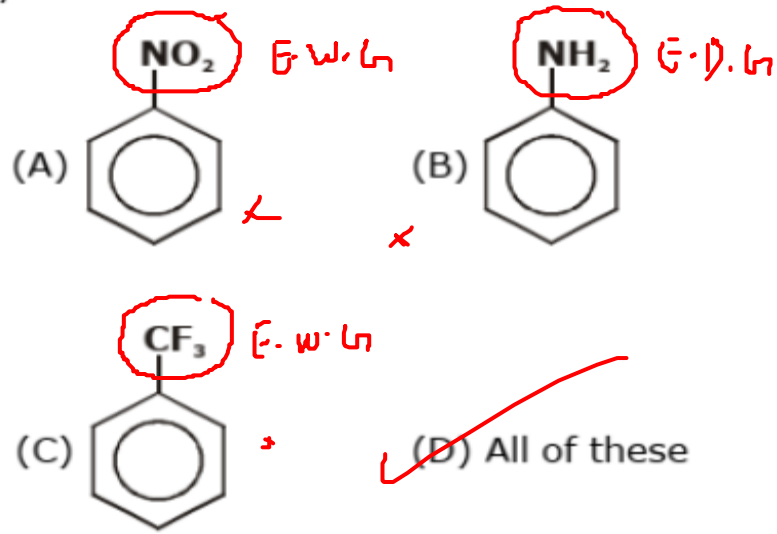
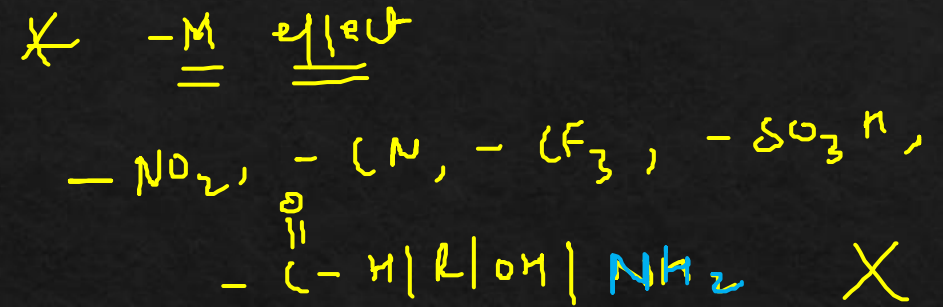
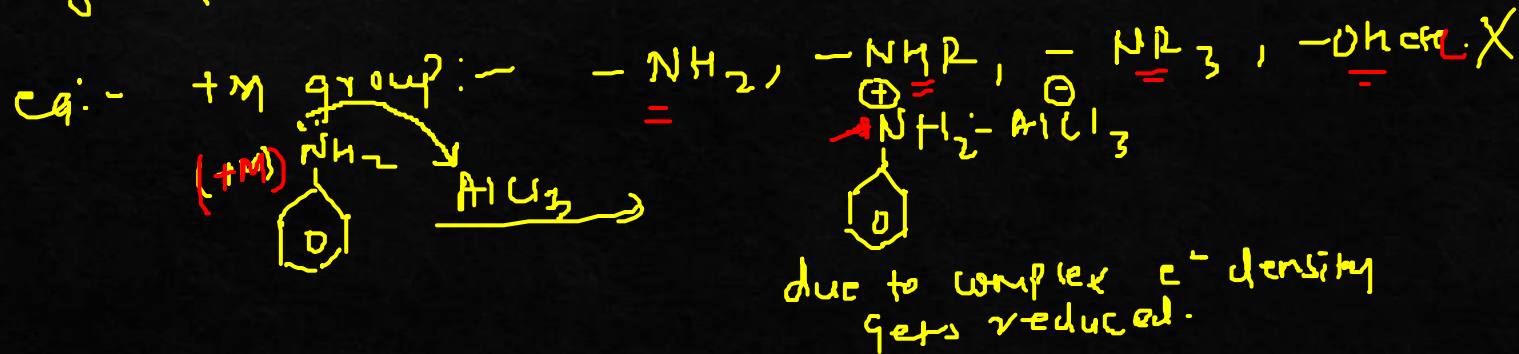


Which of the following compound gives poor yield in friedel-craft reaction

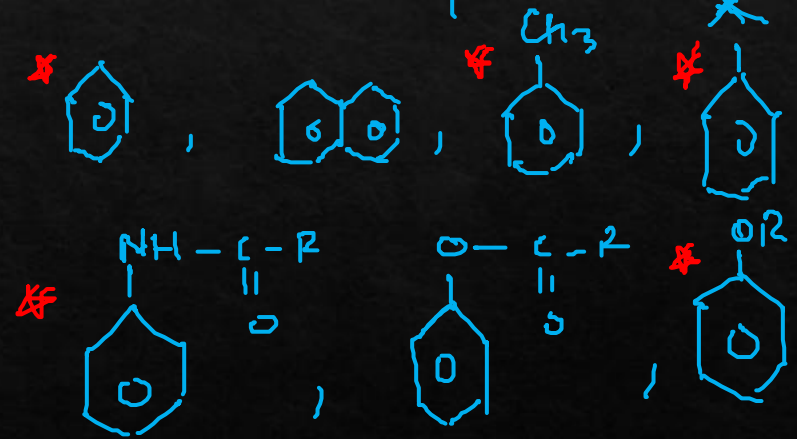


Sol D

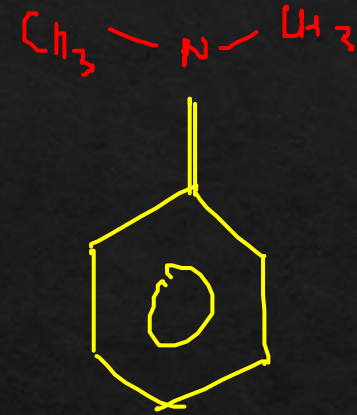
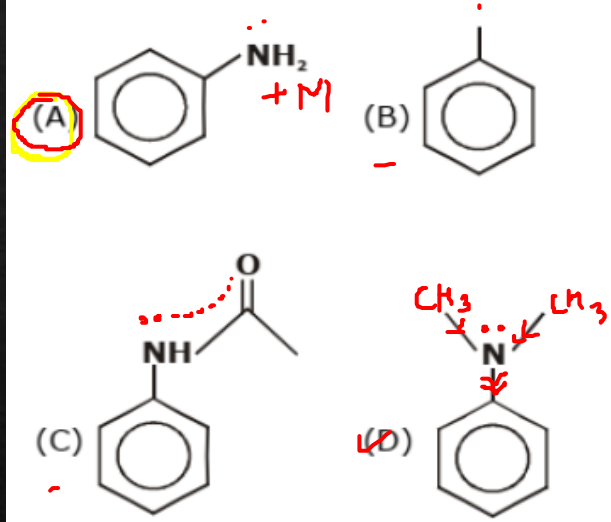
$\Rightarrow$  NOTE strong  $e^-$  donating or withdrawing  
groups do not show friedel-craft rxn



$\checkmark \times$  friedel craft is possible



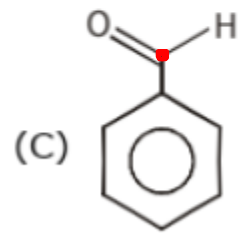
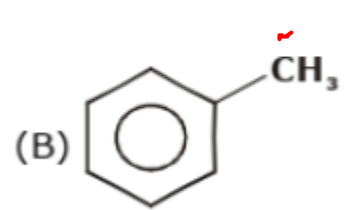
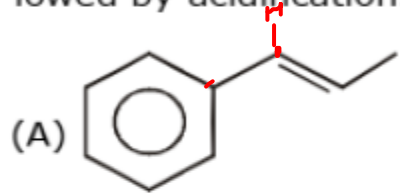
Most reactive towards nitration reaction (Substitution electrophilic aromatic)



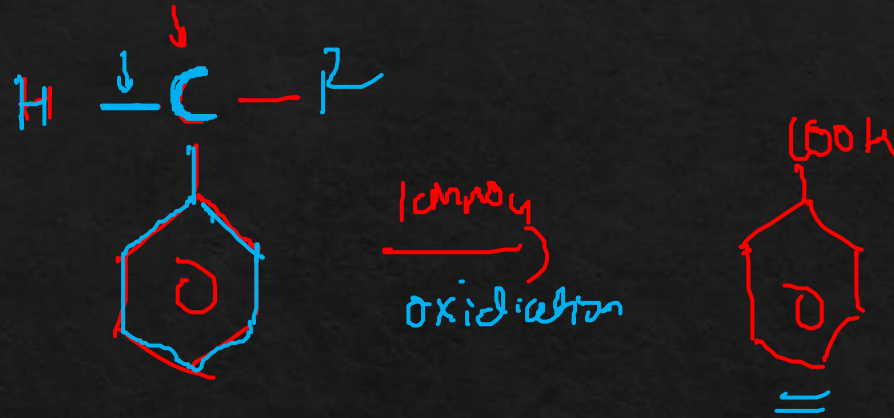
Sol D

\* Rate of electrophilic substitution reaction is directly proportional  $e^-$  density on benzene.

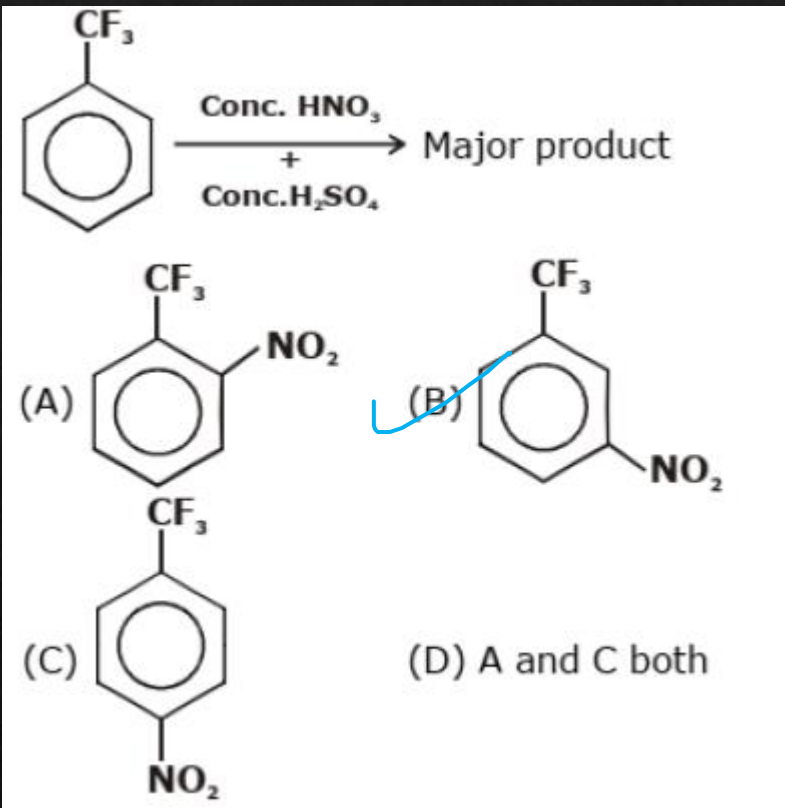
Which of the following compound gives benzoic acid when it reacts with hot KMnO<sub>4</sub> followed by acidification.



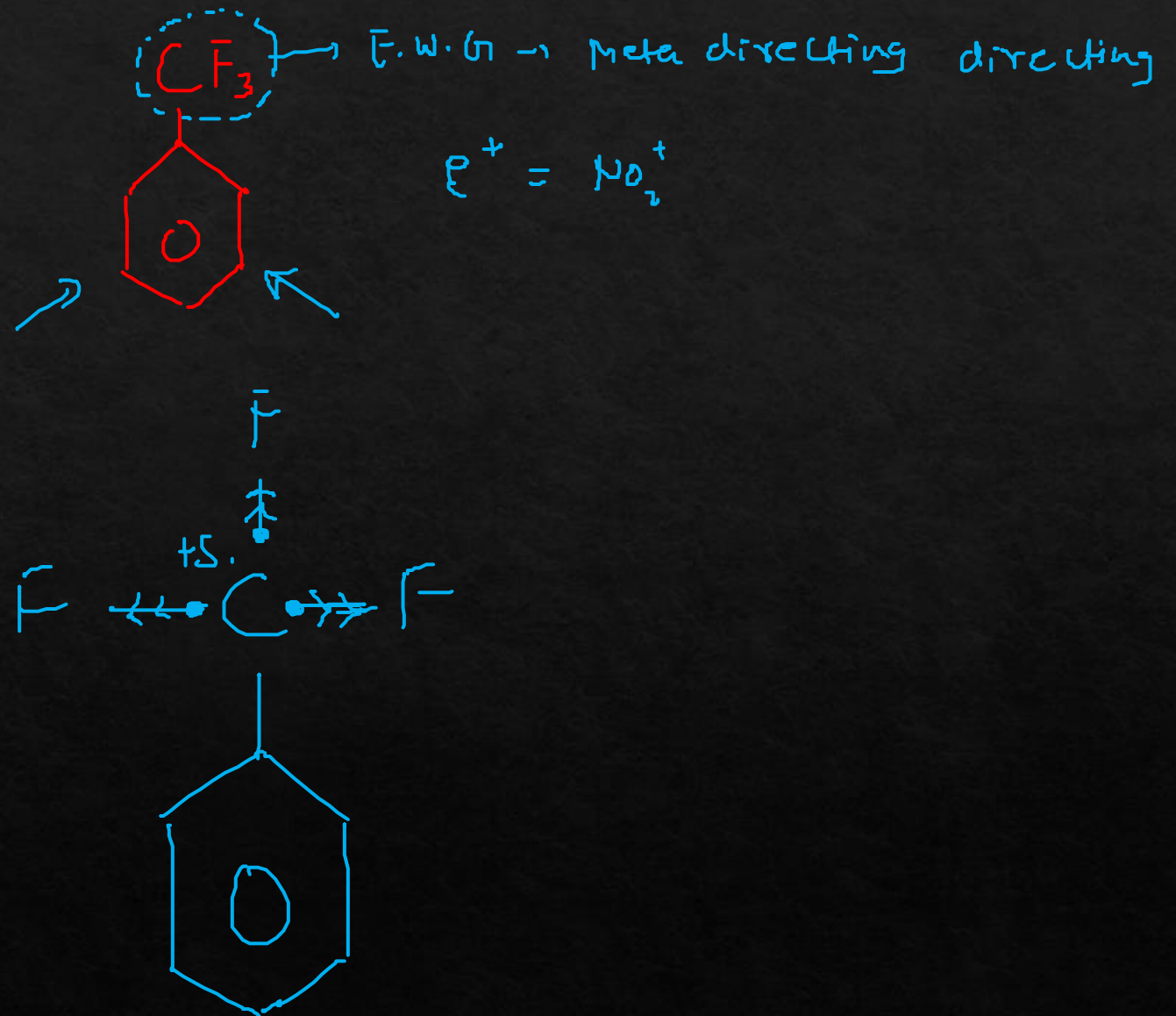
☒ (D) All of these



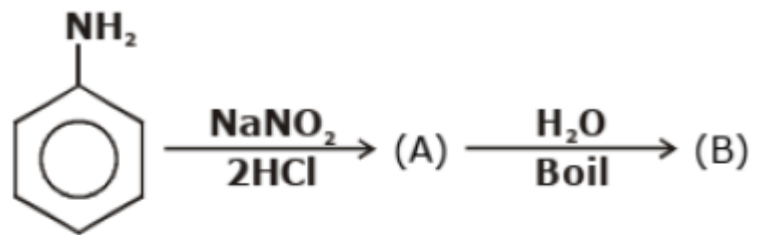
Sol D



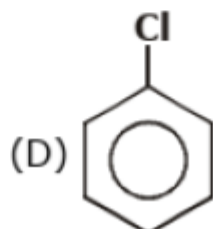
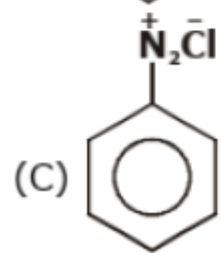
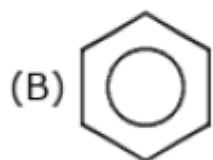
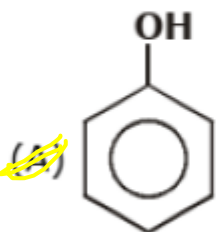
Sol B



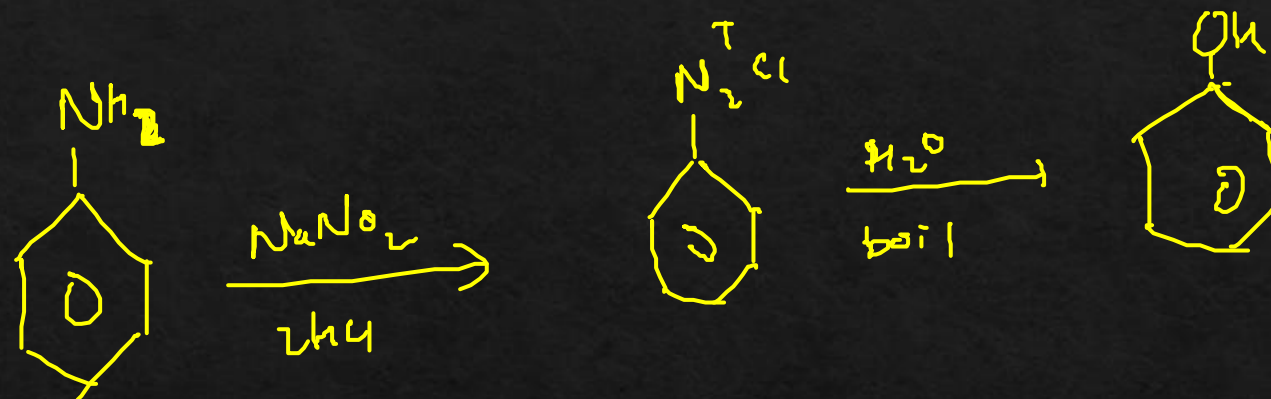


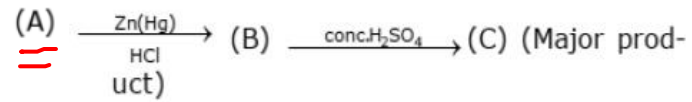
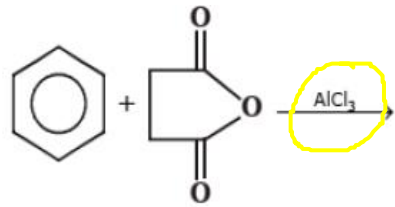


Product (B) will be :

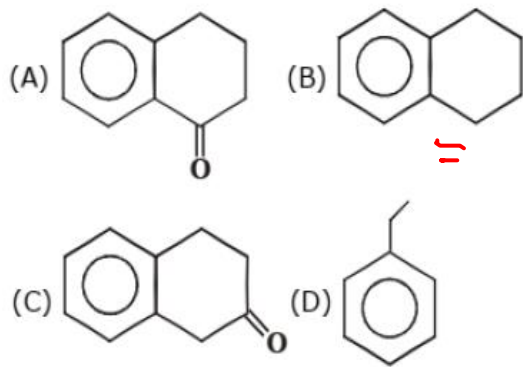


Sol A



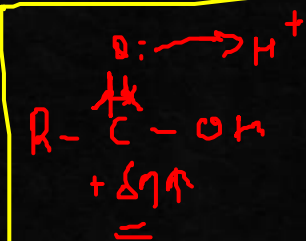
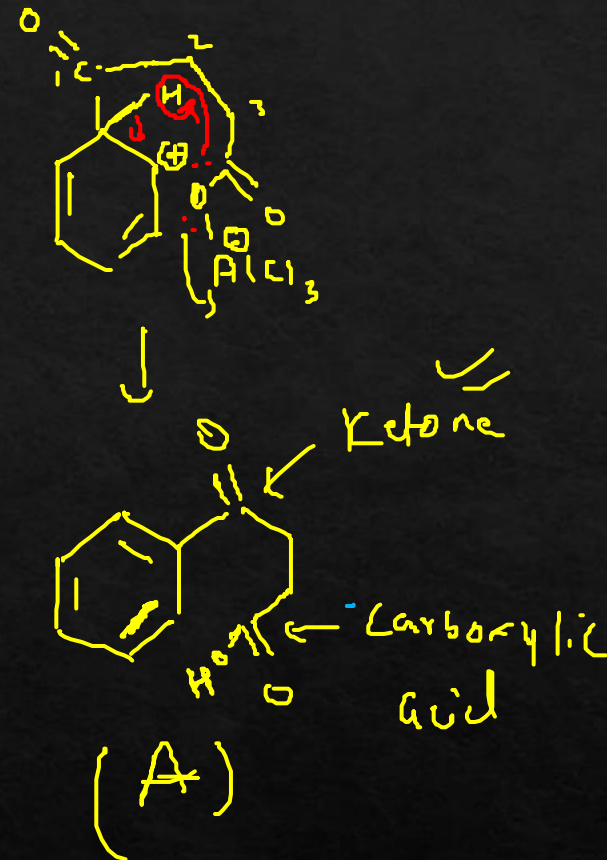
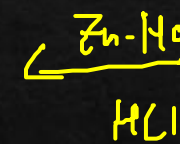
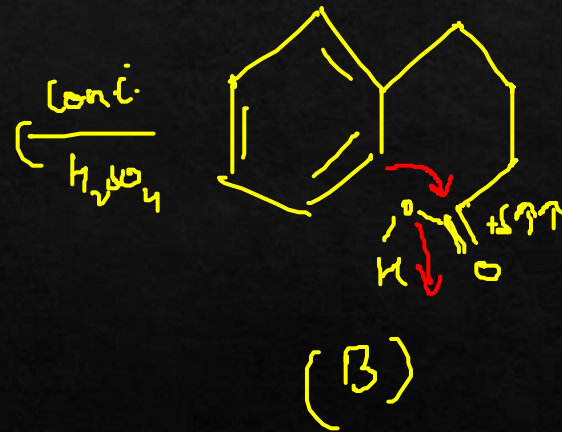
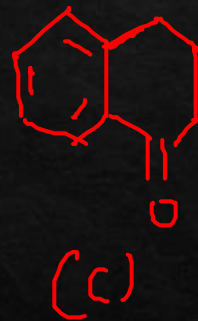
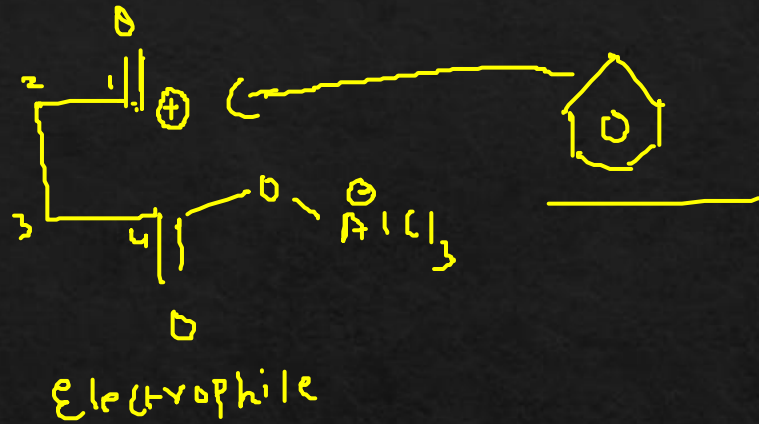
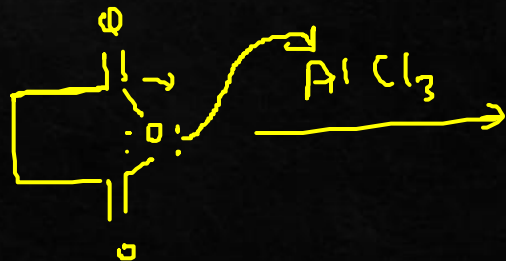


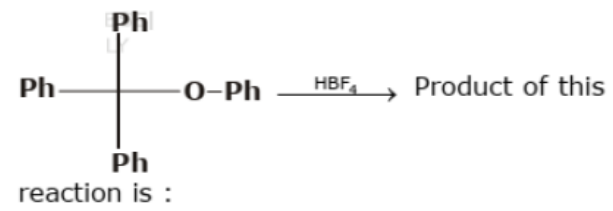
C will be :



Sol A

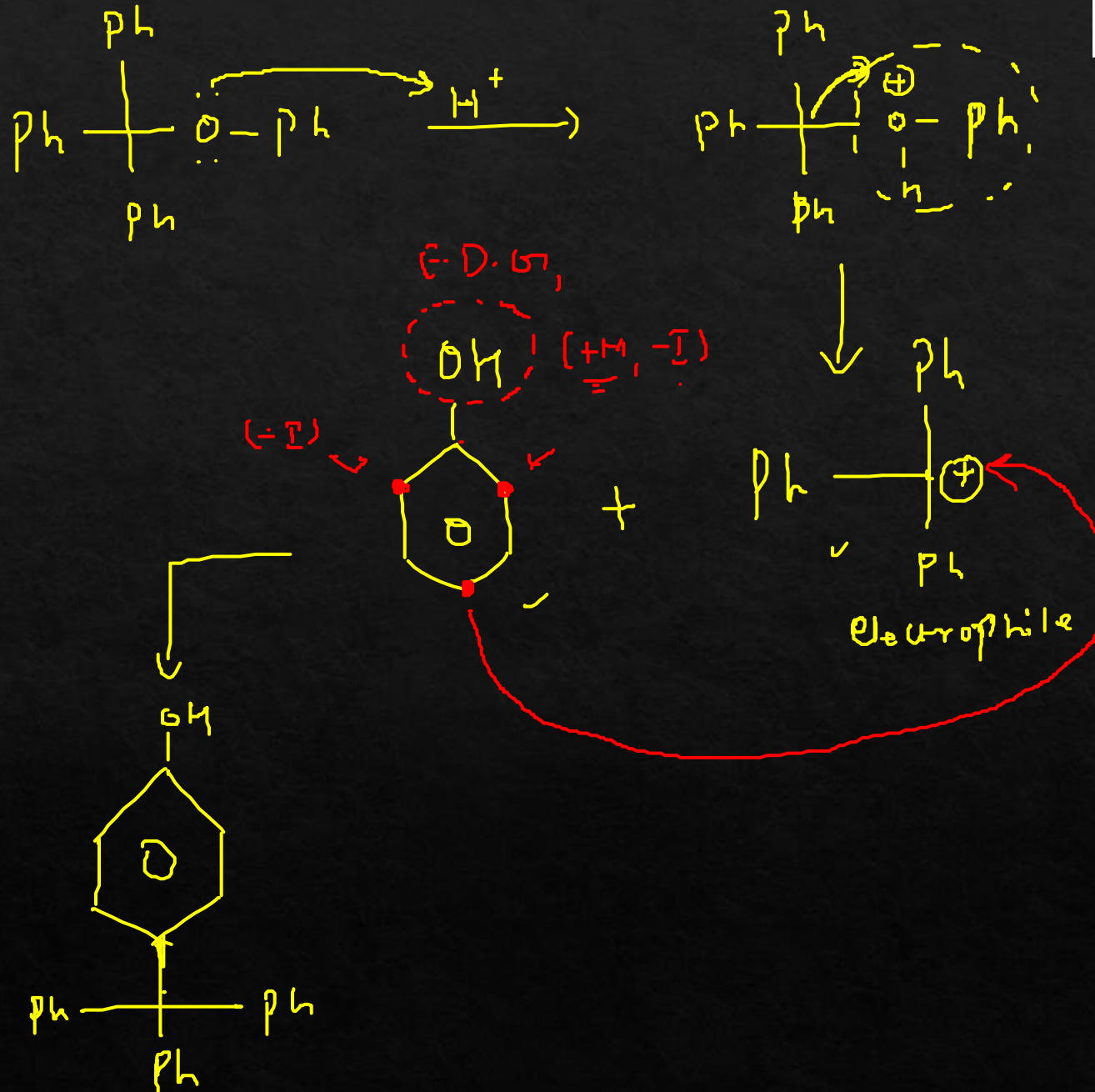
Step 1:- Generation of  $\text{E}^+$

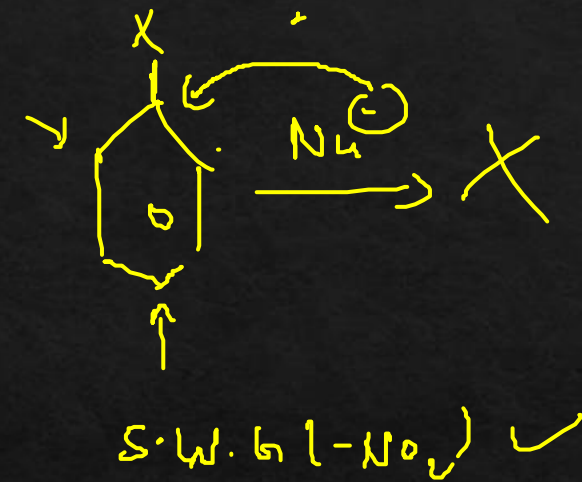
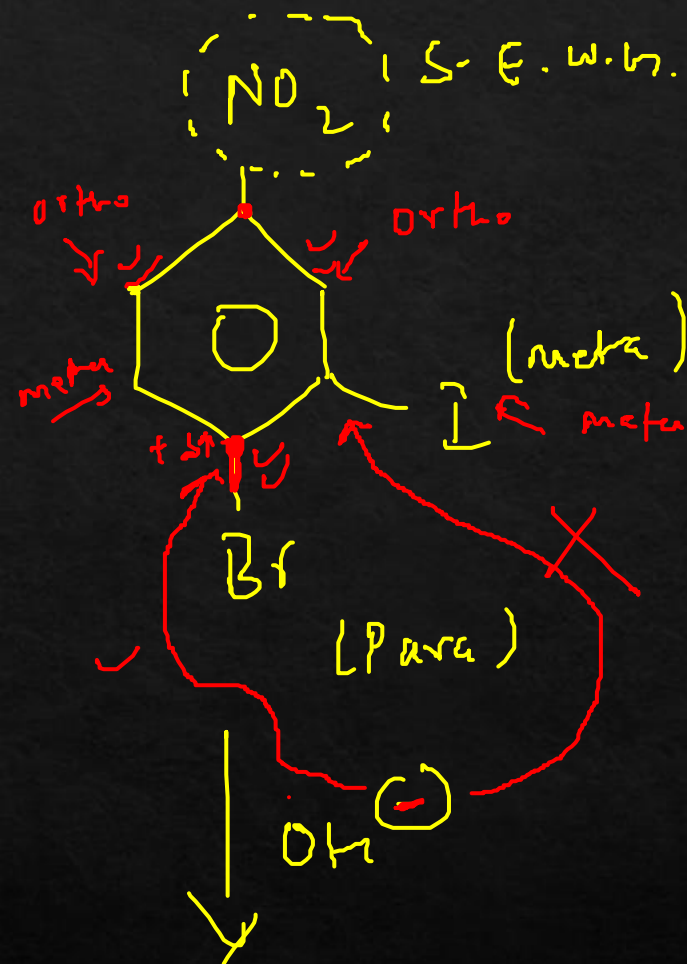
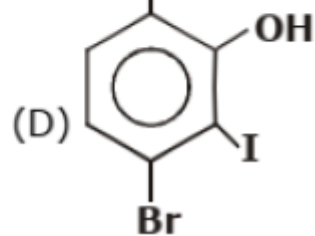
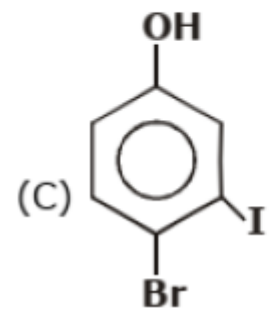
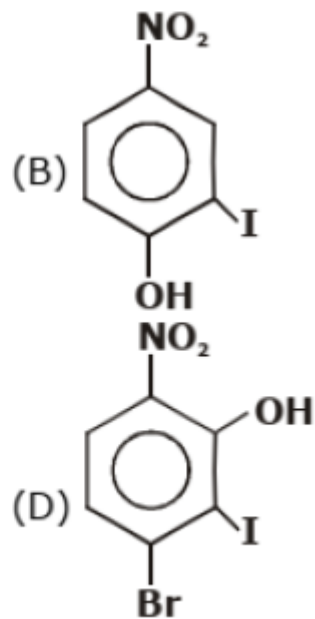
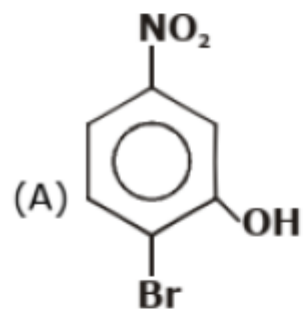
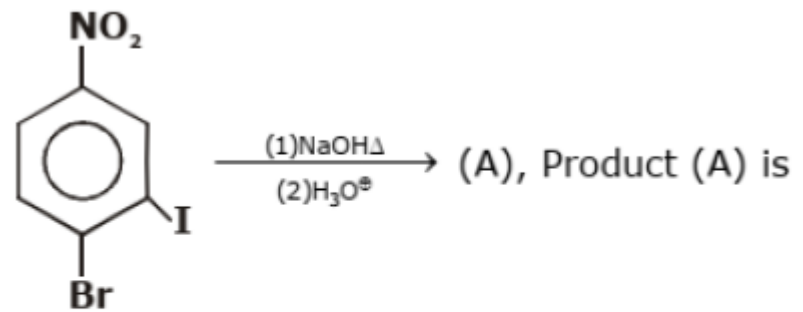




- (A)  $\begin{array}{c} \text{Ph} \\ | \\ \text{Ph}-\text{C}-\text{H} \\ | \\ \text{Ph} \end{array} + \text{C}_6\text{H}_5\text{OH}$
- (B)  $\text{C}_6\text{H}_5\text{OH} + \begin{array}{c} \text{Ph} \\ | \\ \text{Ph}-\text{C}-\text{OH} \\ | \\ \text{Ph} \end{array}$
- (C)  $\begin{array}{c} \text{Ph} \\ | \\ \text{Ph}-\text{C}-\text{OH} \\ | \\ \text{Ph} \end{array} + \text{C}_6\text{H}_6$
- (D)  $\begin{array}{c} \text{Ph} \\ | \\ \text{Ph}-\text{C}-\text{C}_6\text{H}_4\text{OH} \\ | \\ \text{Ph} \end{array}$

Sol D

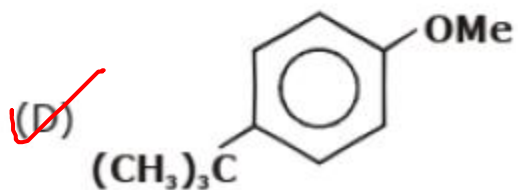
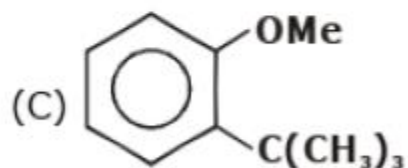
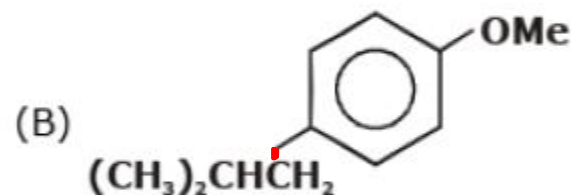
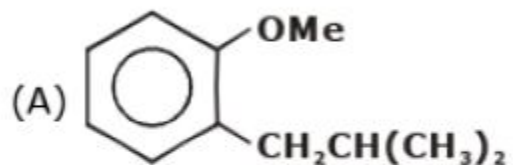
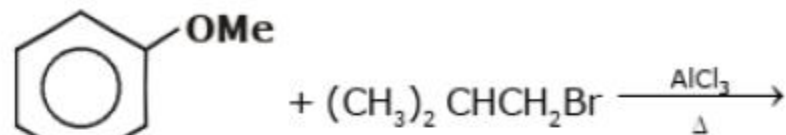




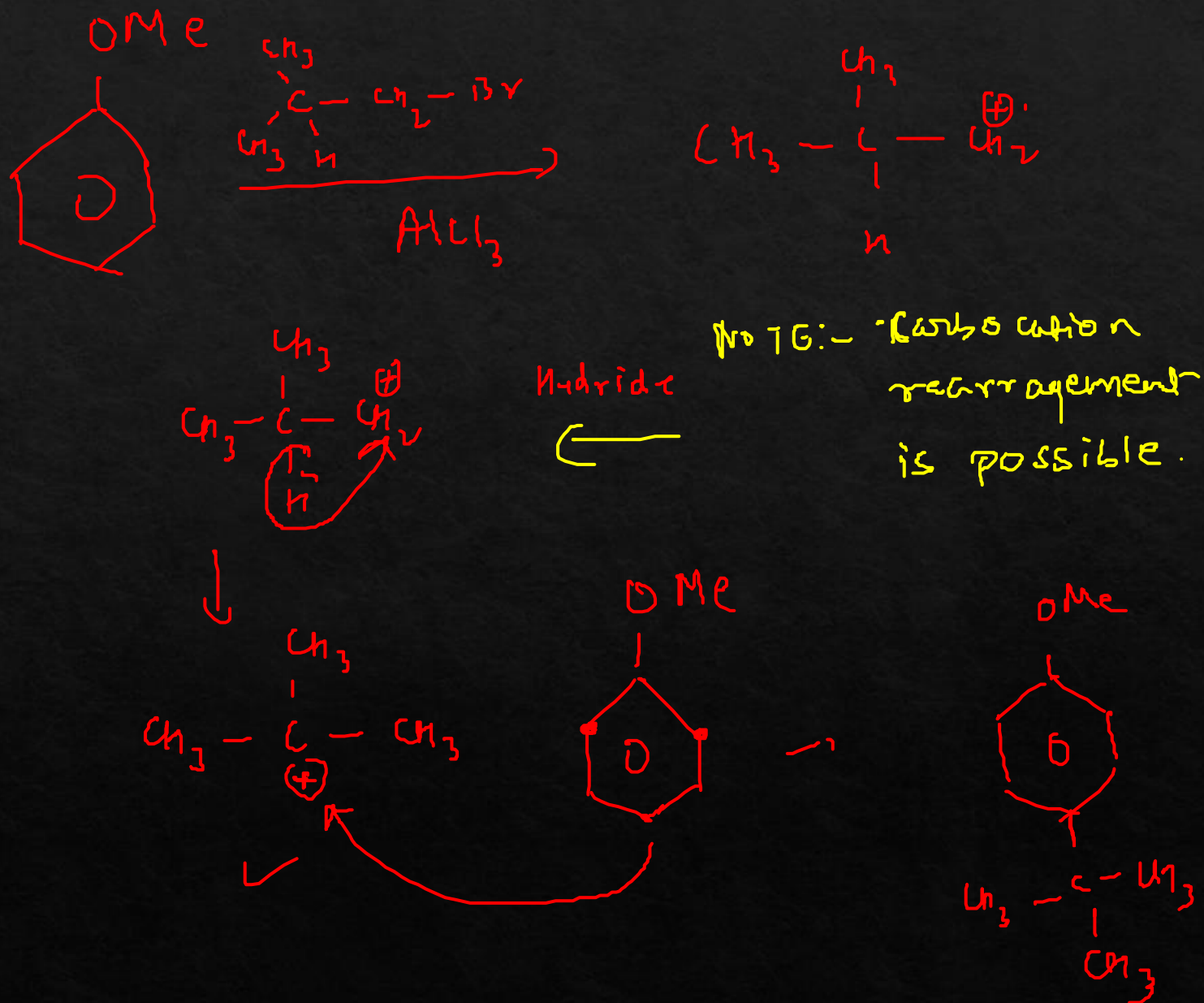
Sol B



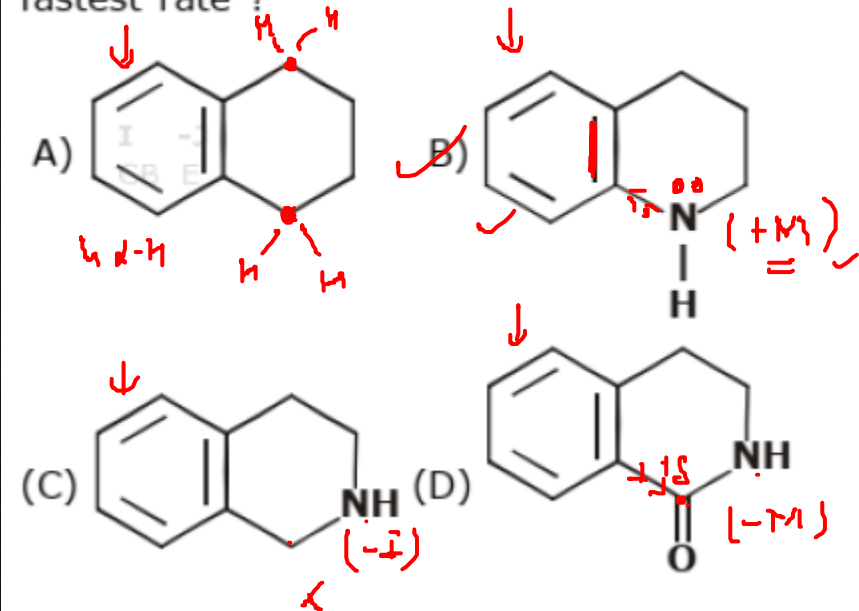
The major product formed in the reaction is :



Sol D

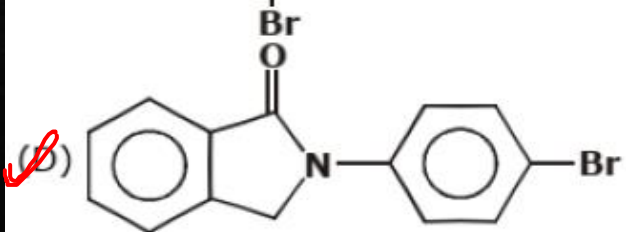
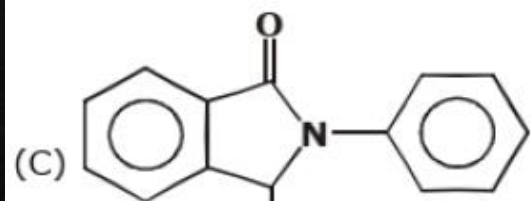
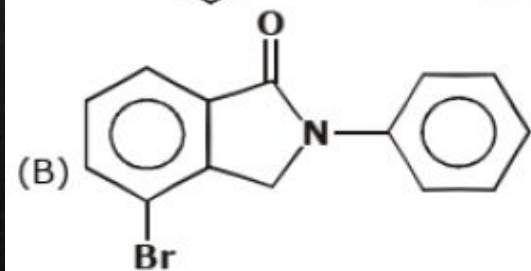
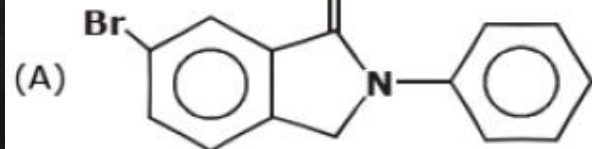
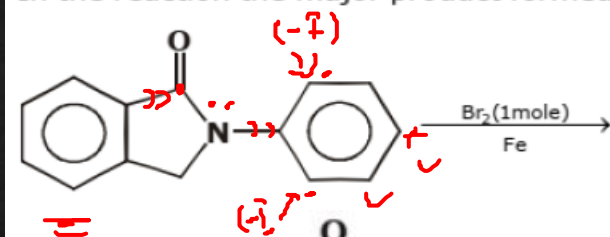


Which one of the following compounds undergoes bromination of its aromatic ring at the fastest rate ?



Sol B

In the reaction the major product formed is :



Sol D