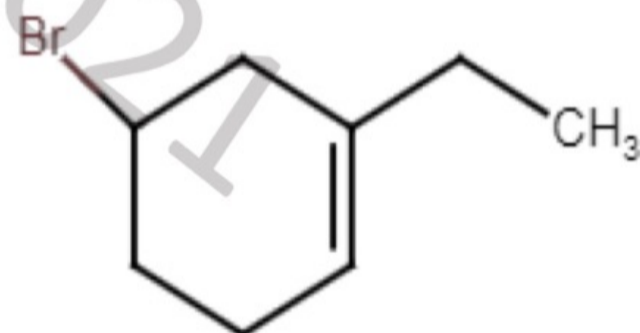
24) What is the name of this compound ?



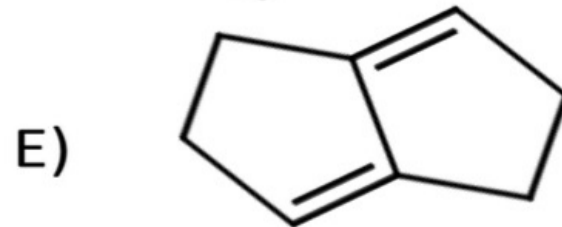
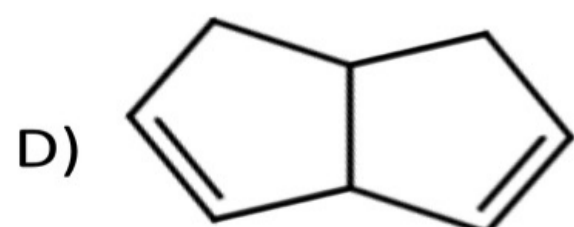
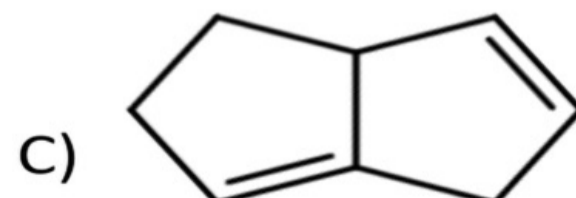
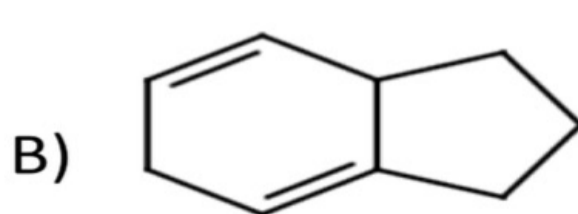
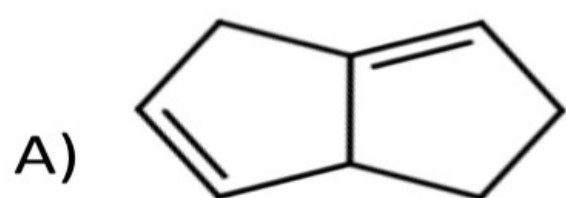
- A) 3-butyl-1,3-hexadiene-5-yne.
 B) 4-allyl-3-octen-6-yne.
 C) 4-butynyl-3,5-hexadiene.
 D) 5-vinyloct-5-en-2-yne.
 E) 3-butynyl-1,3-hexadiene.

25) What is the correct name of this compound ?

- A) 5-bromo-1-ethylcyclohexene.
 B) 4-bromo-2-ethylcyclohexene.
 C) 1-bromo-3-ethylcyclohex-3-ene.
 D) 1-ethyl-5-bromocyclohexene.
 E) 3-bromo-1-ethylcyclohexene.



26) Which diene has conjugated double bonds ?



27) The IUPAC name for

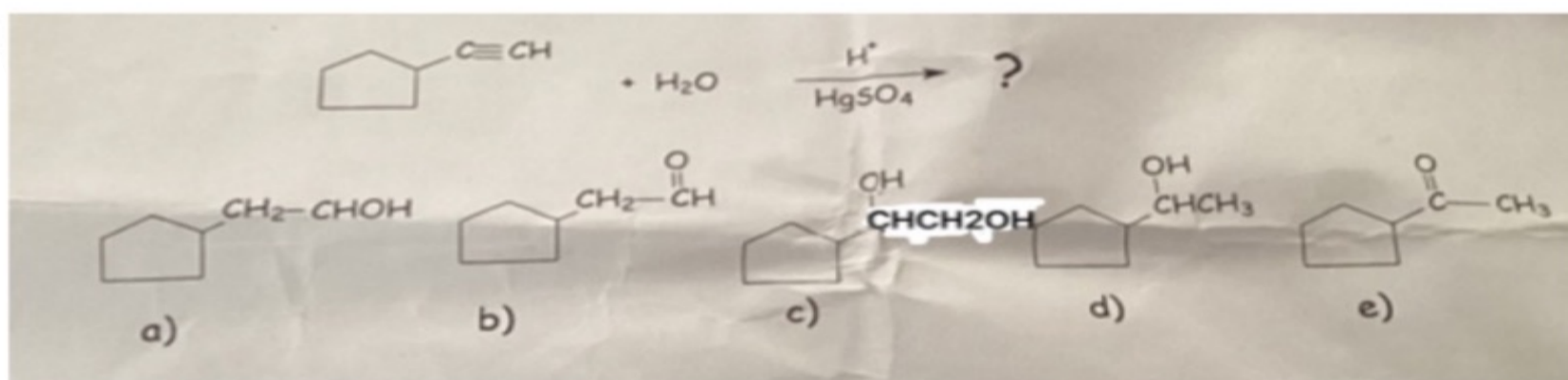


- a) 3-methyl-3-hexene
- b) 2-propyl-1-butene
- c) 3-methylenehexane
- d) 2-ethyl-1-pentene
- e) ethyl propyl ethene

28) Which of the following compounds can exhibit cis/trans isomerism?

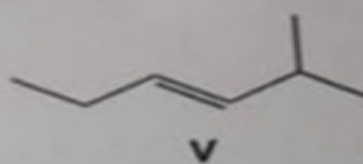
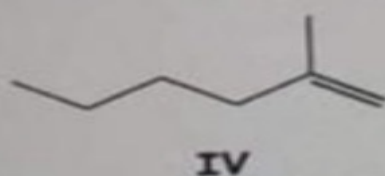
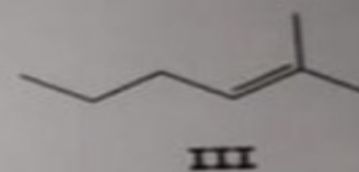
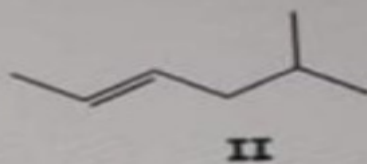
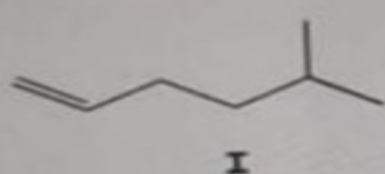
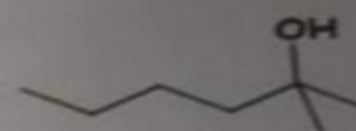
- a) 1-pentene
- b) 3-methyl-1-pentene
- c) 2-methyl-2-pentene
- d) 2-pentene
- e) propene

29) Select the structure of the major product formed in the following reaction?



30)

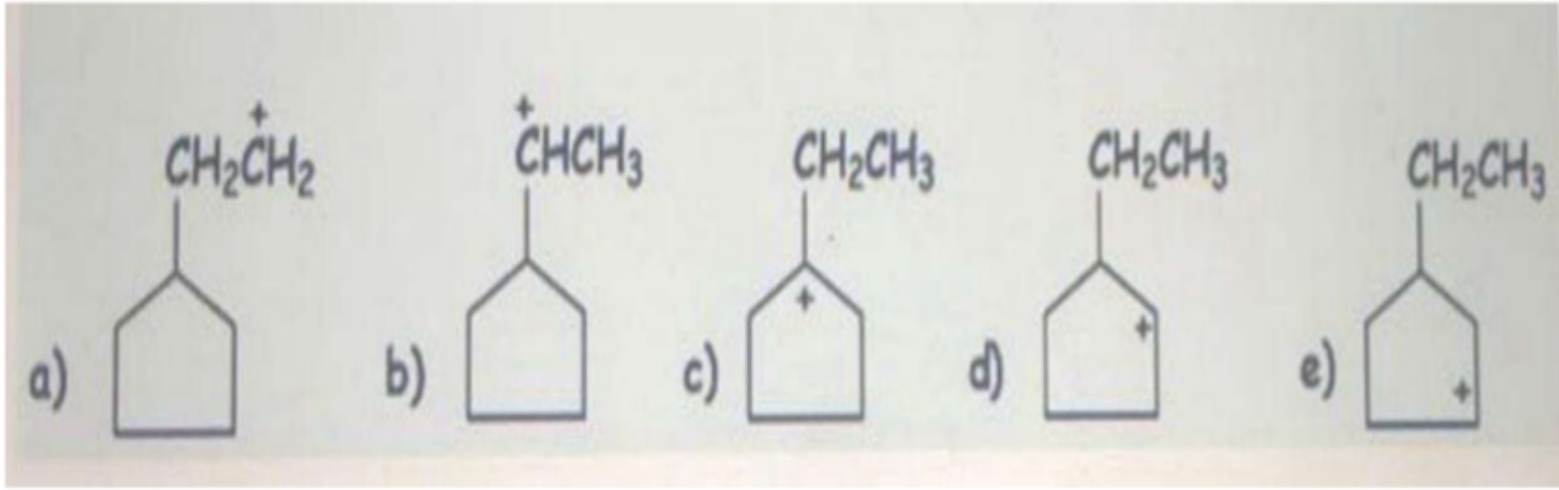
What is the major product from the E1 dehydration of



- I
- III
- II
- V
- IV

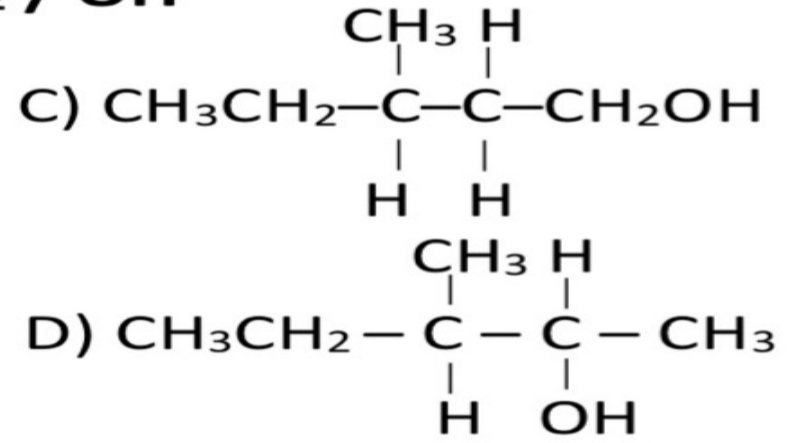
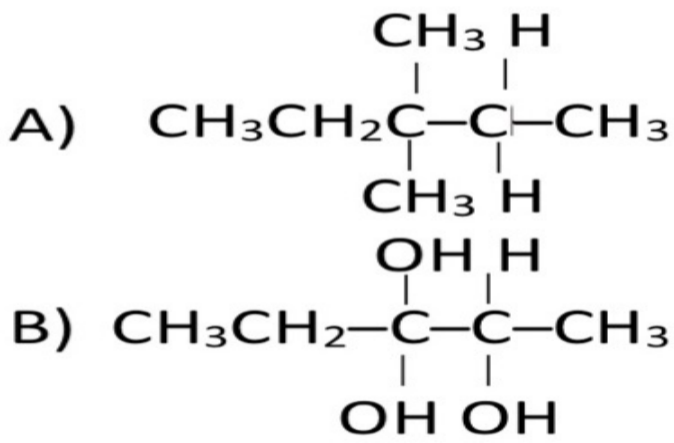
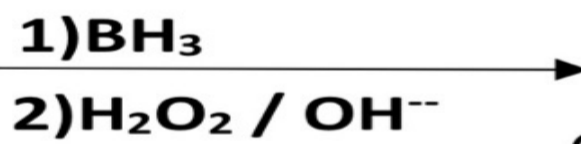
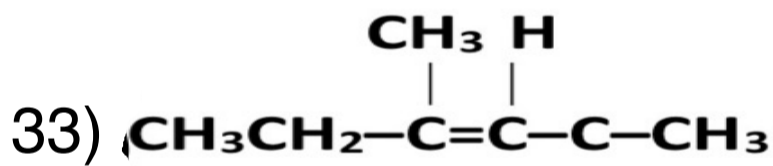
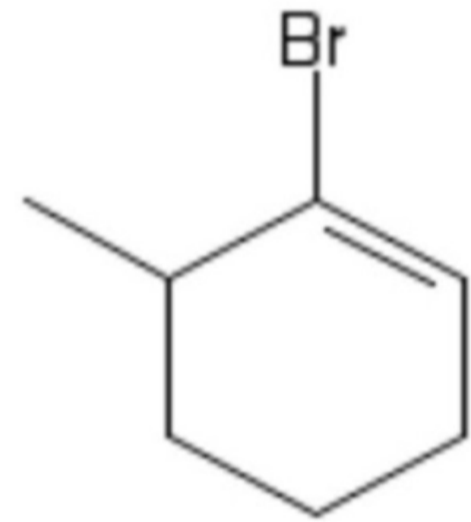
31) Which of the following is the most stable carbocation?

- A) A
- B) B
- C) C
- D) D
- E) E

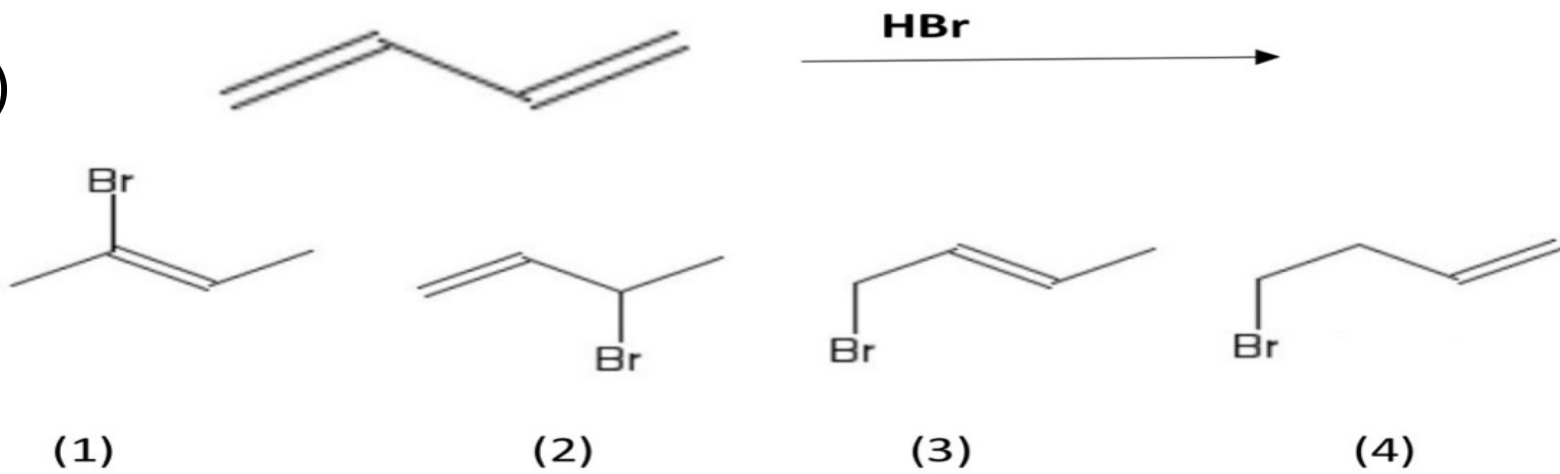


32) The correct IUPAC name for the following molecule is:

- A) 1-bromo-2methylcyclohexene
- B) 2-bromo-3-methylcyclohexene
- C) 1-bromo-6-methylcyclohexene
- D) Non above

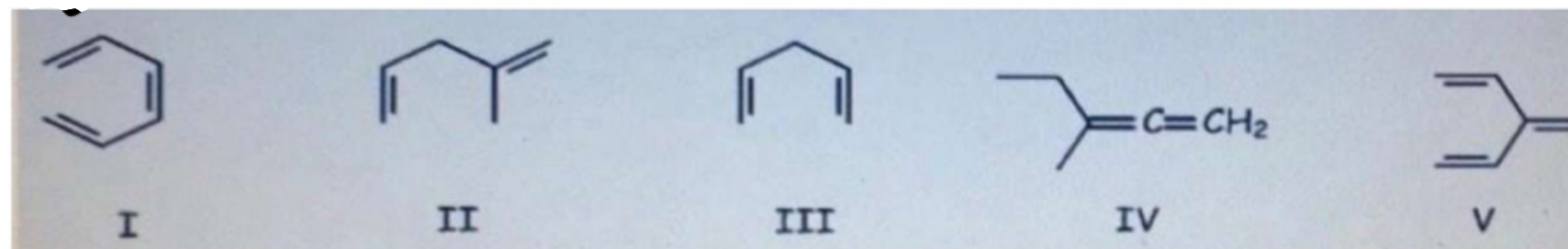


34)



- A) 1
- B) 2
- C) 3
- D) 4
- E) 2 AND 3

35) which compound(s) conjugated multiple bonds:



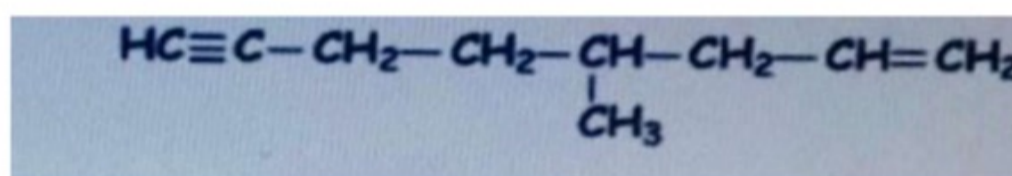
- A) II only
- B) I only
- C) II AND III
- D) IV only
- E) I and V

36) Which of the following compound can exist as cis-trans isomers?

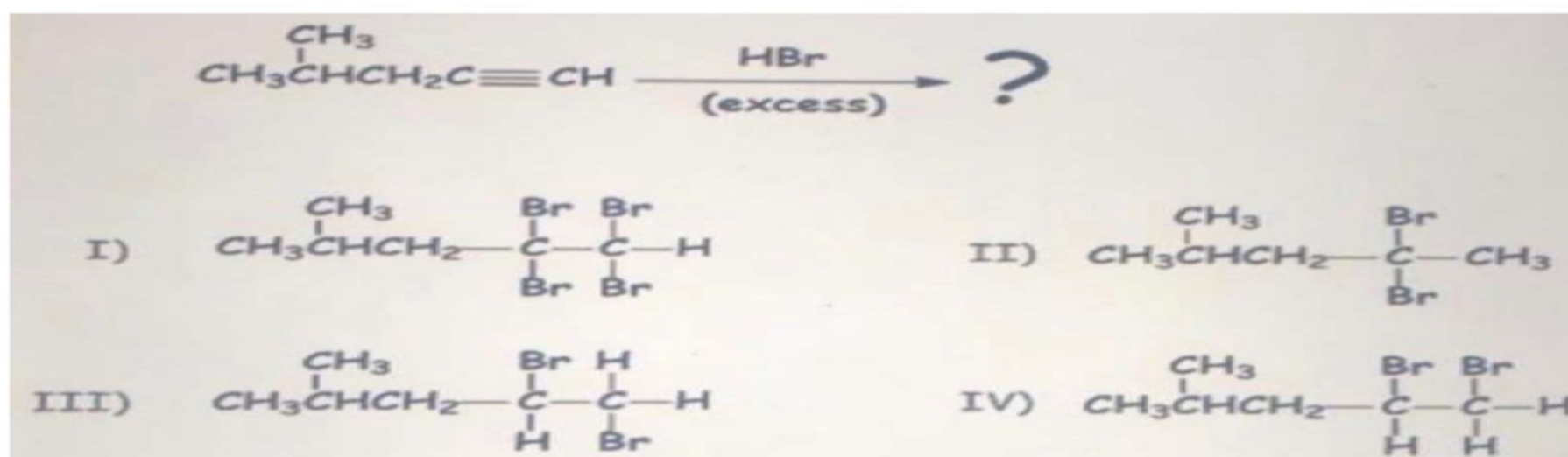
- A) 2-pentene
- B) 1-pentene
- C) 3-methyl-1-pentene
- D) 2-methyl-2-pentene
- E) 1-hexene

37) The correct IUPAC name for the following molecule is?

- A) 4-methyl-1,7-ene-yne-octane
- B) 5-methyl-7-octen-1-yne
- C) 4-methyl-1-octyn-7-ene
- D) 5-methyl-1-octen-7-yne
- E) 4-methyl-1-octen-7-yne

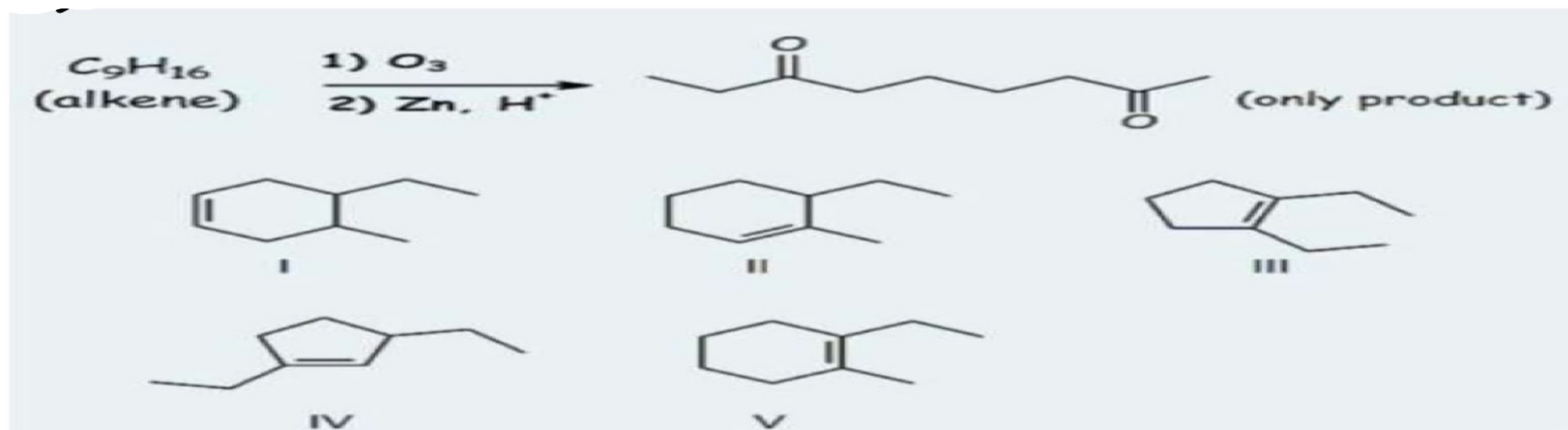


38) What is the product of the following reaction?



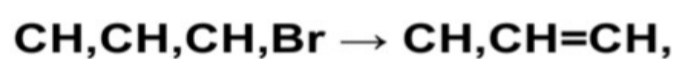
- A) I
- B) II
- C) III
- D) IV
- E) II AND IV

39) What is the structure of alkene in the following equation?



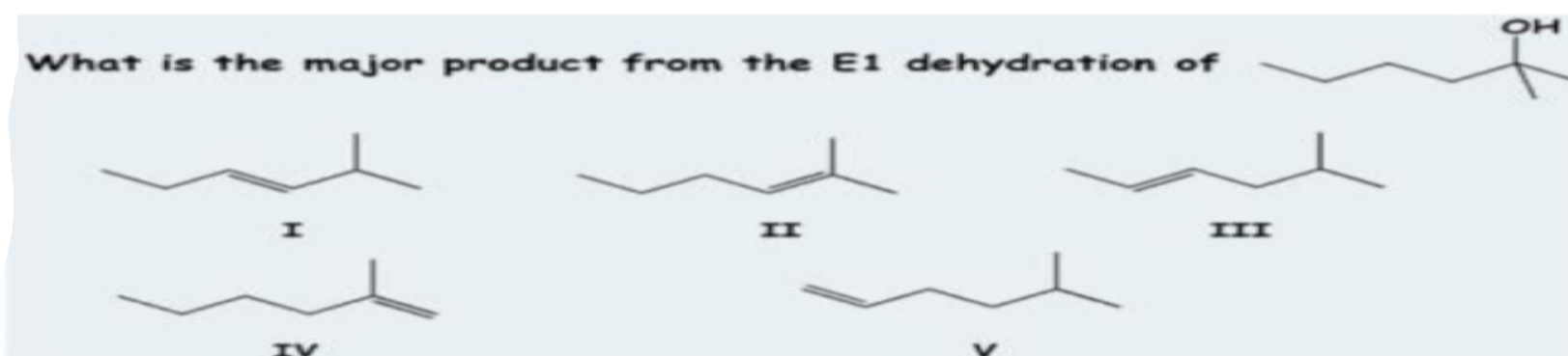
- A) III
- B) IV
- C) II
- D) V
- E) I

40) Which reagent would you choose for the following reaction :



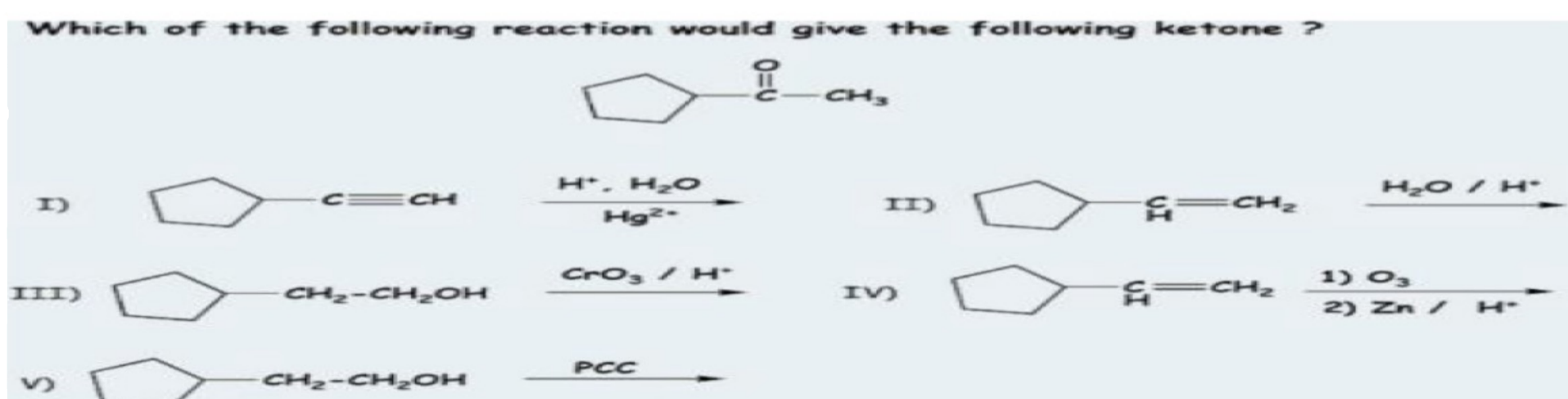
- A) $-OH$
- B) $-CH_3(CO)_3$
- C) $-SH$
- D) $-CH_3CH_2O$
- E) $-CH_3O$

41)



- A) I
- B) II
- C) III
- D) IV
- E) V

42)



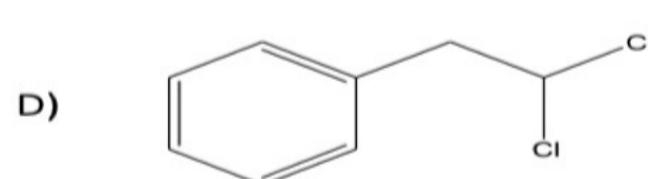
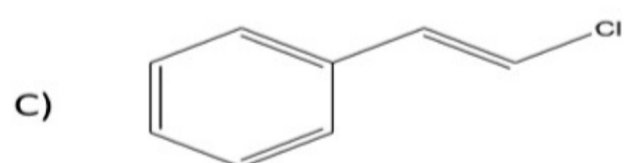
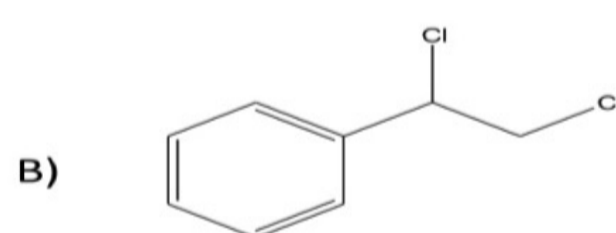
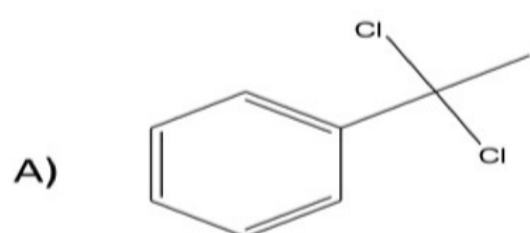
A) I

- B) II
- C) III
- D) IV
- E) V

43) which reaction is characteristic of alkenes and alkynes?

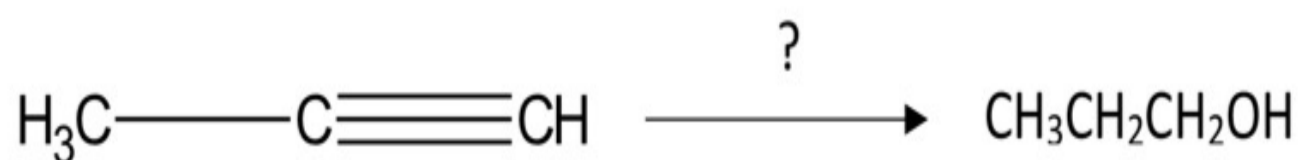
- a) Nucleophilic addition reaction
- b) Electrophilic addition reaction
- c) Electrophilic substitution reaction
- d) Nucleophilic substitution reaction

44) The major product of the following reaction is



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45) The reagent or sequence of reagents to accomplish the following reaction is



A) $\text{H}_2\text{O}, \text{H}^+$

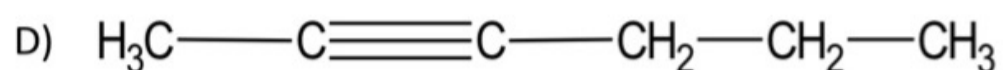
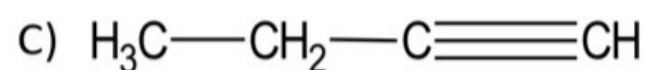
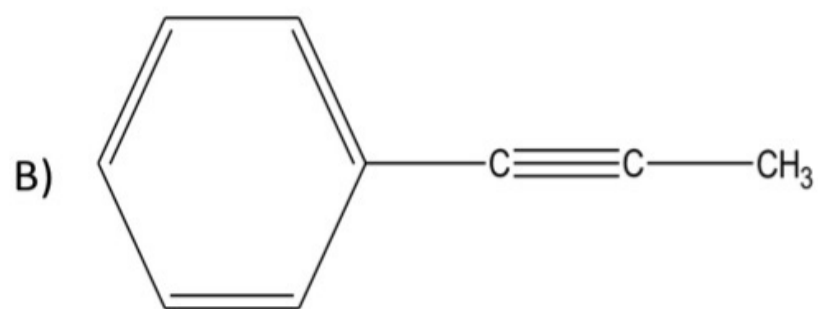
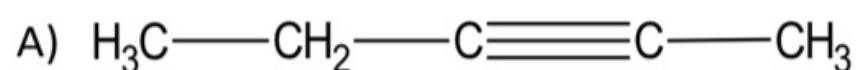
B) $\text{H}_2\text{O}, \text{Hg}^{2+}, \text{H}^+$

C) BH_3 / THF then $\text{H}_2\text{O}_2 / \text{NaOH}$

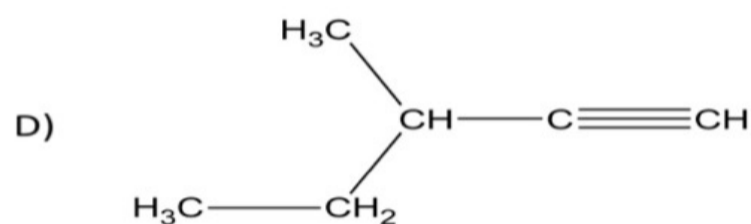
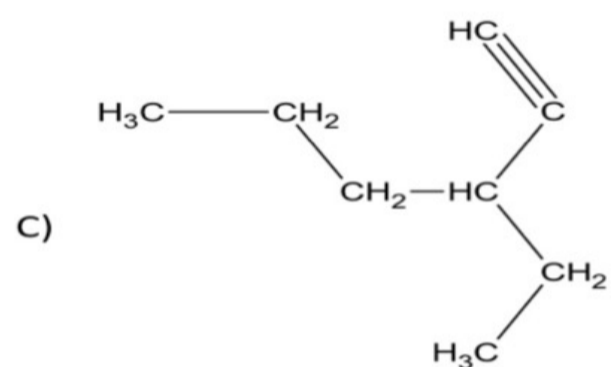
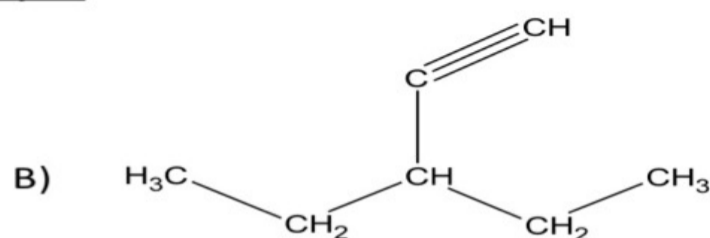
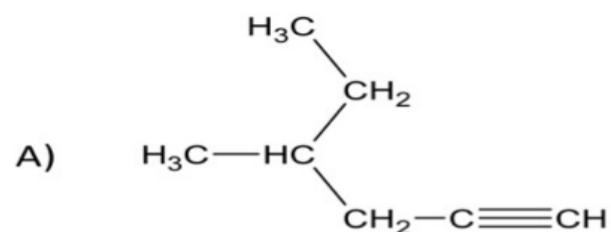
D) Li / NH_3 then hydroboration – oxidation

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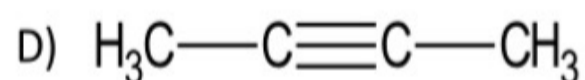
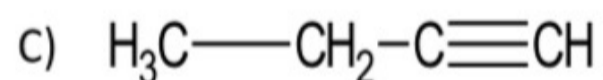
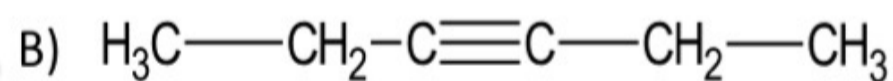
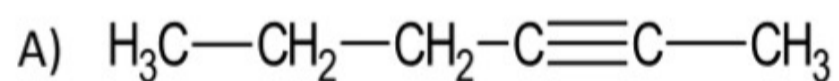
46) The alkyne, gives one ketone upon hydration, is



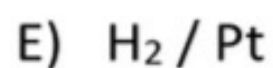
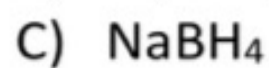
47) Which of the following compounds is **3-ethylpent-1-yne**



48) The alkyne, gives two ketones upon hydration, is



49) Which of the following reagents react with 3-hexyne to give a cis-alkene

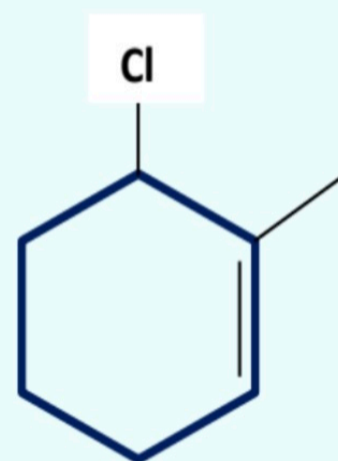


54) Which molecular formula corresponds to a cycloalkene?

- a. $C_{11}H_{16}$
- b. C_9H_{12}
- c. $C_{10}H_{18}$
- d. C_8H_{18}
- e. C_7H_{14}

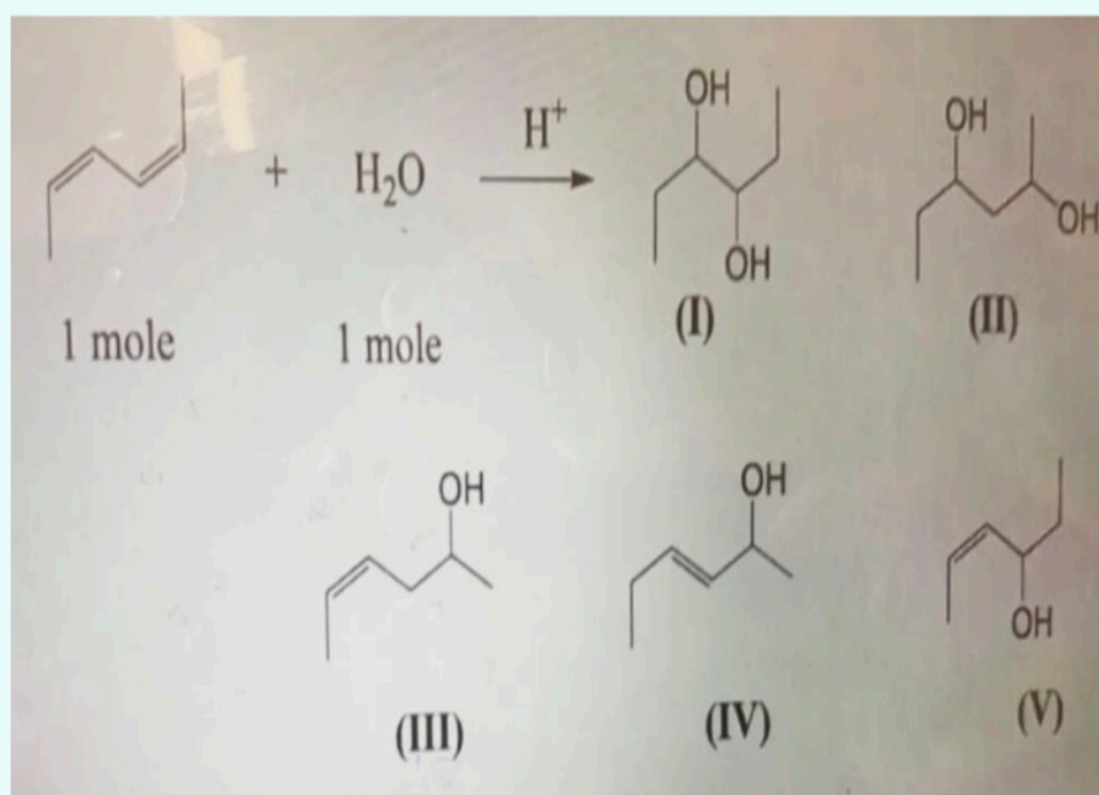
55) What is the correct IUPAC name of the following compound:

- a. 3-chloro-2-methyl-1-cyclohexene
- b. 1-chloro-2-methylcyclohexene
- c. 2-chloro-1-methylcyclohexene
- d. 3-chloro-2-methylcyclohexene
- e. 6-chloro-1-methylcyclohexene



56) In the reaction below, the product is (are):

- a. IV and V
- b. III and V
- c. I only
- d. V only

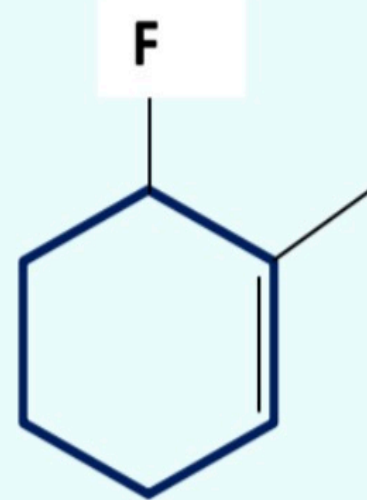


57) What is the correct IUPAC name of the following

compound:

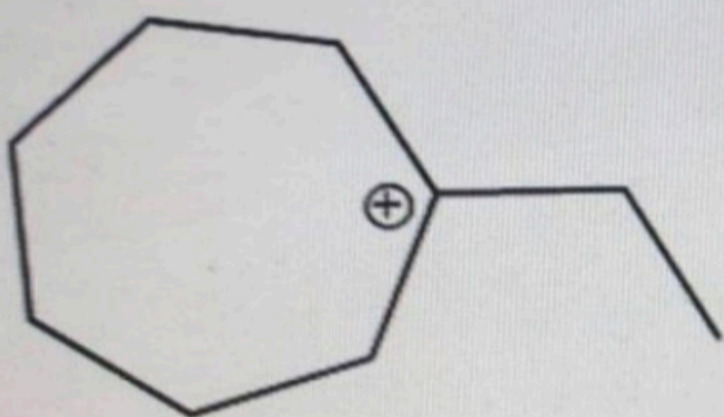
a. 1-fluoro-2-methylcyclohexene

b. 6-fluoro-1-methylcyclohexene

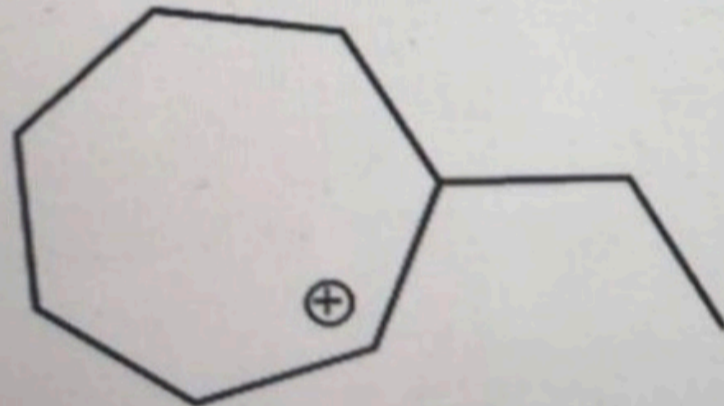


58) Which carbocation is most stable

A.



B.



1	B
2	E
3	A
4	D
5	A
6	B
7	D
8	A
9	C
10	A
11	A
12	D
13	B
14	A
15	B
16	A
17	C
18	D
19	D

20	A
21	B
22	D
23	A
24	D
25	A
26	E
27	D
28	D
29	E
30	B
31	C
32	C
33	D
34	E
35	E
36	A
37	E
38	B

39	D
40	A
41	B
42	D
43	B
44	A
45	D
46	C
47	B
48	A
49	A
50	C
51	B
52	C
53	F
54	C
55	E
56	B
57	B

58	A
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