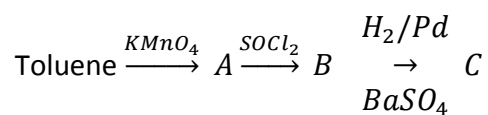




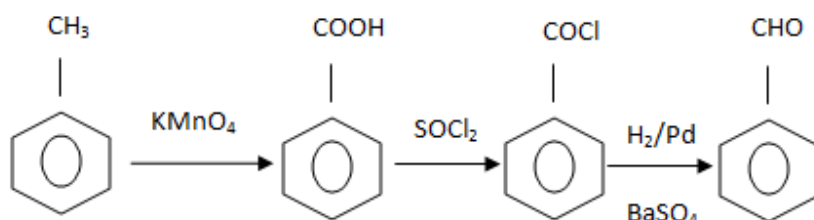
25. In the following sequence of reactions:



The product C is:

- (1) $\text{C}_6\text{H}_5\text{COOH}$ (2) $\text{C}_6\text{H}_5\text{CH}_3$ (3) $\text{C}_6\text{H}_5\text{CH}_2\text{OH}$ (4) $\text{C}_6\text{H}_5\text{CHO}$

Answer: In Toluene where hydrogen of alkyl (Methyl) group attached to C_6H_5 is oxidised by KMnO_4 to form Benzoic acid ($\text{C}_6\text{H}_5\text{COOH}$), this with SOCl_2 gives $\text{C}_6\text{H}_5\text{COCl}$ which finally on reduction gives Benzaldehyde ($\text{C}_6\text{H}_5\text{CHO}$).



Correct option is (4) $\text{C}_6\text{H}_5\text{CHO}$