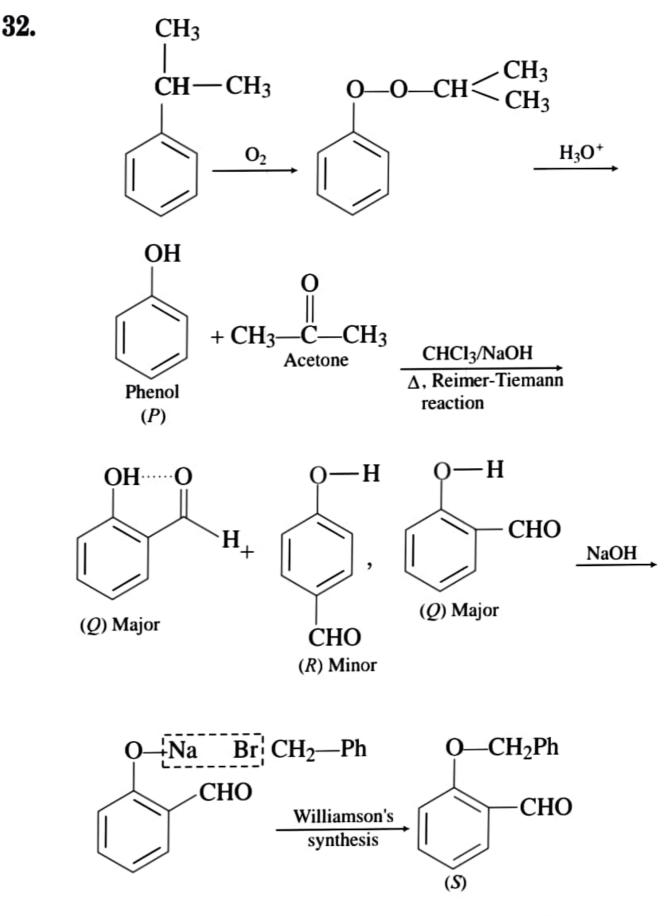
The correct statement(s) about the following reaction sequence is (are)

Cumene 
$$(C_9H_{12}) \xrightarrow{(i) O_2} P \xrightarrow{CHCl_3/NaOH}$$

 $Q(\text{major}) + R(\text{minor}), Q \xrightarrow[PhCH_2Br]{NaOH} S$ 

- (a) R is steam volatile
- (b) Q gives dark violet colouration with 1% aqueous FeCl<sub>3</sub> solution
- (c) S gives yellow precipitate with
  - 2, 4-dinitrophenylhydrazine
- (d) S gives dark violet colouration with 1% aqueous FeCl<sub>3</sub> solution



- (a) R is not steam volatile, but Q is steam volatile thus, incorrect.
- (b) Q has enolic group thus, gives violet colour with 1% aqueous FeCl<sub>3</sub> solution thus, correct.

