

1). What is the hybridisation of carbocation?

A).sp

B).sp²

C).sp³

D).sp^{3d}

2). What is the shape of carbocation?

A).Pyramidal

B).Bent

C).Linear

D).Trigonal planar

3). The positive charge of carbocations **cannot** be stabilised by

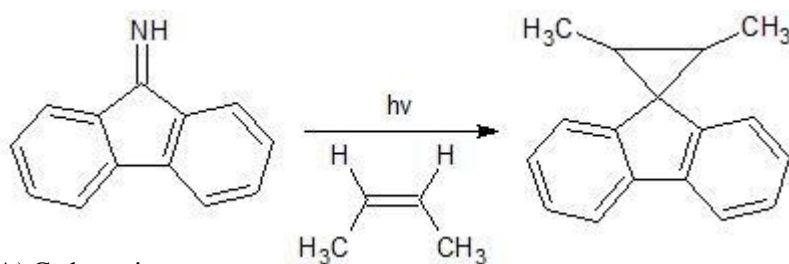
A).(+) effect of alkyl group

B).Resonance in allyl or benzyl carbocation

C).Hyperconjugation in 1^o, 2^o and 3^o carbocations

D).(-I) effect of halogens

4). Which intermediate is involved in the reaction given below?



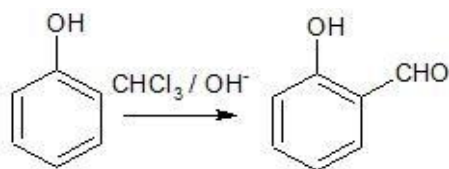
A).Carbocation

B).Free radical

C).Carbene

D).Carbanion

5). Identify the name of the reaction involved in the given reaction.



A).Claisen reaction

B).Reformatskyreaction

**C).Reimer-Tie mann
reaction**

D).Jones oxidation

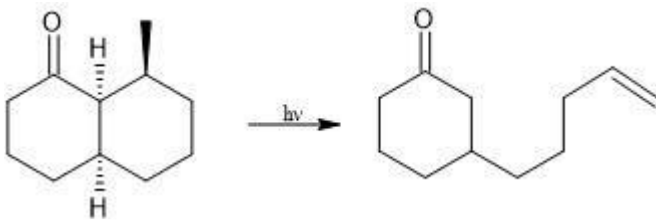
6). The concerted photochemical reaction between two olefins leading to a cyclobutane ring is:

- A). $\pi 2s + \pi 2a$ Cycloaddition
- B). $\pi 2s + \pi 2s$ Cycloaddition**
- C). $\sigma 2s + \sigma 2s$ Cycloaddition
- D). $\sigma 2s + \sigma 2a$ Cycloaddition

7). Phosphorescence is represented as:

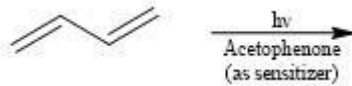
- A). $T1 \rightarrow S0 + h\nu$**
- B). $T1 \rightarrow S0 + \Delta$
- C). $S1 \rightarrow S0 + h\nu$
- D). $S1 \rightarrow S0 + \Delta$



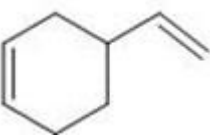
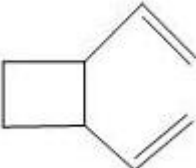
8). The following photo chemical conversion proceeds through:



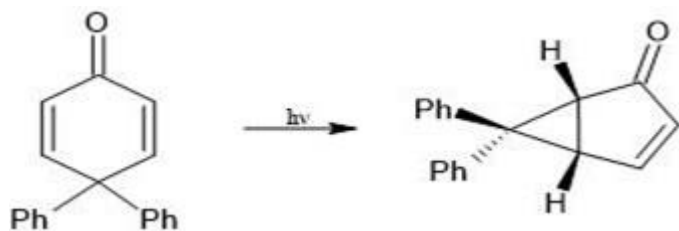
- A). Barton reaction**
- B). Paterno Buchi reaction
- C). Norrish type II reaction
- D). Norrish type I reaction

9). The major product obtained in the following reaction is:



- A). 
- B). 
- C). 
- D). **

10). Formation of the product in the following photochemical reaction involves:



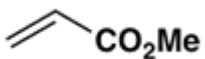
A). Di- π methane rearrangement

B). Paterno Buchi reaction

C). [2,3] sigmatropic rearrangement

D). Norrish type I

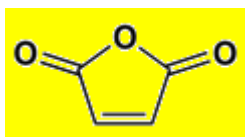
11). Which of the following dienophiles is the most reactive with buta-1,3-diene?



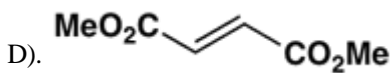
A).



B).

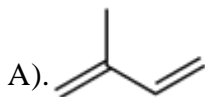


C).

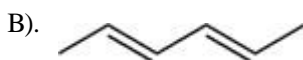


D).

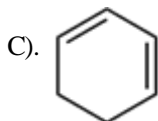
12). Which of the following dienes cannot undergo Diels-Alder reactions?



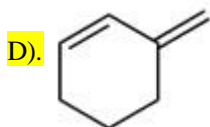
A).



B).

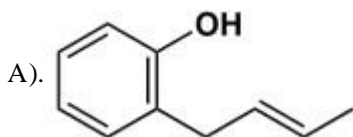


C).

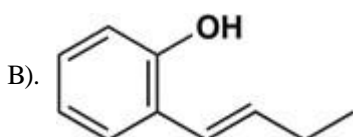


D).

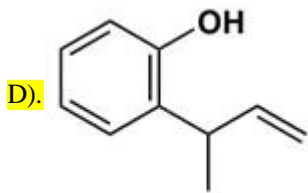
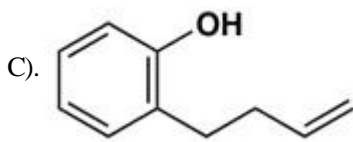
13). Which of phenols (a)-(d) is the main product of the following thermal rearrangement?



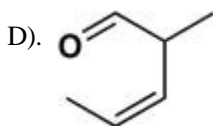
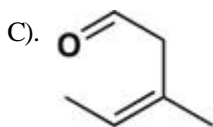
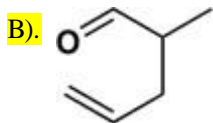
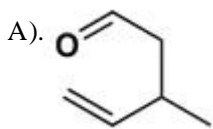
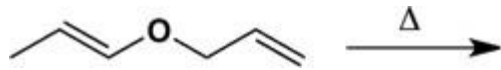
A).



B).



14). Which of unsaturated aldehydes (a)-(d) is the sigmatropic rearrangement product obtained by heating the following ether?



15). Which of the following reactions is classified as a sigmatropic rearrangement?

