ORGANIC CHEMISTRY

DPP

DAILY PRACTICE PROBLEMS

DPP No. 14

Total Marks : 23

Max. Time : 23 min.

Topic : Hydrocarbons

Type of Questions		M.M., Min.
Single choice Objective ('–1' negative marking) Q.1 to Q.7	(3 marks, 3 min.)	[21, 21]
True or False (no negative marking) Q.8	(2 marks, 2 min.)	[2, 2]

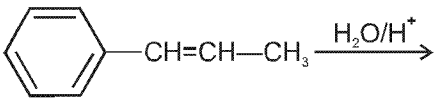
1. $CH_3–CH–CH=CH_2$ (with phenyl) $\xrightarrow{H_3O^+}$ P (major), P is :

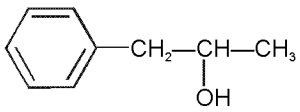
(A) $CH_3–CH–CH_2–CH_2–OH$ (with phenyl)

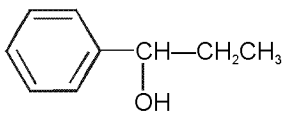
(B) $CH_3–CH(OH)–CH–CH_3$ (with phenyl)

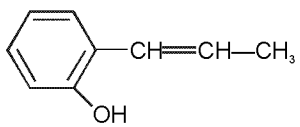
(C) $CH_3–C(OH)–CH_2–CH_3$ (with phenyl)

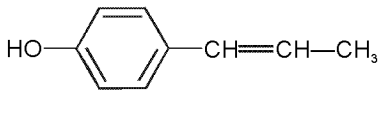
(D) $CH_3–CH(OH)–CH_2–CH_2$– (with phenyl)

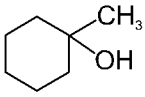
2.  $\xrightarrow{H_2O/H^+}$ P (major), P is :

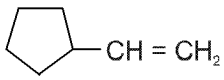
(A) 

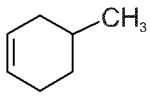
(B) 

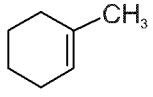
(C) 

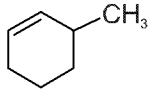
(D) 

3. which of the following alkene will give (P) on oxymercuration reduction reaction, (P) =  .

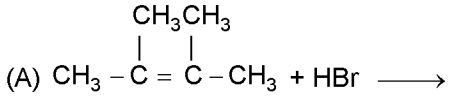
(A) 

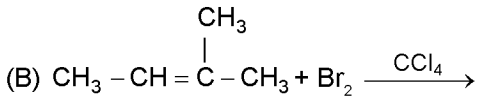
(B) 

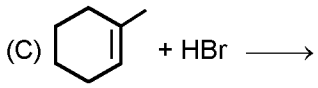
(C) 

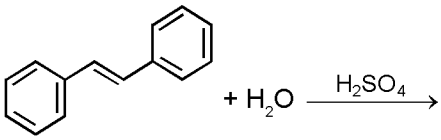
(D) 

4. In which of the following reactions markovnikov rule of addition reaction is followed

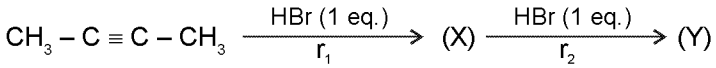
(A) 

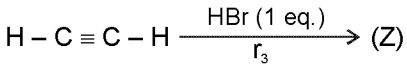
(B) 

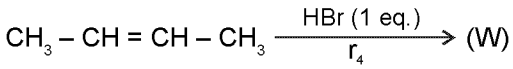
(C) 

(D) 

5. The correct order of rate of following reactions is





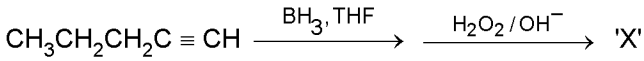


(A) $r_4 > r_2 > r_1 > r_3$ (B) $r_1 > r_2 > r_3 > r_4$ (C) $r_4 > r_3 > r_2 > r_1$ (D) $r_3 > r_4 > r_2 > r_4$

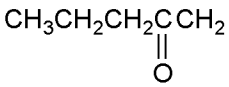
6. Which of the following shows least reactivity towards bromination ?

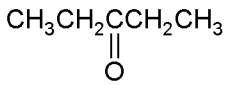
(A) $CH_3–CH=CH–CH_3$ (B) $CH_2=CH_2$

(C) $CH\equiv CH$ (D) $CH_3–CH=CH_2$

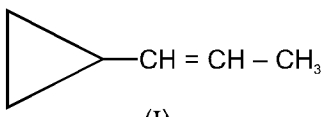
7. 

Identify the product 'X' :

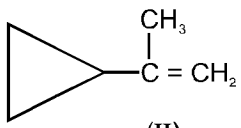
(A) $CH_3CH_2CH_2CH_2CHO$ (B) 

(C) $CH_3CH_2CH_2CHO$ (D) 

8. The rate of acid catalysed hydration of II is much faster than that of I.



(I)



(II)

Answer Key

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1.	(C)	**2.**	(B)	**3.**	(C)	**4.**	(C)	**5.**	(A)
6.	(C)	**7.**	(A)	**8.**	True				

Hints & Solutions

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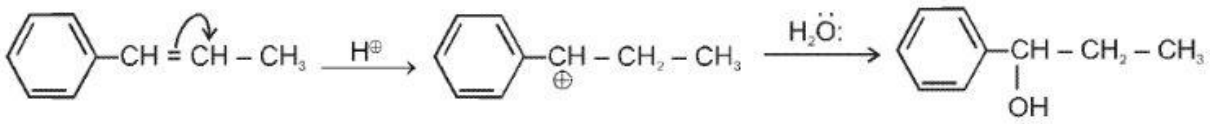
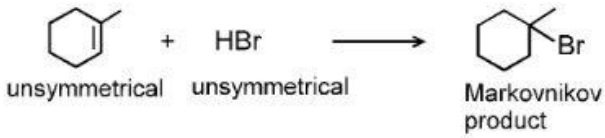
1. As in previous question.

2.



3. Addition of water by oxymercuration reduction without rearrangement.

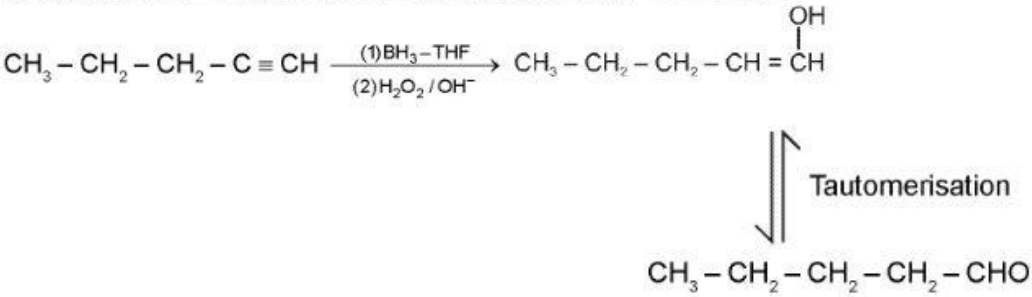
4. Markovnikov addition is observed for unsymmetrical alkene and unsymmetrical reagent



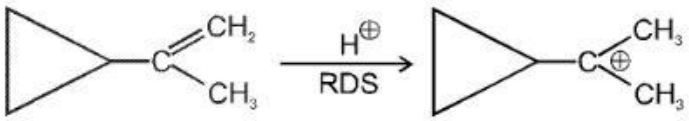
5. Alkenes are more reactive than alkynes more branched alkynes are more reactive.

6. sp Hybridisation of alkyne and also intermediate form is less stable.

7.



8. Alkene II gives a tertiary carbocation intermediate in rate-determining step.



3° carbocation