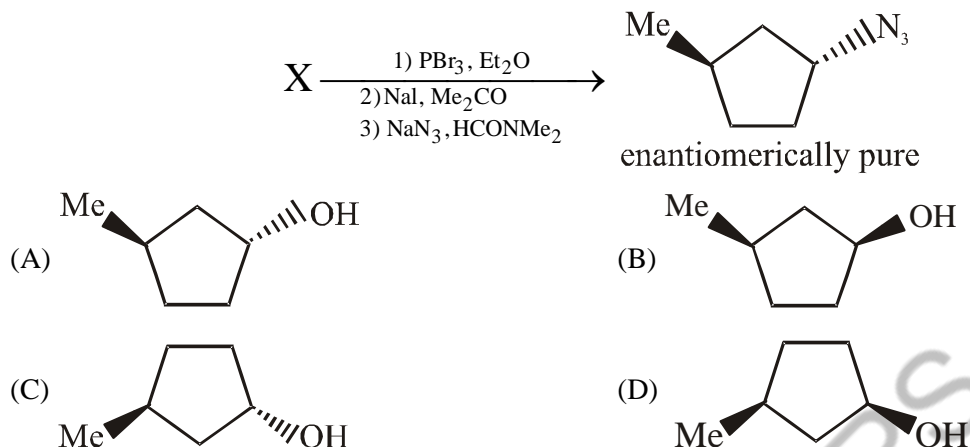


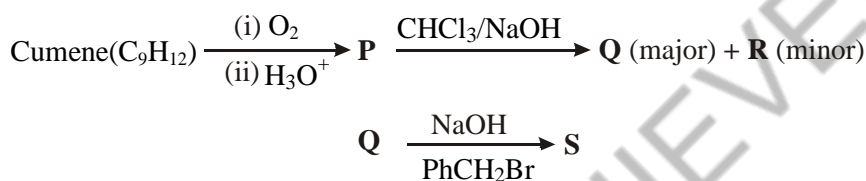
ORGANIC CHEMISTRY

ALCOHOL, PHENOL & ETHER

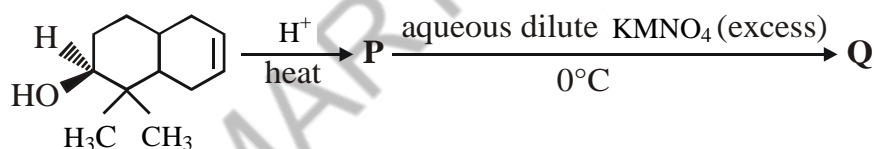
1. In the following reaction sequence, the correct structure(s) of X is (are) [JEE(Advanced) 2018]



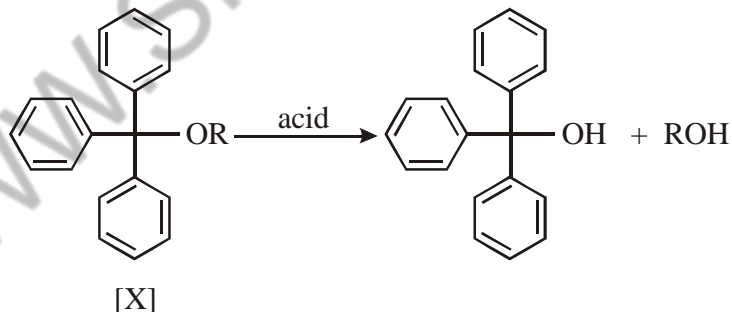
2. The correct statement(s) about of the following reaction sequence is(are) [JEE(Advanced) 2016]



- (A) **R** is steam volatile
 (B) **Q** gives dark violet coloration with 1% aqueous FeCl_3 solution
 (C) **S** gives yellow precipitate with 2, 4,-dinitrophenylhydrazine
 (D) **S** gives dark violet coloration with 1% aqueous FeCl_3 solution
3. The number of hydroxyl group(s) in **Q** is [JEE(Advanced) 2015]



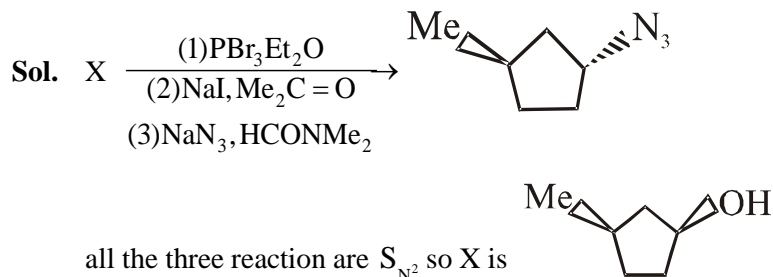
4. The acidic hydrolysis of ether (X) shown below is fastest when [JEE(Advanced) 2014]



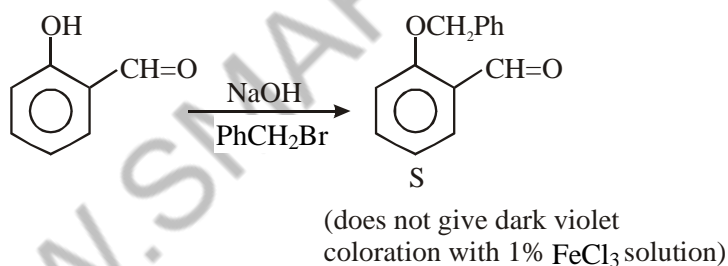
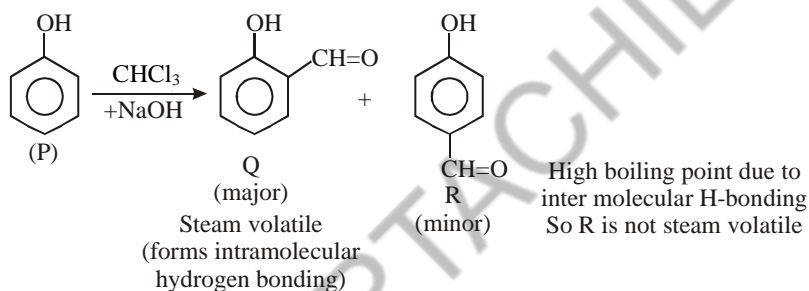
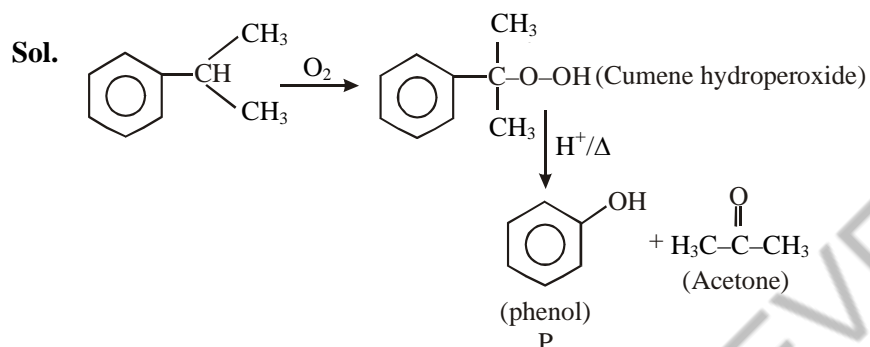
- (A) one phenyl group is replaced by a methyl group
 (B) one phenyl group is replaced by a para-methoxyphenyl group
 (C) two phenyl groups are replaced by two para-methoxyphenyl group
 (D) no structural change is made to **X**

SOLUTIONS

1. Ans. (B)



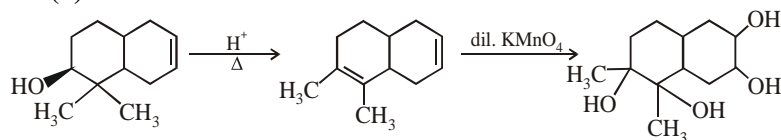
2. Ans. (B, C)



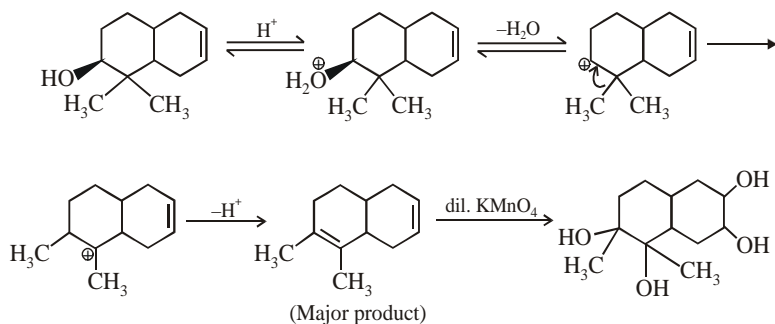
Q gives dark violet coloration with 1% aqueous FeCl_3 solution because it has phenolic ($-\text{OH}$) group.

3. Ans. (4)

Sol.

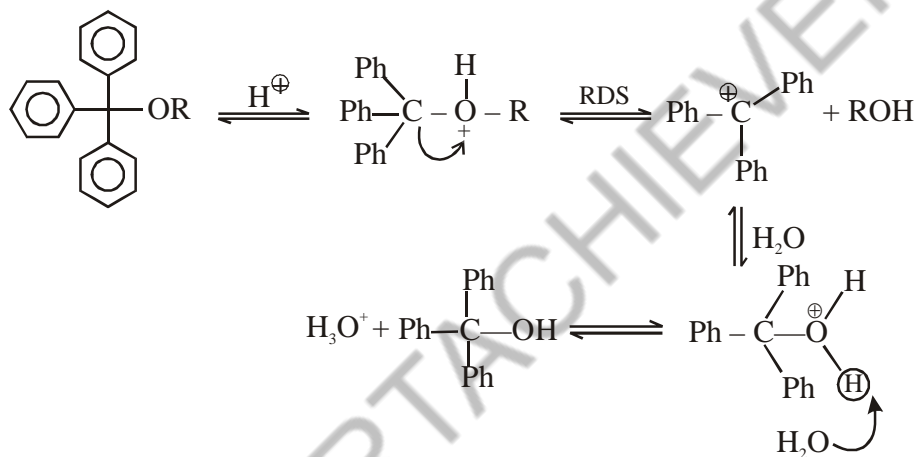


Mechanism :



4. Ans. (C)

Sol.



If 2 Ph groups are substituted by 2 $\text{MeO}-\text{C}_6\text{H}_4-$ groups then carbocation formed in above sequence is more stable and rate of above hydrolysis increases.