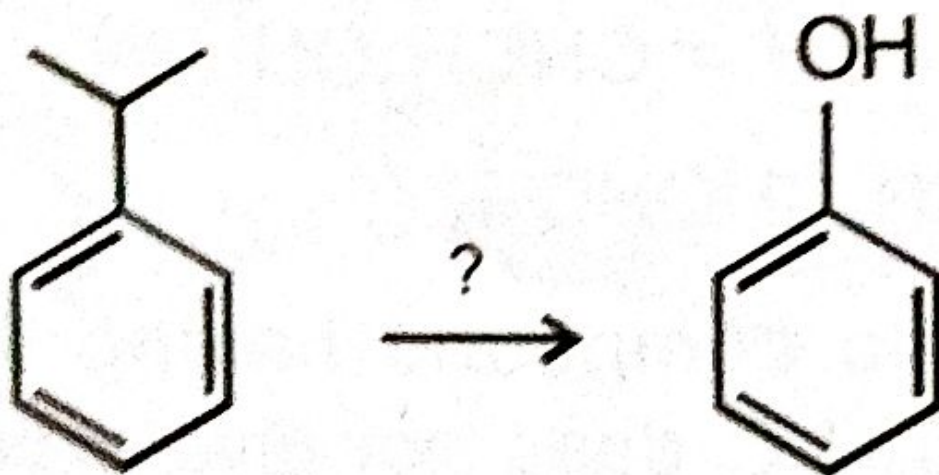


Reagents required to perform the given transformation is



- (1) (i) O_2 - oxidation (ii) H_3O^+
- (2) (i) KMnO_4 , hot (ii) LiAlH_4 (iii) H_3O^+
- (3) (i) Hot KMnO_4 (ii) NaBH_4 (iii) H_3O^+
- (4) (i) H_2CrO_4 (ii) $\text{CaO} + \text{NaOH}$, Δ (iii) NaOH